

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4396906

|                                   |                       |                       |
|-----------------------------------|-----------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>           | NEW ASSIGNMENT        |                       |
| <b>NATURE OF CONVEYANCE:</b>      | ASSIGNMENT            |                       |
| <b>CONVEYING PARTY DATA</b>       |                       |                       |
| <b>Name</b>                       |                       | <b>Execution Date</b> |
| THORATEC LLC                      |                       | 11/28/2016            |
| <b>RECEIVING PARTY DATA</b>       |                       |                       |
| <b>Name:</b>                      | TC1 LLC               |                       |
| <b>Street Address:</b>            | 6035 STONERIDGE DRIVE |                       |
| <b>City:</b>                      | PLEASANTON            |                       |
| <b>State/Country:</b>             | CALIFORNIA            |                       |
| <b>Postal Code:</b>               | 94588                 |                       |
| <b>PROPERTY NUMBERS Total: 53</b> |                       |                       |
| <b>Property Type</b>              | <b>Number</b>         |                       |
| Application Number:               | 10686040              |                       |
| Application Number:               | 11227277              |                       |
| Application Number:               | 12157267              |                       |
| Application Number:               | 11728051              |                       |
| Application Number:               | 12945594              |                       |
| Application Number:               | 13618071              |                       |
| Application Number:               | 15176620              |                       |
| Application Number:               | 12829359              |                       |
| Application Number:               | 13345597              |                       |
| Application Number:               | 14858354              |                       |
| Application Number:               | 13343618              |                       |
| Application Number:               | 13343617              |                       |
| Application Number:               | 13344544              |                       |
| Application Number:               | 13802556              |                       |
| Application Number:               | 15266864              |                       |
| Application Number:               | 14203978              |                       |
| Application Number:               | 29449306              |                       |
| Application Number:               | 29449287              |                       |
| Application Number:               | 13801833              |                       |
| Application Number:               | 13802468              |                       |

PATENT

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 14209889 |
| Application Number: | 14687493 |
| Application Number: | 15130170 |
| Application Number: | 14687382 |
| Application Number: | 09166005 |
| Application Number: | 09558445 |
| Application Number: | 09289231 |
| Application Number: | 09470841 |
| Application Number: | 09552979 |
| Application Number: | 10078260 |
| Application Number: | 10171023 |
| Application Number: | 10289467 |
| Application Number: | 09780083 |
| Application Number: | 09876281 |
| Application Number: | 09741695 |
| Application Number: | 10308235 |
| Application Number: | 10866535 |
| Application Number: | 11370225 |
| Application Number: | 12254746 |
| Application Number: | 11371208 |
| Application Number: | 13061086 |
| Application Number: | 10408926 |
| Application Number: | 10878592 |
| Application Number: | 10729026 |
| Application Number: | 10878591 |
| Application Number: | 11121352 |
| Application Number: | 11417905 |
| Application Number: | 11417889 |
| Application Number: | 11417677 |
| Application Number: | 11417647 |
| Application Number: | 10706346 |
| Application Number: | 11057692 |
| Application Number: | 10866649 |

#### CORRESPONDENCE DATA

Fax Number: (949)760-9502

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

Phone: 9497600404

**Email:** efiling@knobbe.com  
**Correspondent Name:** KNOBBE, MARTENS, OLSON & BEAR LLP  
**Address Line 1:** 2040 MAIN STREET  
**Address Line 2:** 14TH FLOOR  
**Address Line 4:** IRVINE, CALIFORNIA 92614

|                                |                 |
|--------------------------------|-----------------|
| <b>ATTORNEY DOCKET NUMBER:</b> | THOR.000GEN     |
| <b>NAME OF SUBMITTER:</b>      | PAUL STELLMAN   |
| <b>SIGNATURE:</b>              | /Paul Stellman/ |
| <b>DATE SIGNED:</b>            | 05/03/2017      |

**Total Attachments: 25**

source=2016-11-29\_Signed confirmatory assignment\_THOR#page1.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page2.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page3.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page4.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page5.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page6.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page7.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page8.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page9.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page10.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page11.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page12.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page13.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page14.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page15.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page16.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page17.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page18.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page19.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page20.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page21.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page22.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page23.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page24.tif  
source=2016-11-29\_Signed confirmatory assignment\_THOR#page25.tif

## CONFIRMATORY ASSIGNMENT

WHEREAS, Thoratec Corporation was converted to Thoratec LLC pursuant to the Articles of Organization – Conversion, filed on November 12, 2015.

WHEREAS, Thoratec LLC, a Limited Liability Company of California, having its principal place of business at 6035 Stoneridge Drive, Pleasanton, California 94588 (“Assignor”), has heretofore sold, transferred, and conveyed to TC1 LLC, a Limited Liability Company having a principal place of business at 6035 Stoneridge Drive, Pleasanton, California 94588 (“Assignee”), all of its right, title, and interest, in and to certain inventions, patents, and patent applications as set forth in Exhibit A attached hereto, as part of an assignment agreement dated November 16, 2015 and attached as Exhibit A.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged, Assignor hereby confirms that Assignor did sell, transfer, and convey unto Assignee all right, title, and interest in and to the following:

- (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the below-referenced patent applications in Exhibit A, implicitly or explicitly;
- (b) the below-referenced patent applications in Exhibit A, the right to claim priority to the below-referenced patent applications in Exhibit A, all applications based in whole or in part upon the below-referenced patent applications in Exhibit A, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent applications or application for other rights based in whole or in part on the below-referenced patent applications in Exhibit A;
- (c) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and
- (d) all claims for damages by reason of past infringement of any rights under the applications or patents described in (a), (b) or (c) of this paragraph (including provisional rights to reasonable royalties pursuant to 35 U.S.C. §154(d)) and the right to sue for and collect such damages and royalties for Assignee’s own use.

Assignor hereby authorizes and requests the U.S. Patent and Trademark Office or any other U.S. or non-U.S. agency to issue to the Assignee any and all patent(s), or other rights or documents, resulting from the intellectual property, patent application(s) and patents described in this Confirmatory Assignment.

Assignor hereby agrees to sign all papers and documents, including without limitation, applications, declarations, oaths and petitions, and, at the Assignee’s expense, perform any other acts that are necessary in connection with prosecution of patent application(s) or intellectual property described in

CONFIRMATORY ASSIGNMENT

Page 2 of 25

