UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
AT CHATTANOOGA

VINCENT SYSTEMS GMBH, Plaintiff, v. FILLAUER COMPANIES, INC., Defendant.	)	Case No. 1:23-CV-2 CEA/SKL FILED JAN 04 2023 Clerk, U. S. District Court Eastern District of Tennessee At Chattanooga

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Vincent Systems GmbH ("Vincent Systems" or "Plaintiff") hereby sets forth its Complaint for patent infringement against Defendant Fillauer Companies, Inc. ("Fillauer" or "Defendant"), and in support alleges as follows:

THE PARTIES

1. Plaintiff Vincent Systems is a corporation existing under the laws of Germany, with its address at Breite Straße 155, 76135 Karlsruhe, Germany.

2. Upon information and belief, Defendant is a Tennessee company with its main office at 2710 Amnicola Highway, Chattanooga, Tennessee 37406.

JURISDICTION AND VENUE

3. This is a civil action for patent infringement, arising under 35 U.S.C. § 271, *et seq.*

4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a). Additionally, this Court has diversity jurisdiction pursuant to 28 U.S.C. § 1332, as the

parties are, respectively, citizens of a foreign state and this state, and the amount in controversy exceeds $75,000.

5. This Court has personal jurisdiction over Defendant at least because Defendant, upon information and belief, is a Tennessee corporation with its principal place of business in Tennessee.

6. Venue in this District is proper pursuant to 28 U.S.C. § 1400(b) because Defendant, upon information and belief, resides in this District, and has committed acts of infringement and has a regular and established place of business in this District.

FACTUAL ALLEGATIONS

A. Vincent Systems' Finger Element and U.S. Patent No. 8,491,666

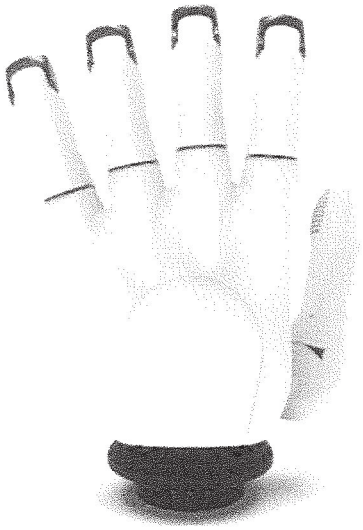
7. Plaintiff Vincent Systems is a medical technology company that designs, develops, and makes innovative and highly functional prostheses for the upper extremities, especially prosthetic hands.

8. Vincent Systems has been engaged in this work for over a decade, and has received numerous awards for its life-changing inventions and products.

9. As would be expected, a finger element is an essential and critical part of any hand prosthesis. Through its significant research efforts, Vincent Systems has created a finger element that is unparalleled in its active and passive functions, as well as in its dimensions, which mimic natural fingers.

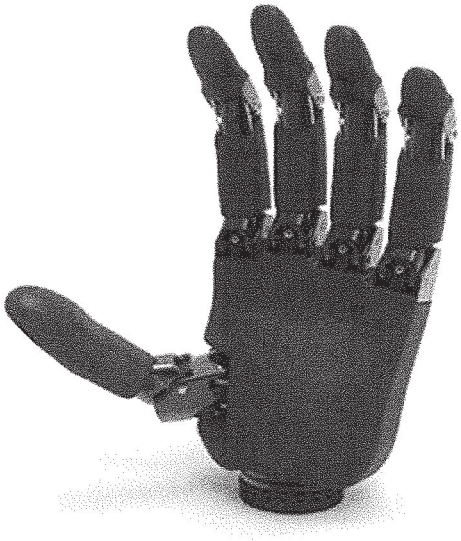
10. Vincent Systems' finger element is incorporated into its full and partial hand prostheses, including but not limited to the VINCENTevolution4, VINCENTyoung3+, VINCENTevolution3, and VINCENTpartial3+ products, images of which are shown below:

VINCENTevolution4



VINCENTyoung3+

VINCENTevolution3



VINCENTpartial3+

11. Vincent Systems sells its products throughout the world, including in the United States.

12. Vincent Systems owns the entire right, title, and interest in U.S. Patent No. 8,491,666 entitled "Finger Element" ("the '666 Patent"). The '666 Patent issued on July 23, 2013, to inventor Dr. Stefan Schulz, founder and Chief Executive Officer of Vincent Systems. Dr. Schulz assigned his rights in the '666 Patent to Vincent Systems on April 10, 2010. A true and correct copy of the '666 Patent is attached as Exhibit A to this Complaint.

13. The invention of the '666 Patent represents a revolutionary change in prosthetic fingers. Although hand prostheses have long been available, significant challenges have existed relating to moveable finger elements for those prostheses. For example, individual finger elements have traditionally been passive, including because the mechanical features of an actively functioning finger were large and therefore required placement in an associated prosthetic hand or arm. Traditional finger elements that did have independent movement capability, in turn, were too large for small hands, such as prosthetic hands designed for women and children.

14. As explained in the '666 Patent, a challenge faced by Dr. Schulz was "to modify a finger element in a way, so that it is generally usable as an autarkic element that means also as a single-finger prosthesis. In particular, the finger element may be in its active and passive function as well as in its dimensions close to a natural finger, in particular also very close to smaller fingers and thereby comprise a long lifetime." (Exhibit A, 1:66-2:5.)

15. The invention of the '666 Patent solves these problems, and discloses a novel design and mechanical solution that allow for a small, active finger element, as well as increased life-span and fewer maintenance intervals through optimized design.

16. Claim 1 of the '666 Patent reads as follows:

"1. A finger element, comprising:

a) a carrier component,

b) a first phalanx with a first hinge connection to the carrier component,

c) a second phalanx with a second hinge connection to the first phalanx,

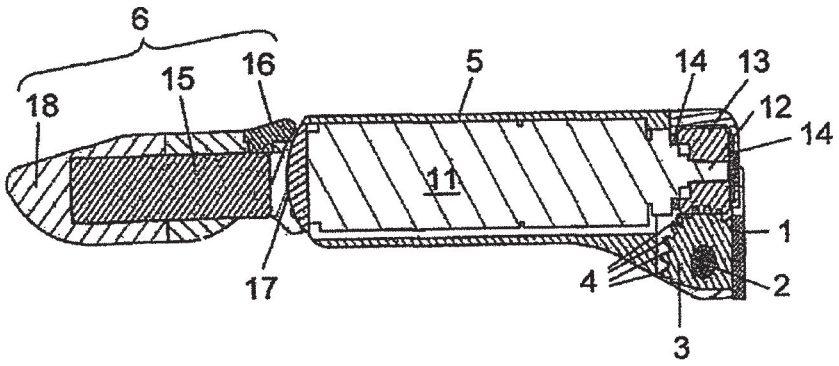
d) a servo drive for the first hinge connection with a motor with a drive shaft and a worm gearing with a threaded screw and a cog segment that engages to the threaded screw, and

e) a coupling mechanism between the first hinge connection and the second hinge connection, wherein

f) the threaded screw is supported on the drive shaft form fittingly and axially movable as well as guided in axial direction by separate guidances."

(Exhibit A, 5:40-6:11.)

17. Figure 2 of the '666 Patent is shown here:



(Exhibit A, Fig. 2.)

B. Defendant's Infringement of the '666 Patent

18. Upon information and belief, Defendant "Fillauer is the exclusive distributor for [the] TASKA® [Hand] in the United States." *See* Exhibit B (https://fillauer.com/taska-hand/).

19. Upon information and belief, Defendant infringes at least claim 1 of the '666 Patent, directly and/or indirectly, by using, making, selling, offering to sell, and/or importing into the United States their TASKA Hand product.

20. Upon information and belief, Defendant imports, offers for sale and sells the TASKA Hand in the United States, both directly and through its subsidiary Motion Control, Inc. ("Motion Control").

21. For example, a link on Defendant's website to a "Motion Control Online Catalog" allows customers to purchase the TASKA Hand and its component parts and accessories. *See* Exhibit B.

22. Upon information and belief, Motion Control is a "division of Fillauer" and operates at Defendant's direction, under Defendant's control, and for Defendant's benefit in the distribution of the TASKA Hand in the United States. *See* Exhibit C ("Taska® Hand Demo/Loaner Request").

23. A Feature Sheet for the TASKA Hand product is attached as Exhibit D. A Specification Sheet for the TASKA Hand product is attached as Exhibit E. An Appropriate Use Guidelines Sheet for the TASKA Hand product is attached as Exhibit F. A COAPT/TASKA Prosthetist Manual is attached as Exhibit G. A Product Order Form for the TASKA Hand product is attached as Exhibit H.

24. An image from the Specification Sheet for the TASKA Hand product is shown here:

(Exhibit E, p. 3.)

25. Upon information and belief, Defendant's TASKA Hand product meets each and every element of at least claim 1 of the '666 Patent.

26. Upon information and belief, Defendant has directly infringed and continues to directly infringe the '666 Patent by making, using, selling, offering to sell within, and/or or importing into the United States, without authority or license, the TASKA Hand.

27. Upon information and belief, Defendant has also indirectly infringed and continues to indirectly infringe the '666 Patent at least by inducing Motion Control and its own and Motion Control's customers and end-users to directly infringe the claimed inventions. Defendant induces Motion Control and its own and Motion Control's customers and end-users to infringe the patent at least by encouraging and instructing them to make, use, sell, offer to sell, or import the TASKA Hand in a manner that Defendant knows infringes the '666 Patent.

28. Defendant has knowledge of the '666 Patent, including based on pre-suit correspondence from Plaintiff Vincent Systems, and engages in such inducing acts with the specific intent of encouraging its customers and/or end-users to infringe.

29. Upon information and belief, Defendant has induced and continues to induce infringement of the '666 Patent, at least through activities such as designing, making, selling, offering to sell, importing, marketing, advertising and promoting the infringing products; creating and distributing technical, marketing, promotional, educational, and other product literature for the infringing products; providing instructions for use of the infringing products; and offering technical support, training, education, repair, and other services for the infringing products.

30. Defendant has had notice and knowledge of the '666 Patent since at least August 31, 2022, including based on actual written notice from Vincent Systems.

31. Accordingly, Defendant's infringement, direct and indirect, has been and continues to be willful under 35 U.S.C. § 284.

COUNT I

Infringement of U.S. Patent No. 8,491,666

32. Plaintiff Vincent Systems realleges and incorporates by reference as if fully set forth herein the allegations of the preceding paragraphs.

33. Vincent Systems owns all right, title, and interest in the '666 Patent.

34. Upon information and belief, Defendant has, directly and/or indirectly, infringed and continues to infringe Vincent Systems' '666 Patent under 35 U.S.C. § 271, *et seq.*, either literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States the TASKA Hand.

35. Vincent Systems has suffered and will continue to suffer harm due to Defendant's infringing acts, thereby justifying an award of damages in an amount adequate to compensate Vincent Systems for Defendant's infringement as provided in 35 U.S.C. § 284.

36. Upon information and belief, Defendant's infringement of the '666 Patent has been willful, thereby justifying enhanced damages and attorneys' fees, including under 35 U.S.C. §§ 284 and 285.

37. As a result of Defendant's infringement of the '666 Patent, Vincent Systems has suffered and will continue to suffer irreparable injury, thereby also justifying permanent injunctive relief.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Vincent Systems prays for relief and judgment as follows:

(a) A determination that Defendant has infringed one or more claims of the '666 Patent under 35 U.S.C. § 271, *et seq.*;

(b) An injunction permanently enjoining Defendant, and all parties acting in concert with

it, from further infringement of the '666 Patent;

(c) Damages in an amount adequate to compensate Vincent Systems for Defendant's infringement pursuant to 35 U.S.C. § 284;

(d) A determination that Defendant's infringement has been willful, and an award of treble damages pursuant to 35 U.S.C. § 284;

(e) A determination that this case is exceptional and an award of reasonable attorney fees pursuant to 35 U.S.C. § 285;

(f) A determination that Vincent Systems is entitled to pre-suit damages pursuant to 35 U.S.C. § 287;

(g) An award of pre- and post-judgment interest on Vincent Systems' damages, together with all costs and expenses; and

(h) An order granting Vincent Systems such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Federal Rule 38, Plaintiff Vincent Systems hereby demands a trial by jury of all claims for which it has the right thereto.

Dated: January 3, 2023

Respectfully submitted,

By: _____

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Attorneys for Plaintiff Vincent Systems GmbH

EXHIBIT A

US008491666B2

(12) **United States Patent**
Schulz

(10) **Patent No.: US 8,491,666 B2**
(45) **Date of Patent: Jul. 23, 2013**

(54) **FINGER ELEMENT**

(76) Inventor: **Stefan Schulz**, Karlsruhe (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 145 days.

(21) Appl. No.: **13/203,616**

(22) PCT Filed: **Nov. 4, 2009**

(86) PCT No.: **PCT/DE2009/001537**

§ 371 (c)(1),
(2), (4) Date: **Aug. 26, 2011**

(87) PCT Pub. No.: **WO2010/051798**

PCT Pub. Date: **May 14, 2010**

(65) **Prior Publication Data**

US 2012/0109337 A1 May 3, 2012

(30) **Foreign Application Priority Data**

Nov. 8, 2008 (DE) 10 2008 056 520

(51) **Int. Cl.**
A61F 2/54 (2006.01)
A61F 2/70 (2006.01)

(52) **U.S. Cl.**
USPC **623/24**; 623/64

(58) **Field of Classification Search**
CPC A61F 2/586; A61F 2002/586; A61F 2005/0155; B25J 15/0009; B25J 15/0213; B25J 15/024; B25J 15/12
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2009/0145254 A1 * 6/2009 Hirabayashi et al. 74/425

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WO	2007/063266	6/2007
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Bill Christensen "iLimb Bionic Hand Now Ready for Market", extract from Technovelgy.com, Sep. 12, 2012.
No author, "World's first bionic hand factory opened by Scottish company", extract from Daily Mail website http://www.dailymail.co.uk/sciencetech/article-506661/Worlds-bionic-hand-factory-opened-Scottish-company.html, Jan. 2008.

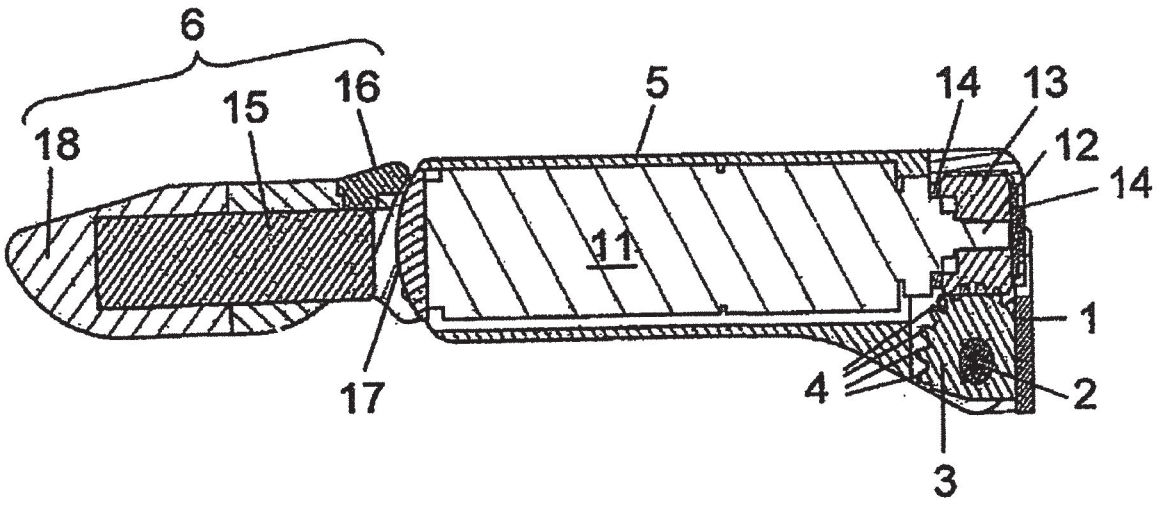
(Continued)

Primary Examiner — David H Willse
(74) *Attorney, Agent, or Firm* — Renner, Otto, Boisselle & Sklar, LLP

(57) **ABSTRACT**

The invention relates to a finger element, comprising a carrier component (**1**), a first finger member (**5**) having a first articulated connection (**2**) to the carrier component, a second finger member (**6**) having a second articulated connection (**7**) to the first finger member, an actuator for the first articulated connection (**2**) with a motor having a drive shaft, and a worm gear having a threaded worm, and a toothed segment engaging on the threaded worm, and further comprising a coupling mechanism (**8**) between the first and second articulated connections. The object of the invention is to modify a finger element such that the finger element in the active and passive functions thereof and in the dimensions thereof comes very close to a natural finger. The object is achieved in that the threaded worm is positively mounted axially movably on the drive shaft and axially guided through separate guides.

11 Claims, 3 Drawing Sheets



OTHER PUBLICATIONS

Jonathan Fildes, "Bionic hand wins top tech prize", extract from BBC News website http://news.bbc.co.uk/2/hi/sci/tech/7443866.stm, Jun. 2008.

International Search Report corresponding to International Application No. PCT/DE2009/001537, dated Mar. 22, 2010.

* cited by examiner

Fig. 1a

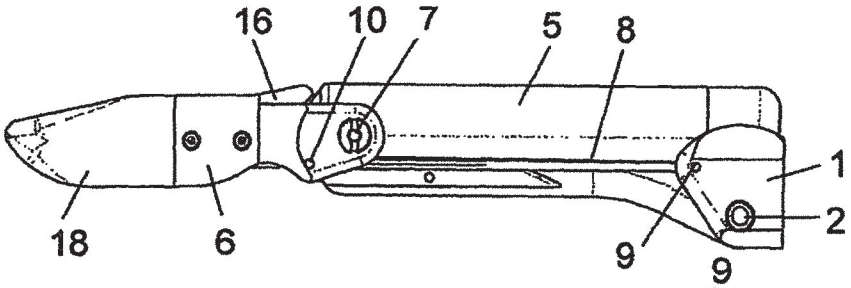


Fig. 1b

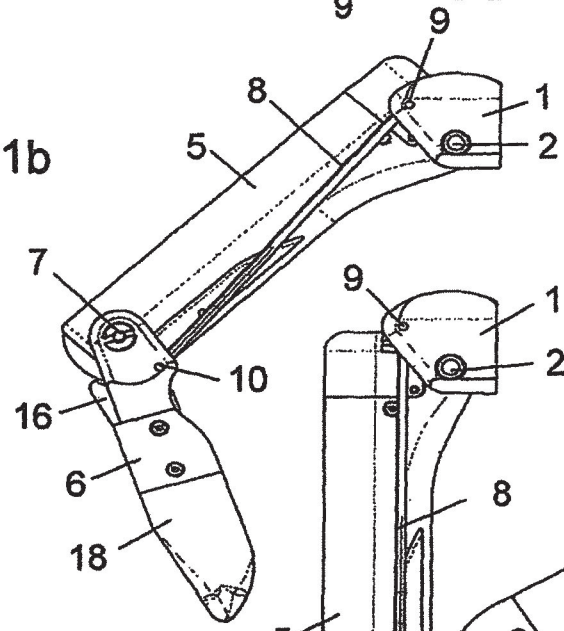


Fig. 1c

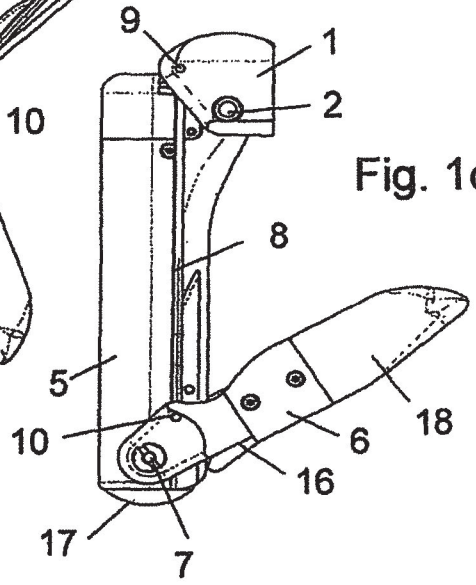


Fig. 2

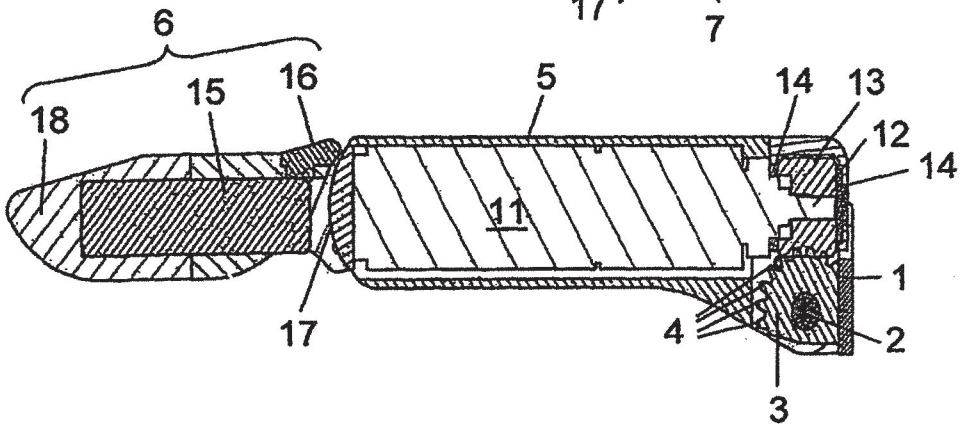


Fig. 3a

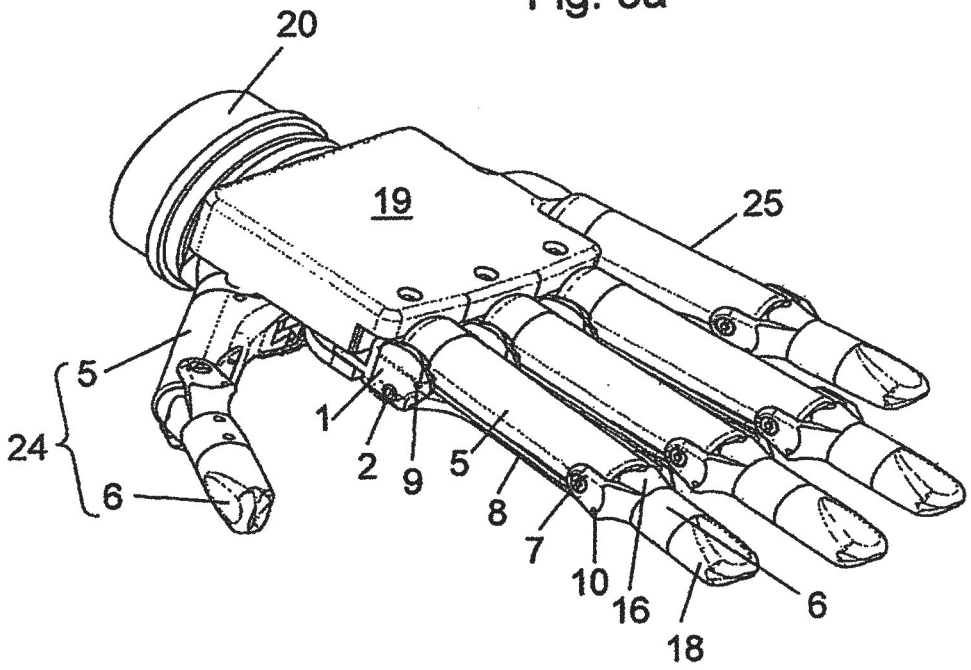
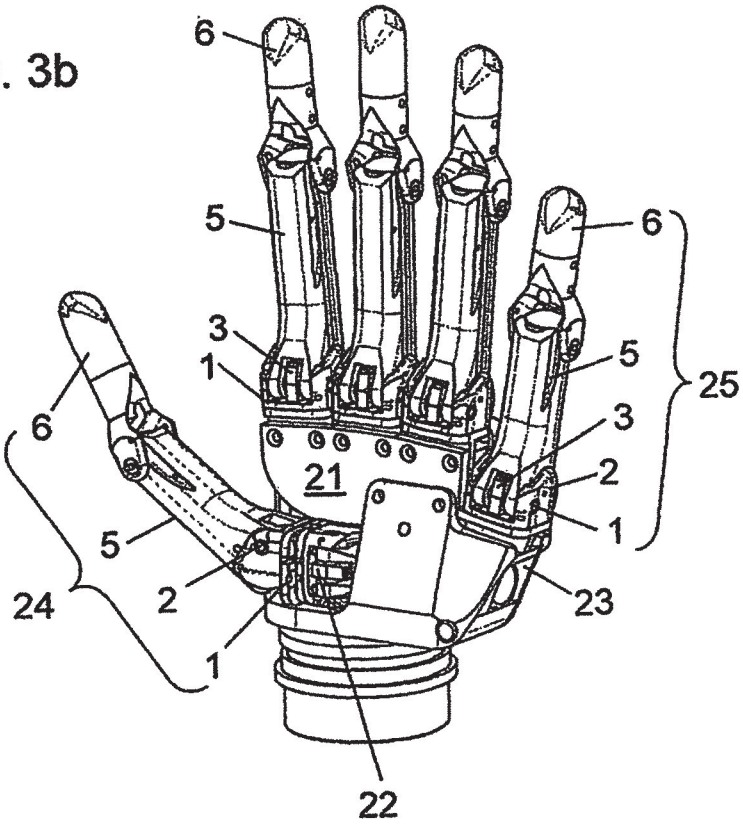


Fig. 3b



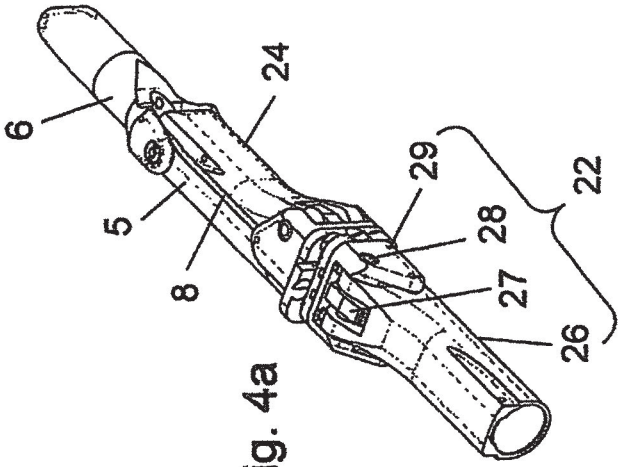


Fig. 4a

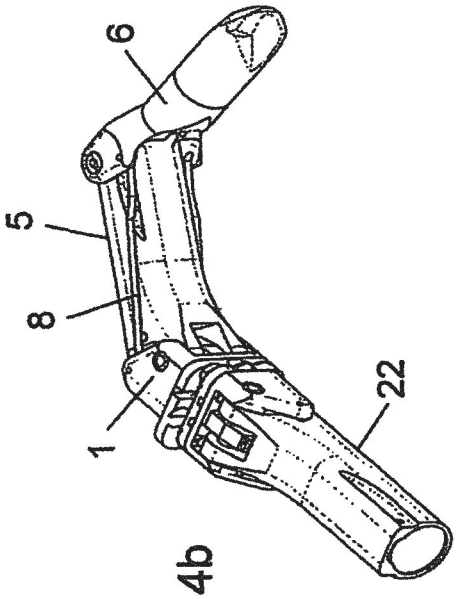


Fig. 4b

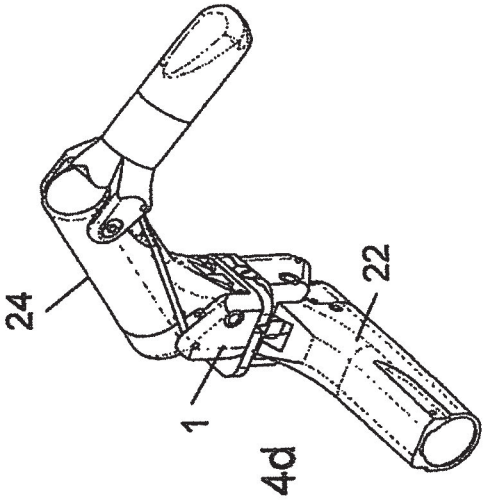


Fig. 4d

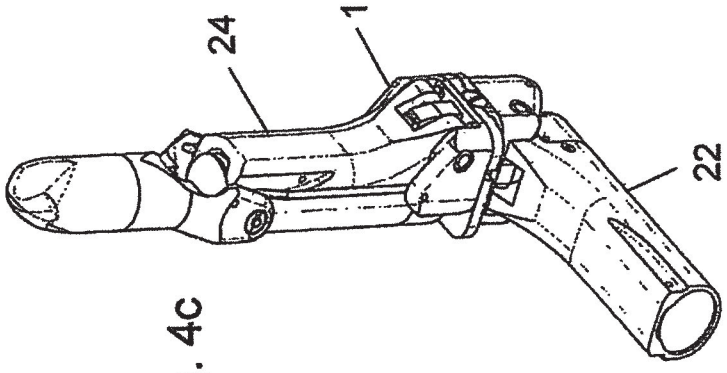


Fig. 4c

FINGER ELEMENT

TECHNICAL FIELD

The invention relates to a finger element according to the first claim. It serves as autarkic element for the use as artificial single-finger-prosthesis or as component of an artificial hand- or arm-prosthesis.

BACKGROUND ART

Artificial finger elements are available which can be used as integral parts of hand- or arm-prostheses. They orientate in their form and its motility to a finger.

From DE 309 367 hand-prostheses with multi-member thumb- and forefinger-elements, that work against each other, are already known from the time of the First World War. The single finger joints are positioned via a gearing with tooth sector and threaded screws, wherein the drive is carried out via cable pulls and lever mechanisms out of the thenar. A motoric drive is not envisaged, as well as an individual motility of single fingers.

Even the DE 323 970 dated 1919 discloses such a rotation mechanism for a phalanx.

Hand-prostheses with a motoric rotation drive for two fingers against each other are disclosed for instance by DE 26 07 499 C3 and U.S. Pat. No. 4,094,016. A geared motor as control member is arranged in these concepts in the thenar-area of the prosthesis.

However, the mentioned systems do not enclose any autarkic driven finger elements, wherein all control members which are necessary for the operation are enclosed in the finger element. The drives are in these systems arranged outside the finger elements. Thus, they are conceptually not suited for the use as single-finger-prosthesis. Also the use as component in a prosthesis-modular-system is substantially restricted by that.

In contrary, the DE 698 16 848 T2 as well as the DE 198 54 762 C2 respectively disclose a finger element, each with a motoric rotation drive with a threaded screw and a gearing per hinge. The motors are arranged directly in the phalanges.

However, in these finger elements, the worm gear is fixed permanently to the motor shaft, such that in case of an applied load of the finger element high forces may affect the motor. An early drive- or motor-damage as well as a blocking of the worm drive under load is abetted therewith.

Constructions as described for instance in DE 319 092 A and US 2005 0021154 A1, wherein the movements of the distal phalanges may be achieved via stiff push- and pull-rods which are all but not elastic, appear mostly to be unrealistically robot-like and are not suited in particular for sensitive picking problems. Also in this case early overload symptoms have to be expected.

In contrary, in WO 2007/063266 A1 a hand-prosthesis with moveable finger elements is described, wherein a decoupling of drive shaft and threaded screw is realized via a bevel gear transmission arranged in between with a direction change of the rotation movement of about a right angle.

With the latter concept a mechanic partial decoupling of worm wheel and drive shaft and therefore a mechanic load revealing of the last named is disclosed, but in connection with additional components and/or a larger construction volume. The construction volume limits the use as single-finger-prosthesis in particular for the replacement of smaller fingers enormously by esthetic reasons.

BRIEF SUMMARY OF THE INVENTION

On this basis it is the problem of the invention, to modify a finger element in a way, so that it is generally usable as an autarkic element that means also as single-finger-prosthesis. In particular, the finger element may be in its active and passive function as well as in its dimensions close to a natural finger, in particular also very close to smaller fingers and thereby comprise a long lifetime.

The problem is solved by a finger element with the features of claim **1**. The sub-claims, which are referred back to claim **1** describe advantageous embodiments of the finger element.

The problem is solved by a finger element with a carrier component, a first phalanx that is articulated thereon via a first hinge connection as well as a second phalanx that is articulated via a second hinge connection to the first phalanx. Furthermore, a servo drive is envisaged for the first hinge connection. This servo drive encloses a motor with or without integrated gear transmission to a drive shaft. The drive shaft drives a threaded screw of an advantageously self-locking worm gear that in return engages in a cog segment and moves it synchronously to the rotation movement of the drive shaft. In addition, the finger element includes a coupling mechanism between the first and second hinge connection.

The cog segment is preferably a part of a gear or gear segment around a gear axis that preferably coincides at the same time with the rotation axis of the first hinge connection. The invention includes in general also a cog segment as part of a tooth bar that is moveably supported spaced apart from the rotation axis and engaging in the finger element.

An essential feature of the invention encloses a decoupling of drive shaft and threaded screw in axial direction to the drive shaft. The threaded screw is preferably attached to the drive shaft and is in rotation direction form-fittingly coupled to the drive shaft, for instance via a cogging or a matched joint. Therefore, the axial movability of the drive shaft in the threaded screw has to be assured.

Thus, the motor does not serve via the drive shaft as axial guidance of the threaded screw, but separate guidances. They are arranged preferably in form of sliding guidances at both front edges of the threaded screw.

It proved to be advantageous, to combine the guidances and the threaded screws to an assembly. For instance, both guidances are realized by a stiff preferably single-part frame, in which the screw is inserted with a small axial play.

When this assembly is inserted as a unit and/or the cog segment is in addition elastically flexible inserted in the finger element, an elastic bending resilience of the finger element around the hinge connection results by them that comes close to a functional replication of a natural finger. Preferably the named assembly is inserted therefore into an elastomeric holder in the finger element that makes a resilience of the assembly possible in lateral and/or rotatory degrees of freedom. The cog segment, the gear segment or the gear is preferably supported freely rotating on the rotation axis and is therefore elastically curbed in its rotation movement via its elastomeric elements.

In order to ensure a constant play between threaded screw and cog segment preferably a spacer is envisaged between rotation axis and the forenamed assembly. This spacer is preferably supported rotatably on the rotation axis and connected with the rotation axis of the threaded screw. Therefore, for instance the threaded screw is in its guidances and not only supported in axial direction but also in radial direction, whilst the spacer is fixed permanently with the guidances.

In case of an elastic resilience of the assembly and therefore the threaded screw relative to the motor, the form-locking support of the threaded screw on the drive shaft has to be envisaged as pivotable rotating joint, for instance as hinge shaft coupling for instance with circumferential solid-bodies,

for instance balls of a ball ring, that engage in cavities of the drive shaft and internal bores of the threaded screw.

The coupling mechanism encloses preferably at least one elastic connection, for instance in form of a pull- and push-rod between the carrier component and the second phalanx in parallel to the first phalanx. The coupling mechanism consists further preferred of one or two spring bar connections (for instance spring wire or spring steel sheet) that engage eccentrically to the rotation axes of the first and second hinge connections to the respectively adjacent carrier components and second phalanx respectively. For the replication of the characteristics of a natural hand, that means with an elastic resilience with preferably in the beginning progressive spring characteristic, it proved as advantageous, to form the wire connections in a curved or buckled manner. It is in accordance with the mechanic of a natural finger, when the pull- and push-rod in closing direction (for instance for picking) is tensile loaded, and therefore is not only able to transmit higher forces, but also comprises a stronger progression in the spring characteristics (a curve or buckle in a spring bar connection is pulled straight when it is tensile loaded and thus becomes more stiff in contrary to a compressive loading).

BRIEF DESCRIPTION OF THE DRAWINGS

In the following, the invention will be explained with the help of example embodiments with the following figures.

FIG. **1***a* to *c* each show a side view of an embodiment in craned (a) as well as in two flexed (b, c) positions,

FIG. **2** shows a principle sectional view of the embodiment in craned position,

FIGS. **3***a* and *b* each show a view of a hand-prosthesis equipped with finger elements, as well as

FIG. **4***a* to *d* each show a view of an embodiment as thumb-element in different positions.

DETAILED DESCRIPTION OF THE INVENTION

The shown embodiments of the finger element enclose each a carrier component **1** with a first hinge axis **2** and gear segment **3** with several cog segments **4**. The carrier component **1** comprises not further explained means like mounting holes for the fixation of the finger elements for instance at a hand-prosthesis (cf. FIGS. **3***a* and *b*). The first hinge axis **2** serves at the same time as support of the gear segment and as rotation axis for the first phalanx **5**. The first phalanx **5** is in return connected with the second phalanx **6** via a second hinge connection, wherein the second hinge axis **7** forms the rotation axis for the second phalanx. The rotation movement of the first and second phalanges around the according rotation axes is coupled via a coupling mechanism (cf. FIG. **1***a* to *c* and FIG. **4***a* to *d*). This coupling mechanism encloses in the example embodiments two elastic spring bar connections **8** that are arranged in parallel to each other at both sides of the first phalanx **5**, wherein the spring bar connections **8** each engage at the carrier component and at the second phalanx pivotably in an according bearing bore **9** and **10** respectively eccentrically to the first **2** and second **7** hinge axis respectively.

FIG. **2** shows a sectional view of a finger element. A motoric drive ii for a threaded screw **13** that is directly attached to the drive shaft **12** is arranged inside a pipe-shaped first phalanx **5**. The threaded screw is connected to each other via a not further explained key-slot-connection in rotation direction form fittingly, but axially movable pushed onto the drive shaft. The threaded screw is in the embodiment guided in radial direction onto the drive shaft, but is limited in its axial movability by two guidances **14** preferably without play. The materials of the threaded screw comprise in comparison to the materials of the guidances preferably a low sliding fiction coefficient as well as high abrasive durabilities. For instance the threaded screw is because of the expected high load of the servo drive made of brass or steel, the guidances are preferably made of dry lubricating slide bearing bushing material like a PTFE-material or a slide bearing bronze.

The drive **11** encloses at least an electric motor as servo member, optionally also a gearing unit and/or for a use for instance as autarkic finger-prosthesis an electric voltage source as well as control electronics (battery, accumulator etc.), wherein in particular the latter components may be also arranged in the core **15** of the second phalanx **6**.

The second phalanx **6** encloses in addition an elastic fingertip **18** preferably made of an elastomer as well as a deflector **16** that affects a slide face **17** of the first phalanx **5** (preferably an insertable lid element for instance made of plastics).

It proved to be advantageous, to integrate an optional tactile sensor into the fingertip **18** and/or into the core **15** and/or to attach resistance strain gauges to one of the phalanges, which directs or direct respectively a tactile signal directly to the control electronics (then preferably arranged in the core). The tactile signal preferably serves for the sensitive detection of an affecting force and for a tactile feedback of a picking force to the carrier of the prosthesis (force feedback) alternatively or in addition to the current drain of the motoric drive and therefore the force limitation of the movement control.

FIGS. **3***a* and *b* show a hand-prosthesis with a rotatable link component **20**, thenar element **19** (FIG. **4***a*) and several finger elements in the described embodiment in two perspectives. All finger elements are fixed via the carrier component to the thenar element **19**. Forefinger-, middle-finger- and ring-finger-element are therefore stiffly attached to an elastic adaptor **21** (FIG. **4***b*) whereas a separate finger element adaptor **22** is envisaged with an additional hinge, that is actively driven that is designed elastically resilient around a center position for the adaption of the thumb-element **24**. Also the pinky-element **25** comprises its own elastically resilient finger-element adaptor **23**.

A thumb-element **24** with the according finger element adaptor **22** is in addition shown in FIG. **4***a* to *d* in detail in different positions. FIGS. **4***a* and *b* show positions with straightened finger element support **22**, whereas FIGS. **4***c* and *d* each show a bended position of the finger element adaptor. Therefore, the finger element adaptor comprises a motoric driven hinge connection that conceptually corresponds preferably to a first hinge connection between the carrier component **1** and the first phalanx **5**. The hinge connection **22** in the shown embodiment encloses consequently its own drive housing **26** (corresponding to the first phalanx) with a motoric drive with threaded screw and gear segment **27** around a rotation axis **28** as well as a connection platform **29** for the carrier components **1** of the thumb-element **25** (cf. FIG. **4***a*).

The conception of the finger elements in the shown embodiments allows an adaption to the specific use case singularly by an exchange of the fingertip **18** and for a use in a hand-prosthesis of the thenar element **19** as well as the elastic adaptor **21**. In addition the finger element adaptors **22** and **25** according to FIGS. **3***a* and *b* as well as FIG. **4***a* to *d* are exclusively made of components of the finger element. The drive housing **26** is with all of its build-in parts identical in construction with the first phalanx **5**, the connection platform **29** with the carrier component **1**. That abets a standardization of the components or entire assemblies, which in return abets an economic production and storage as well as an adaption to individual needs of the carrier of the prosthesis significantly.

An optic casing of the finger element or the entire hand-prosthesis for instance by a glove is not shown in the figures. A preferred glove made of an elastomeric material like for instance of silicon rubber has not only optical advantages in view of a textile or leather glove, but provides a better protection against pollution.

LIST OF REFERENCE SIGNS

1 Carrier component
2 first hinge axis
3 Gear segment
4 Cog segment
5 First phalanx
6 Second phalanx
7 Second hinge axis
8 Spring bar connections
9 Bearing bore at the carrier component
10 Bearing bore at the second phalanx
11 Motoric drive
12 Drive shaft
13 Threaded screw
14 Guidance
15 Core
16 Deflector
17 Slide face
18 Fingertip
19 Thenar element
20 Link component
21 Elastic adaptor
22 Thumb element adaptor
23 Pinky-element adaptor
24 Thumb-element
25 Pinky-element
26 Drive housing
27 Gear segment
28 Rotation axis
29 Connection platform

The invention claimed is:

1. A finger element, comprising:

a) a carrier component,

b) a first phalanx with a first hinge connection to the carrier component,

c) a second phalanx with a second hinge connection to the first phalanx,

d) a servo drive for the first hinge connection with a motor with a drive shaft and a worm gearing with a threaded screw and a cog segment that engages to the threaded screw, and

e) a coupling mechanism between the first hinge connection and the second hinge connection, wherein

f) the threaded screw is supported on the drive shaft form fittingly and axially movable as well as guided in axial direction by separate guidances.

2. The finger element according to claim **1**, wherein the motor and the threaded screw as well as the guidances are arranged in the first phalanx and the cog segment is connected to the carrier component.

3. The finger element according to claim **1**, wherein the cog segment is formed by a gear segment with a gear axis, wherein the gear axis predetermines a rotation axis of the first hinge connection.

4. The finger element according to claim **1**, wherein the guidances and the threaded screw are combined to an assembly that is inserted in the first phalanx.

5. The finger element according to claim **4**, wherein the assembly is inserted elastically.

6. The finger element according to claim **1**, wherein the threaded screw is supported in radial direction to the cog segment in the guidances.

7. The finger element according to claim **1**, wherein the coupling mechanism comprises at least an elastic connection between the carrier component and the second phalanx in parallel to the first phalanx.

8. The finger element according to claim **7**, wherein the connection encloses one or two spring bar connections as pull-push-rods.

9. The finger element according to claim **1**, wherein the second phalanx comprises an exchangeable fingertip.

10. The finger element according to claim **1**, wherein the first and/or second phalanx encloses a tactile sensor or a resistance strain gauge for detecting tactile signals.

11. The finger element according to claim **8**, wherein the spring bar connections are formed in a curved or buckled manner.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	:	8,491,666 B2
APPLICATION NO.	:	13/203616
DATED	:	July 23, 2013
INVENTOR(S)	:	Stefan Schulz

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page:

The first or sole Notice should read --

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 254 days.

Signed and Sealed this
Eighth Day of September, 2015

Michelle K. Lee

Michelle K. Lee
Director of the United States Patent and Trademark Office

EXHIBIT B

Fillauer

TASKA® Hand

The TASKA multi-articulating myoelectric hand is a robust, waterproof (submersible) terminal device for users with an active lifestyle. The encoded laterally compliant fingers and high-speed thumb rotation give the user the precision needed for fine manipulation in everyday tasks. Break-away clutches deliver durability and robustness not found in other hands.

Fillauer is the exclusive distributor for TASKA® in the United States, Canada and Scandinavia.

Fillauer

with Quick Disconnect Wrist

with Low Profile Wrist

Fillauer®

TASKA HandGen2 with Quick Disconnect Wrist

Multiple programmable grip patterns provide confident grasp of objects. The industry standard Quick Disconnect wrist provides interchangeability with almost all in-hand controller terminal devices including the ETD and ETD2. Compliant wrist flexion with 3 locking positions is integrated in the system. The TASKA HandGen2 Kit comes with a 2000 mAh battery, magnetic charge port, wall adapter, car adapter and on/off switch.

Ordering Information

SIZE

8 1/4

SIDE

Left

COLOR

Fillauer®

GENERATED SKU

TASKA-B2FC21-U1

Warranty

2 year limited warranty of the Taska Hand and TASKA HandGen2

The Limited Extended Warranty extends the 2-year limited warranty of the TASKA Hand and TASKA HandGen2 against equipment failures resulting from normal use as described in the "Warranty" booklet and "Appropriate Use Guide". 1 year, 2 year or 3 year extended warranties are available for up to 5 years of limited warranty coverage.

RESOURCES ↓

Stay up to date with new products and accessories.

- ☐ COAPT/TASKA Prosthetist Manual
- ☐ Limited Extended Warranty
- ☐ Quick Start User Guide: Warranty
- ☐ Spec Sheet
- ☐ Appropriate Use Guidelines
- ☐ Demo Request Form
- ☐ Brochure
- ☐ Motion Control Online Catalog

Fillauer®

SEARCH: Reset 10 documents

TITLE	LINK
CCS and CTF Valves Manual – Danish	View
CCS and CTF Valves Manual – Dutch	View
CCS and CTF Valves Manual – English	View
CCS and CTF Valves Manual – Finnish	View
CCS and CTF Valves Manual – French	View
CCS and CTF Valves Manual – German	View
CCS and CTF Valves Manual – Italian	View
CCS and CTF Valves Manual – Norewgian	View
CCS and CTF Valves Manual – Spanish	View
CCS and CTF Valves Manual – Swedish	View

SHOW 25 PER PAGE 10 documents

Fillauer

2710 Amnicola Highway

Chattanooga, TN 37406

Fillauer Clinic

Careers

Credit Application

Library

Part Number Finder

Warranty

Learn More

To learn more about Fillauer's prosthetic and orthotic devices, contact us today or visit our product library.

VIEW LIBRARY

EXHIBIT C

Taska® Hand
Demo/Loaner Request

Motion Control
division of
Fillauer®

Motion Control, Inc.
115 N Wright Brothers Dr
Salt Lake City, UT 84116
P. 801.326.3434
F. 801.978.0848
MotionInfo@fillauer.com

Motion Control is the exclusive distributor for the TASKA® Hand in the United States. As with our policy for Motion Control devices, we are willing to send out Demo/Loaner hands to show to patients, for short trial fittings and while a device is in for routine service or repair.

Due to the high demand and cost of the TASKA® Hand, we have a limited inventory of Demo/Loaner Hands. While we will have left and right hands available, we cannot guarantee a specific color. All demo hands will include a standard quick disconnect.

Shipping Information

Prosthetist _____ PO Number _____

Company/Clinic _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Email _____ Start Date _____ End Date _____

Reason for demo unit: ☐ Patient Trial ☐ Repair Loan ☐ Demo

TASKA® Hand ☐ Left ☐ Right ☐ First Available Size 8¼ only

Color Preference* ☐ Black ☐ Sand ☐ White *We cannot guarantee color choice

Taska demos and loans are typically for a period of 14 days. Demo availability is not guaranteed. To verify shipping schedule, call Motion Control at 801.326.3434.

Motion Control will do everything possible to ship the demo hand to arrive by the requested start date. If this is not possible, we will contact you for an alternate date.

The return date of the demo is the date it arrives at Motion Control. Please make sure it arrives no later than that date, and email Leah Thompson with the Tracking Number the day the Hand is shipped back to Motion Control (lthompson@fillauer.com). Late returns will adversely affect other demo requests. Late fees as listed below will apply.

When the TASKA® Hand leaves Motion Control, it is in working order. You are responsible for any damage or repairs required to return the hand to working condition.

Due to the high cost of the TASKA® Hand, we also recommend you do not allow it to leave your office (routine maintenance and repair loaner excluded).

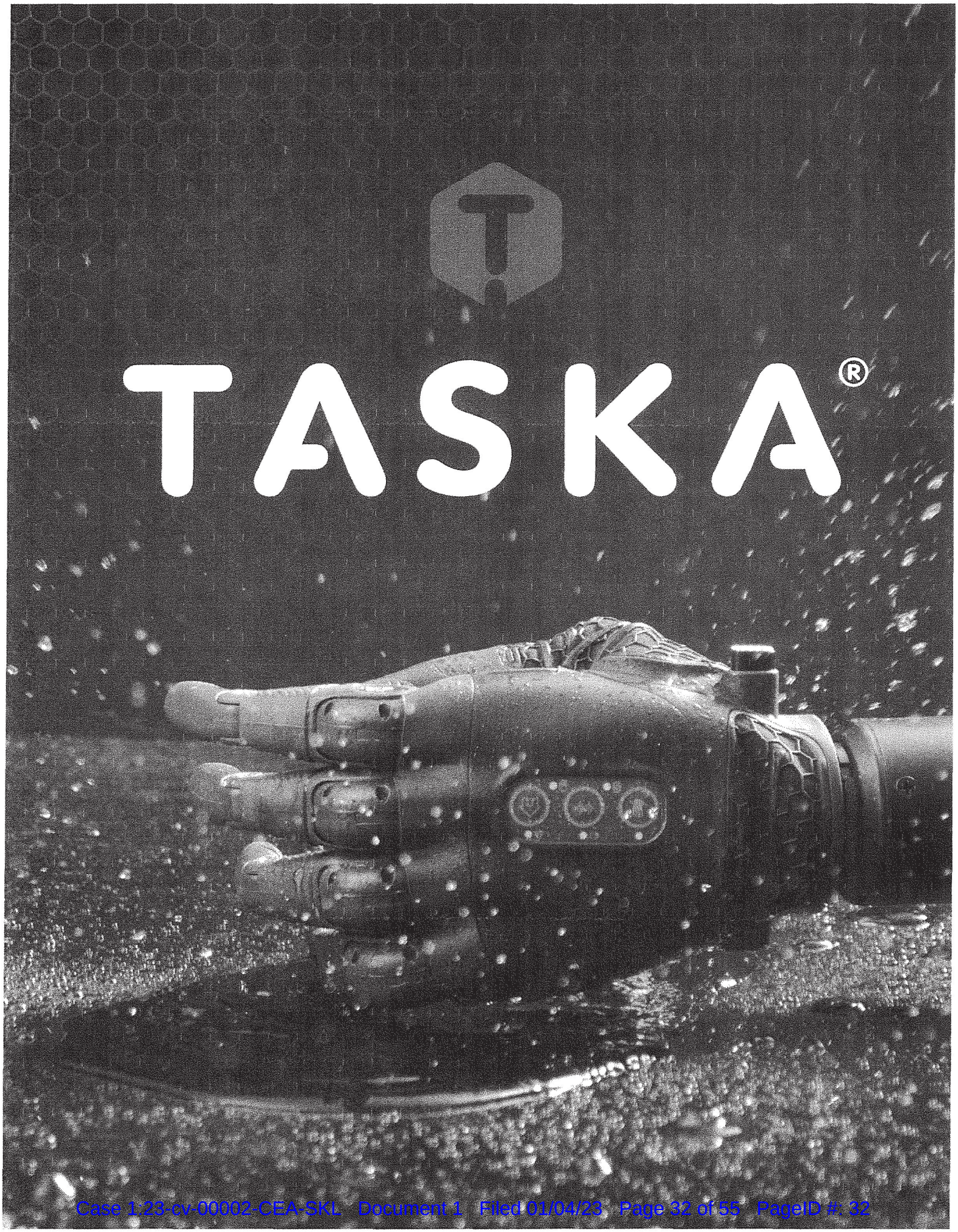
Agreement

- I agree to pay all shipping costs and to return ship (via expedited, tracked shipping) in time to be received by return date specified above. Loan period will begin on the date I receive the items and continue until the day the items are received back at Motion Control.
- If the Taska® Hand is not received by Motion Control by the return date, I agree to pay late fees at the rate of $100 per business day.
- I accept full responsibility for any loss or damage to the Taska® Hand during the period listed above.
- My signature below, with Purchase Order, constitutes full acceptance of this agreement.

Signature _____ Date _____

Printed Name _____

EXHIBIT D


TASKA®

The world's only rugged, water-resistant, multi-articulating hand.

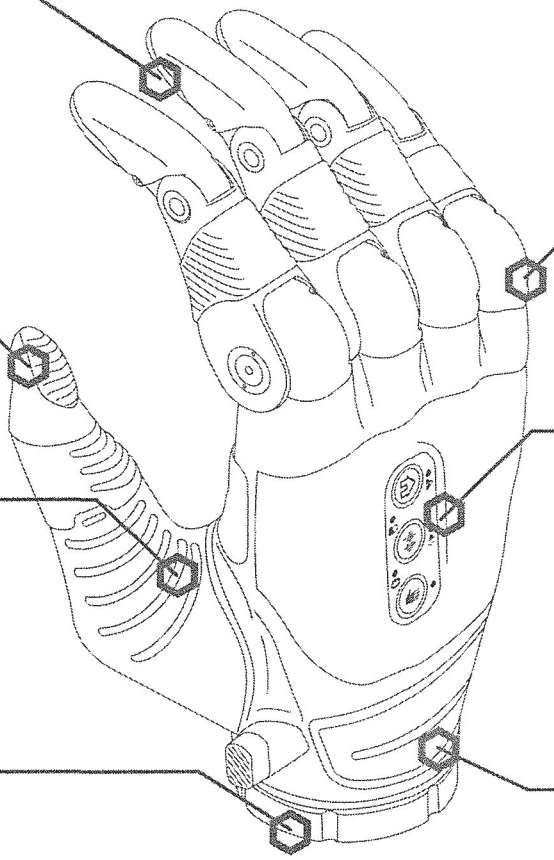
TASKA®

FLEXIBLE FINGERS
The fingers on the Taska hand are flexible and can laterally spread to allow the hand to effectively grip a wide variety of objects firmly.

CONFIDENT GRIP
Hold things with more confidence. Soft pads between the fingers and on fingertips, complement the flexible fingers to provide unparalleled grip security.

MOTORIZED THUMB ROTATION
High speed thumb rotation mimics the motion of the natural hand and allows nearly instant change of grip pattern.

THE TASKA® LOW PROFILE WRIST OPTION
A low profile wrist option extends water resistance up the forearm. The LP Wrist also allows for 90° of passive rotation.



KNUCKLE BREAKAWAY
Knuckles break away under large loads to prevent damage and are user resettable to provide additional robustness.

GRIP CYCLE BUTTONS
Simple touch-and-go, easy-to-use grip cycle buttons provide access to grips. EMG grip patterns can also be disabled at the touch of a button.

INTEGRATED FLEXIBLE WRIST
Every model of the Taska hand has a built-in, flexible wrist with three easily lockable positions, as well as center-biased free flexion.

8 ¼

Black Sand White

7 ¾

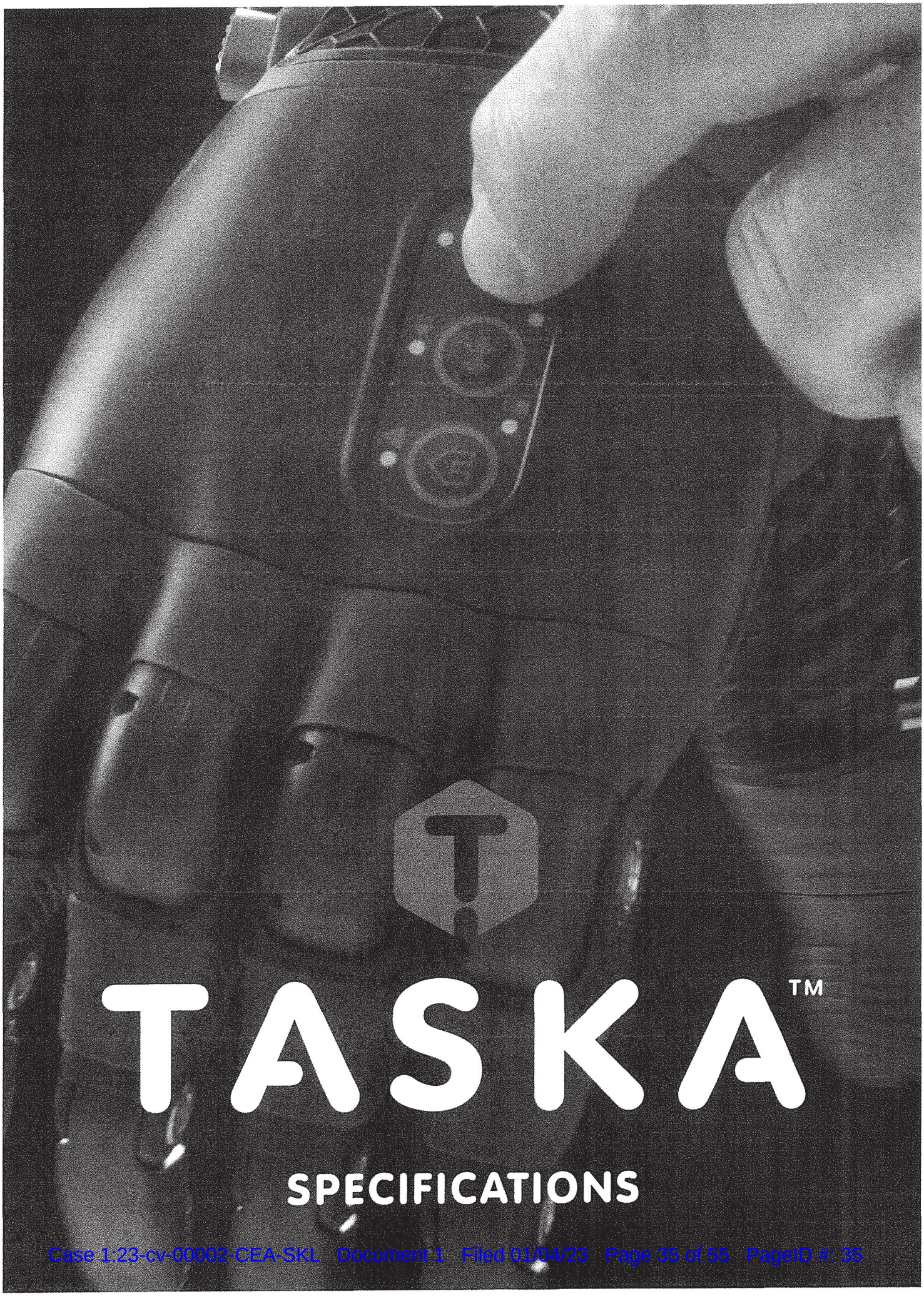
Motion Control division of Fillauer®

801.326.3434

Exclusive Distributor for U.S and Canada

www.fillauer.com/taska

EXHIBIT E


TASKA™
SPECIFICATIONS

The TASKA™ device was specifically designed to resolve many of the limitations of multi-articulating hands. This gives it significant practical advantages.

The design process resulted in a robust waterproof hand that "gives" and "flexes" like a real one. Not only does this mean superior practicality, it also removes much of the cognitive effort previously required to use a multi-articulating hand. A wider range of tasks can be undertaken with easy transition between the full range of indoor and outdoor tasks. It grips with precision and strength.

Here are the four major advantages in the design of the TASKA™ prosthetic hand.

1 It is the first multi-articulating hand on the market to be IP67 rated for waterproof use.

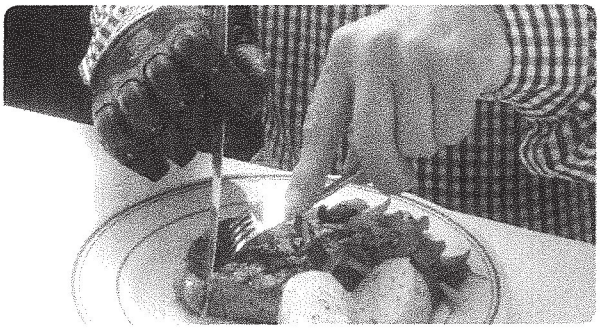
2 The knuckle breakaways allow the hand to be overloaded without any damage and in a way that the user can simply reset.

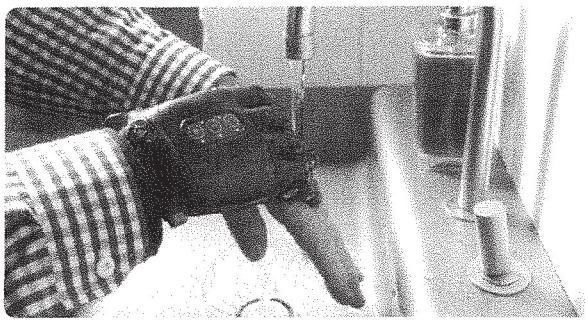
3 It provides truly practical gripping. The patented laterally compliant "flexible" fingers enable the hand to grip a wider range of objects.

4 It also performs its gripping actions FAST. The stated grip speeds on the TASKA™ are for real. The TASKA™ hand device has a high thumb rotation speed – in part helped by it not

requiring a glove. In user feedback, the speed of the TASKA™ hand is a standout feature, and the ability to grip confidently is a huge benefit.

TASKA™ simply does things other multi articulating hand devices cannot do. We are excited at what a difference it will make in people's lives. After five years of development we believe it is set to change the industry worldwide.





TASKA™

7 KEY FEATURES

Knuckle Breakaway

Anti-damage knuckle breakaway, is user resettable to provide additional robustness.

Grip Cycle Buttons

Easy to use buttons provide simple access to grips and client diagnostic help

Low Profile Wrist Option

A low profile wrist option allows the waterproofing to be extended up the socket. The LP Wrist also allows for 90°deg of mechanical rotation.

Inbuilt flexible wrist

Every model of the TASKA™ hand has an inbuilt flexible wrist with three lockable positions as well as center biased free flexion.

Flexible Fingers

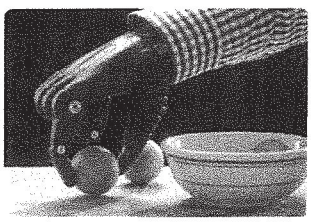
The fingers on the TASKA™ hand are flexible and can laterally spread to allow the hand to effectively grip a wide variety of objects firmly.

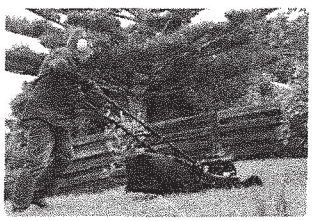
Superior Grip

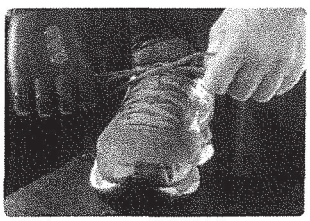
Soft pads between the fingers and on fingertips, complement the flexible fingers to provide unparalleled grip security.

Motorized thumb rotation

Mimics the real movement of the hand and improves grip speed.







Do more

TASKA TECHNICAL SPECIFICATIONS

Parameter		Value		
Operating voltage		7.4V (nominal)		
Max Current		5A		
TASKA Battery Capacity		2000mAh (2x units of 44mm x 80mm x 7.5mm)		
User resettable Knuckle breakaway[1]		3.4Nm per digit		
Maximum digit speed at proximal link		Finger: 98°/sec	Thumb: 63°/Sec	Thumb Rotator: 180°/Sec
Grip force		Finger 12.5N	Thumb 22.0N	
Maximum opening		100mm		
Wrist	LP Rotation	90°		
Wrist	Extension Lock position	20° Extension		
Wrist	Flexion Lock position	30° Flexion		
Waterproofing		IP67		
Weights		LP Wrist	616g	
		QD Wrist	671g	

[1] 50 Knuckle breakaways typical use case over product life.

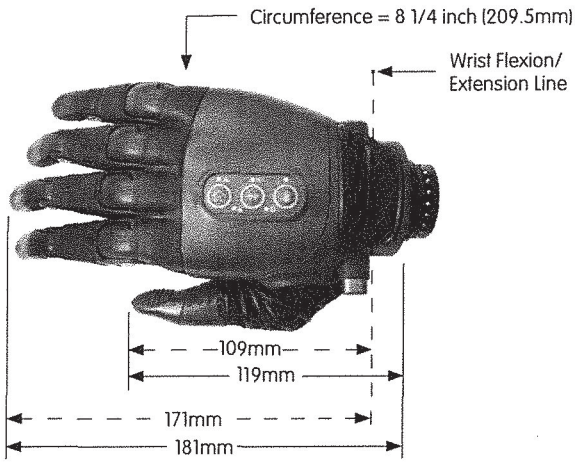
ORDER CODE - Example : **"TASKA – B1FB00 – U1"** = 8¼ inch, Right side, Quick Disconnect, Black - Universal Power Adapter Set

TASKA™ – Size | Side | Wrist | Colour | Reserved | Experimental – Pack Country Code

Size	'B' = 8 ¼ inch		
Side	'1' = Right	'2' = Left	
Wrist	'F' = Quick disconnect	'C' = Low Profile (Includes both sides and switch block	
Colour	'A' = White[2]	'B' = Black	'C' = Sand[2]
Reserved	'0' = Normal		
Experimental	'0' = Normal		
Pack Country Code	'U1' = Universal Power Adapter Set		

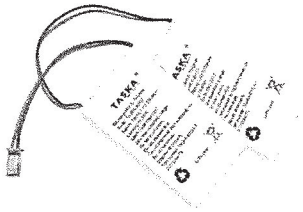
[2] Limited edition - Check availability

QUICK-DISCONNECT shown



BATTERIES

x2 Units: 44mm x 80mm x 7.5mm



Available in three colour variations:

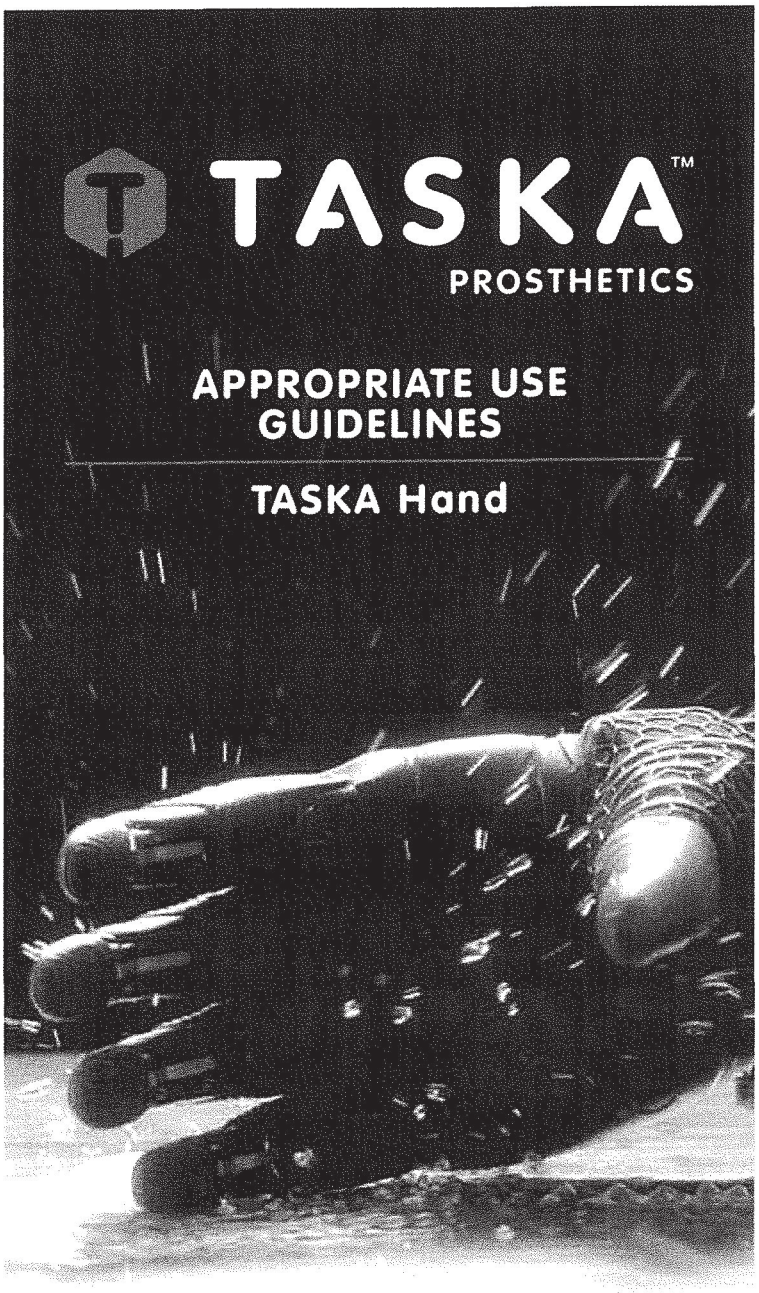
Black Sand White

TASKA™ PROSTHETICS

4/46 Acheron Drive, Christchurch, New Zealand
www.taskaprosthetics.com | support@taskaprosthetics.com

V-02-SEPT-2017

EXHIBIT F


TASKA™
PROSTHETICS
APPROPRIATE USE GUIDELINES
TASKA Hand
Do more

Appropriate Use Guidelines for the TASKA Hand

The TASKA Hand is waterproof, dustproof, and reasonably durable.

We want you to have the best possible experience when using your TASKA Hand. These guidelines describe:

- appropriate use of the TASKA Hand
- instructions for battery charging
- uses that may invalidate the warranty
- specific activities you might want to do with the TASKA Hand
- safety precautions to avoid damaging the TASKA Hand and harming yourself or others

Please read and follow these guidelines carefully. We are confident that if you follow them, the TASKA Hand will help you to do more, all day and every day. If you are unsure whether a particular activity is appropriate for the TASKA Hand, ask your clinician or contact us at **support@taskaprosthetics.com.**

Examples of appropriate use

The TASKA Hand can be used for a wide range of activities of daily living (ADL) including, for example:

- Activities that involve getting your hands wet or putting them in water for a short time:
  - washing hands
  - washing dishes
  - washing a vehicle
  - walking in the rain
  - using a garden hose

Note: See the "water immersion" section for details on the waterproof properties of the TASKA Hand.

- Activities that involve some hand vibration:
  - using motorized garden tools such as lawn mowers, hedge trimmers, and line trimmers
  - using small or medium electric power tools such as drills, light-duty saws, and angle grinders
  - riding a bicycle on roads
- Activities that place a slight strain on the hand:
  - light garden duties
  - carrying a suitcase
  - low-impact workshop activities
  - low-intensity sporting activities
- Normal daily activities:
  - eating and drinking
  - picking up small objects with precision
  - shaking hands
  - using electronics such as mobile devices, computer mice, keyboards, and cameras
  - dressing
  - household tasks such as cleaning, vacuuming, ironing, and bedmaking
  - driving a vehicle (see further information on this below)
  - and much more

Examples of inappropriate use

The TASKA Hand is not designed to be used for activities that involve a lot of vibration, impact, or force to the hand. If you use the TASKA Hand while doing the following activities, you may invalidate the warranty:

- using high-impact tools such as hammers, impact wrenches, or hammer drills
- using heavy-duty machinery such as chain saws and reciprocating saws
- deliberately hitting the hand against hard surfaces
- weightlifting
- high-intensity, adventure, or contact sports

Limits of use

Using the TASKA Hand outside these limits could cause damage that the warranty will not cover. Please see the TASKA Warranty for further details on the standard warranty.

Water immersion

The TASKA Hand is rated to IP67.

If the hand is fitted with a "quick disconnect" wrist, do not put it in water above the buttons on the wrist.

If the hand is fitted with a "low-profile" wrist, then you may put both the wrist and the hand under water, so long as it is no deeper than 3 feet (1 metre).

TASKA Prosthetics is not responsible for the waterproofness of the prosthetic socket that the TASKA Hand will be attached to. Please discuss your socket's waterproofness with your clinician.

The outside of the power switch is waterproof. However, if water gets into the socket, it may damage the inside of the switch, batteries, or other electronic parts.

Salt water may discolor the metal parts of the TASKA Hand. If salt water gets on the hand during an activity, wash the hand afterwards with fresh water.

Temperature

You may use the TASKA Hand within a temperature range of 23°F to 104°F (–5°C to +40°C). Outside this range, the hand might not work correctly, and it could be damaged.

Never expose the batteries to temperatures above 140°F (60°C). We recommend that you store the batteries between 32°F to 86°F (0°C to 30°C).

Humidity

You may use the TASKA Hand within a humidity range of 15% to 100%. When you are not using or transporting the hand, you must store it somewhere dry (in a humidity range of 15% to 90%).

Dirt and dust

Fine dust is not able to get into the TASKA Hand, so you may use it in very dirty and dusty places. However, do not let it come into contact with coarse or rough grit such as sand.

If possible, avoid mud, oils, and other kinds of dirt that could stain or discolor the hand. If you need to use the hand in these environments, you should wear a glove or wash the hand as soon as possible afterwards.

Chemicals

Do not expose the TASKA Hand to corrosive substances such as solvents, acids, alkalis, strong detergents, industrial chemicals, and any substances that are harmful to human skin.

Washing the TASKA Hand

Only use water, soft soap, or light disinfectant to wash the hand. Harsh chemicals may damage the hand.

⚠ Always wash the TASKA Hand after using it in situations that could make it dirty. Clean the hand before using it to eat, prepare food, or treat injuries.

Battery care and charging

We have thoroughly tested the TASKA batteries to make sure they are suitable for safe use with the TASKA Hand.

⚠ Only use TASKA or TASKA-certified batteries, chargers, or power switches to power the TASKA Hand or charge TASKA batteries.

Visit **taskaprosthetics.com** for a list of certified batteries, chargers, and power connectors.

Battery charging

For charging the TASKA batteries, you must use only TASKA-approved battery chargers. These chargers have been qualified for use with the batteries, and have been verified to be compatible with the batteries.

Use of any other type of charger could damage the battery, or shorten its life. Any impairment caused to a battery by use of chargers not approved by TASKA is not covered by warranty.

Battery charging process

To charge the TASKA batteries:

1) Connect the charger to a wall socket for the mains charger, or a 12V vehicle power outlet for the car charger.
2) Connect the magnetic tip of the charger's lead to the charging point on the power switch in your prosthetic socket.
3) The light on the charger will change from green to red to show that charging is in progress.
4) When charging is complete, the light on the charger will return to green.

New batteries on a full charge will power at least 400 grip actions before grip strength becomes weak.

⚠ Do not wear the TASKA Hand while charging the batteries. The TASKA Hand will not work while it is charging.

Battery care

If treated correctly, TASKA batteries will provide a long lifetime of excellent performance. Treating the battery well means:

- charge the batteries as often as possible
- charge the batteries before storing them for long periods
- do not let the batteries become completely flat
- replace the batteries every 12 months.

Battery warnings

⚠ Do not expose the battery to naked flames or temperatures above 140°F (60°C).

⚠ Do not bend, pierce, or damage the case of the battery.

⚠ Do not change or short circuit the battery wires.

⚠ Replace your batteries if you notice that they are:

- leaking chemicals
- noticeably swollen
- unusually hot.

Dispose of batteries according to local regulations.

Notes on special activities

Driving vehicles

You must obey local regulations when using vehicles, aircraft, sailing vessels or any other form of motorized transport while using the TASKA Hand. Please talk to your clinician for further details.

If you use the TASKA Hand while operating a vehicle:

- ⚠ Use a grip that locks the hand into place so that it does not accidentally close on a control.
- ⚠ Do not use the TASKA Hand to operate safety-related controls such as a brake.
- ⚠ Make sure the battery has enough charge to last the length of the journey.

Using firearms

- ⚠ Do not use the TASKA Hand to operate firearms.

Safety precautions when using the TASKA Hand

When using the TASKA hand:

- ⚠ Contact your clinician if something is wrong with your hand. Do not try to repair or modify the hand yourself.
- ⚠ Make sure the hand is turned off when you attach or remove it from the socket.
- ⚠ Do not use the TASKA Hand in a way that could cause a safety hazard.
- ⚠ Do not rely solely on the TASKA Hand to support your weight.
- ⚠ Do not use the TASKA Hand for holding anything that could cause harm if dropped, such as a heavy object, glass, or a hazardous substance.
- ⚠ Do not use the TASKA Hand to hold objects weighing more than 20 kg.
- ⚠ Use your TASKA Hand carefully to avoid injuring anyone.
- ⚠ Use of a prosthetic arm can cause discomfort or irritate the residual limb. Talk to your clinician if your TASKA Hand is causing pain or discomfort.
- ⚠ Keep the TASKA Hand away from naked flames or anything hot enough to burn human skin.
- ⚠ Do not use the TASKA Hand where a flammable liquid or gas is present.
- ⚠ Keep the TASKA Hand clear of any live electrical wiring.
- ⚠ Turn off the Bluetooth on the hand when not in use.

Product technical information

Service lifetimes of the TASKA hand and accessories

Product	Description	Expected service life
TASKA-XXXXXX	Myoelectric Controlled Prosthetic hand	5 years
TASKA-B1G1-1	Pair of rechargable 7.4v 2000mAh Li-Ion batteries	1 year
TASKA-MC-01	Mains-powered 8.4v battery charger	5 years
TASKA-CC-01	12v-powered 8.4v battery charger	5 years
TASKA-BTA-01	Bluetooth adaptor to connect to PC's USB port	5 years
TASKA-PWR-01	Power switch and charger connection	2.5 years

Products you may also need

Sensors

The TASKA Hand may be controlled by inputs from the following types of sensors.

- EMG (Electromyographic) sensors
- FSR (Force Sensing Resistor) sensors
- Pattern Recognition Sensor Arrays

Wrist connection

Hands with the "quick disconnect" wrist require a "quick disconnect" style wrist connector with an electrical connection.

Note: the six-pin type is the most compatible for use with the pattern-recognition input system.

Compatibility list

Visit **www.taskaprosthetics.com** for an up-to-date list of sensors and wrist connections that are compatible with the TASKA Hand.

Troubleshooting guide

Problem	What to do
Fault ("!") LED comes on, and the hand stops working	This might mean: a) the hand is too hot inside. b) there is water inside the hand. Turn the hand off, leave it for 5 to 10 minutes, then turn it on again.
The fault ("!") light come on repeatedly and the hand stops working.	Contact your clinician, who will help you identify and fix the problem.
The battery light flashes every 10 seconds.	The batteries have only 10% power remaining. Recharge the batteries as soon as possible.
The battery light is flashing even though the batteries were recently charged.	If you know the batteries are charged but the battery light keeps flashing, check that you are using TASKA batteries. Not using batteries supplied by TASKA is a common cause of this problem. You can turn off the low battery light using the HandCal software (see the HandCal user guide).
The battery light stays on and the hand stops working.	The batteries have gone flat and need to be recharged.
The hand does not respond to control signals.	Make sure the: • hand is turned on. • batteries have sufficient charge. • charging point is disconnected from a charger. • hand is connected properly at the wrist. • current grip is not a static grip. • EMG disable function is not active. The connections from the sensor(s) may have become loose. To check if this is the case: 1) Turn on the hand while holding down the EMG trigger button. 2) Try to open and close the hand as normal. This should make a light for each sensor flash: • if one or both of the lights do not flash, there is a problem such as a broken wire. • if one or both of the lights stay on all the time, the signal is too strong. Contact your clinician if the problem continues.
The thumb does not line up correctly in the standard grips.	1) Turn the hand off. 2) Make sure the fingers are free to move through their full range of movement. 3) Turn the hand on. The first finger may be out of place after spreading the fingers widely. You can use your other hand to move this finger back into position.
The battery charge does not last a full day.	Possible reasons : • the batteries are not fully charged. A full charge takes four hours. • the batteries have been in use for more than one year. • the "anti-slip" feature is on – this uses a lot of battery. Turn off this feature if you do not need it. • the "Close" signal is being used unnecessarily and is using the battery. Once the hand has closed and has a solid grip on an object, turn off the "Close" signal. • Bluetooth has been left on and is using the battery. Turn off Bluetooth when you do not need it. Contact your clinician if the problem continues.

Compliance statements

See the website **www.taskaprosthetics.com/compliance** for a full list of compliance statements and declarations.

TASKA Hand: TASKA-XXXXXX

General Safety:

IEC60601-1-1:2012

- Protection against electrical shock – Class II.
- Not suitable for use in the presence of flammable gases.

IEC 60601-1-2:2014

Rated to CISPR 11 (Class B): Suitable for use in a Home Healthcare and Professional Healthcare Facility.

Protection Rating against ingress of water and dust:

IP67

Intentional RF transmitter (Bluetooth RF transmitter):

Complies with FCC title 47 part 15

Contains Transmitter Module FCC ID: QOQBLE113

Contains Transmitter Module IC: 5123A-BGTBLE113

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable and mobile limits as demonstrated in the RF Exposure Analysis. This transmitter must not be co-located or operate in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

IC Statements:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Statements for Radio Equipment Directive:

Hereby, TASKA Prosthetics Limited declares that the TASKA Hand is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

www.taskaprosthetics.com/compliance

Operational frequency band: 2402 to 2480 MHz

Maximum radio-frequency power: 1 dBm

Mains-powered charger: TASKA-MC-01

Complies with FCC title 47 part 15 subpart B:2014

Car charger: TASKA-CC-01

Complies with FCC title 47 part 15 subpart B:2014

Bluetooth adaptor: TASKA-BTA-01

FCC RF Radiation Exposure Statement:

Complies with FCC title 47 part 15

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

IC Statements:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Statements for Radio Equipment Directive:

Hereby, TASKA Prosthetics Limited declares that the TASKA-BTA-01 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

www.taskaprosthetics.com/compliance

Operational frequency band: 2402 to 2480 MHz

Maximum radio-frequency power: 1 dBm

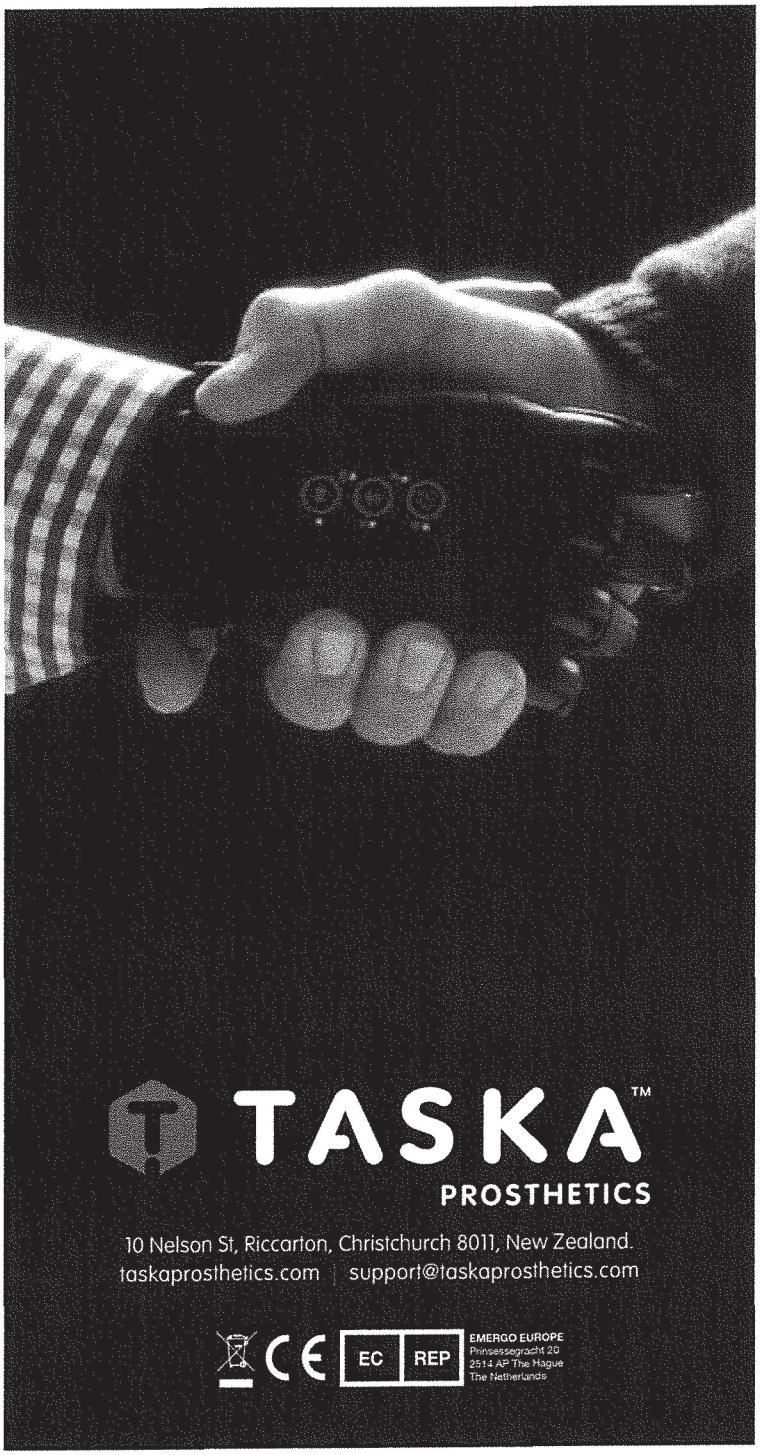

TASKA™
PROSTHETICS
10 Nelson St, Riccarton, Christchurch 8011, New Zealand.
taskaprosthetics.com | support@taskaprosthetics.com
EC REP
EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

EXHIBIT G

COAPT/TASKA®

Prosthetist Manual

Motion Control
division of
Fillauer®

COAPT/TASKA®

Prosthetist Manual

Introduction

The introduction of pattern recognition has proven beneficial in controlling multiple degrees of freedom. When combined with multi-digit hands, the functionality of the hand is further increased. Switching from one grip pattern to the next results in natural, life-like fluidity. The high-speed powered thumb rotation of the TASKA hand combined with COAPT results in natural motion and performance never before seen in terminal devices. This brief manual describes the settings and steps necessary to utilize COAPT Complete Control with the TASKA hand for maximal function.

Special Precautions

⚠ In a transradial application there is a COAPT two-pin half moon plug that is identical to the battery plug. Take care that this connection is plugged into the data connection. **Do not** plug power into the data input of the TASKA hand. Damage to the TASKA hand microprocessor could result.

⚠ The TASKA hand Bluetooth® **must** be turned OFF. The blue light next to the Bluetooth® icon on the back of the TASKA hand should not be illuminated.

TASKA Hand Buttons

When using COAPT, grip patterns are directed by COAPT, therefore the hand buttons are not useful to change grip patterns. The buttons do remain active for functions such as turning on/off Bluetooth, turning on/off beeps, and other functions. The lights are also still functional, such as low battery indicator and the warning light.

Connection Schematic

A wiring schematic is included with the COAPT components. This schematic will differ depending upon the application. Pay careful attention as incorrect connections could result in the system not functioning or damage to the TASKA hand or COAPT system.

TASKA HandCal Clinicial Settings

COAPT Complete Control automatically sets the User Interface settings. There is no need to connect to the TASKA HandCal Clinician for initial set-up.

Wireless Connection for COAPT Complete Control Room (CCR)

When using the COAPT/TASKA combination you must ensure that Bluetooth® is turned OFF on the Taska hand. Press and hold the Hand button (button select on dorsal hand) to turn off Bluetooth®. The blue light next to the Bluetooth® icon will no longer be illuminated.

Connection to COAPT CCR

- Plug in COAPT Communicator dongle
- Power on, wait 10 seconds or until you hear second beep (coming from COAPT software)

Screens of COAPT CCR

Home Screen

- Confirm the Active Profile has TASKA in the title
- Select Left or Right side

Inputs Check

- Verify EMG Signals (see COAPT instructions)

Clinician Control

- Verify output to prosthesis
- Confirm digital communication
  - Press and ***hold*** hand grips buttons within Clinician Control environment
  - Are grips responding to your selections? If YES, you have digital control!
  - If the hand is ***only*** closing . . . **confirm** that the COAPT pig tail is plugged into "A" channel of the 6 band coax or wrist rotator

Troubleshooting

Several problems may occur and to remedy some, connection to the Taska User Interface may be necessary. Refer to "Connection To TASKA HandCal" for correct connection.

Hand is only closing and/or Grip Patterns are not responding correctly

- One possible cause is reversed polarity. In this case, swap the A-B input cables either at the electrodes or wrist inputs.

Hand only opens and closes, no grip patterns

- Ensure Bluetooth® is OFF
- Ensure the 2 pin half moon data cable is connected
- Ensure the coaxial plug has 6 bands

No Hand function

- Check battery connections
- Check battery charge level

Hand not behaving correctly

- If the TASKA hand warning light is illuminated or a digit isn't functioning correctly, follow the instructions below to connect to HandCal Clinician and perform Hand Diagonistics. Then contact Motion Control.

Connection to TASKA HandCal Clinician

*NOTE: If you are making any changes within the TASKA software you must follow this sequence **exactly** prior to powering the system back on: (FYI: the only changes that can be made, are Anti-Slip settings, Battery use – Economy or Power, and the ability to run diagnostics)*

1. Power ON (ensure COAPT radio is plugged in)
2. Start CCR (Verify TASKA)
3. Go to Clinician Controls
4. Toggle to SELECT VIRTUAL ARM
5. Turn on TASKA Bluetooth®
6. Leave COAPT CCR open
7. Start Taska software and make necessary changes
8. Save to hand and close Taska software
9. Turn off Bluetooth®
10. Close COAPT software
11. Power cycle prosthesis

*If you get chattering of the TASKA hand, turn Bluetooth® off and power cycle the prosthesis.

Calibration – Recalibrate control as needed

Practice – Develop functional control

Motion Control
division of
Fillauer®

www.UtahArm.com

Motion Control, Inc.
115 N Wright Brothers Drive
Salt Lake City, UT 84116
801.326.3434
Fax 801.978.0848

EXHIBIT H

Product Order Form

TASKA™

FACILITY INFORMATION

Clinician name:

Company name:

Shipping address:

Phone:

Email:

Purchase order #:

PATIENT INFORMATION:

Trial reference (if applicable):

Insurance provider (if applicable):

History:

☐ New prosthetic user

☐ Prosthetic renewal

Previous device (if applicable):

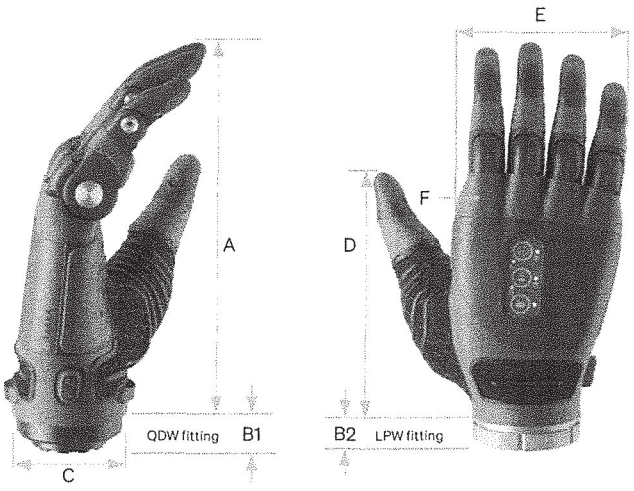
PLEASE SPECIFY THE MODEL OF OTHER COMPONENTRY USED IN THE PROSTHESIS (if applicable):

Control system:

Elbow:

Wrist connector/rotator:

Other:



DIMENSION

		7¾" hand	8¼" hand
A	Middle finger tip to hand base (fully open)	179mm	180mm
B1	Hand base to wrist base (QDW)	17mm	17mm
B2	Hand base to wrist base (LPW inc. Lamination Collar)	12mm	12mm
C	Diameter at wrist	54mm	54mm
D	Thumb tip to hand base	123mm	123mm
E	Palm width	82mm	88mm
F	Palm circumference	7¾ in (197mm)	8¼ in (210mm)

HAND MODEL

(See table to right for full list of items included with the TASKA Hand)

Size: ☐ 7¾ (medium) ☐ 8¼ (large)

Side: ☐ Left ☐ Right

Wrist type: ☐ Quick Disconnect ☐ Low Profile

Colour: ☐ Black ☐ White ☐ Sand

INCLUDED IN HAND PACKAGE*

(Quick Disconnect Wrist (QDW) & Low Profile Wrist (LPW))

	QDW	LPW
2000 mAh Battery, Chargers, Power Switch	•	•
2 year standard warranty	•	•
Annual service with each year of warranty (inc. ext.)	•	•
2 x Bluetooth adaptors	•	•
Replacement Grip Tips and Faceplates	•	•
Low Profile Lamination Ring, Switch Block	n/a	•

WARRANTY EXTENSION (sold separately)

☐ 1 year ☐ 2 year ☐ 3 year

QUICK DISCONNECT WRIST COMPONENTS (sold separately to TASKA Hand)

☐ QDW Lamination Collar Kit (4-band)	Included in kit: (hand-side) 2 x TASKA Seal Ring (socket-side) TASKA Lamination Collar, Coaxial plug (4-band)
☐ QDW Lamination Collar Kit (6-band)	Included in kit: (hand-side) 2 x TASKA Seal Ring (socket-side) TASKA Lamination Collar, Coaxial plug (6-band)
☐ MC Seal Ring Kit	For waterproof connection to compatible Motion Control electric wrist rotators

+46 (0)8 505 332 00 order@fillauer.com fillauer.se

Fillauer

482-EN-A 04-21

Turner Boyd

Jennifer Seraphine
650.265.6018
seraphine@turnerboyd.com

VIA FEDEX

January 3, 2023

U.S. District Court
900 Georgia Ave.
Room 309
Chattanooga, TN 37402

Re: Complaint for filing in *Vincent Systems GMBH v. Fillauer Companies, Inc.*

Dear Sir/Madam:

Please find enclosed for filing the following items:

1. Complaint for Patent Infringement and Exhibits A-H;
2. Civil Cover Sheet;
3. Corporate Disclosure Statement;
4. Proposed Summons;
5. Motion for Admission *Pro Hac Vice* for Jennifer Seraphine;
6. A check in the amount of $402 for filing of the Complaint; and
7. A check in the amount of $90 for filing of the Motion for Admission *Pro Hac Vice*.

Also enclosed are return copies of the above items and a self-addressed FedEx envelope for return mailing.

Thank you very much in advance for your assistance in this regard. If you have any questions at all regarding the enclosed, please do not hesitate to call me at 650-265-6018.

Best regards,

Jennifer Seraphine

U.S. District Court

Tennessee Eastern - Chattanooga

Receipt Date: Jan 4, 2023 2:07PM

Turner Boyd LLP
155 Bovert Road
Suite 750
San Mateo, CA 94402

Rcpt. No: 100000317 Trans. Date: Jan 4, 2023 2:07PM Cashier ID: #AW

CD	Purpose	Case/Party/Defendant	Qty	Price	Amt
200	Civil Filing Fee- Non-Prisoner		1	402.00	402.00
111	Pro Hac Vice	DTNE323BB000001 /001 CLERK US DISTRICT COURT	1	90.00	90.00

CD	Tender			Amt
CH	Check	#5023	01/3/2023	$402.00
CH	Check	#5022	01/3/2023	$90.00

Total Due Prior to Payment:	$492.00
Total Tendered:	$492.00
Total Cash Received:	$0.00
Cash Change Amount:	$0.00

Comments: 1:23-cv-2

Only when the bank clears the check, money order, or verifies credit of funds, is the fee or debt officially paid or discharged. A $53 fee will be charged for a returned check.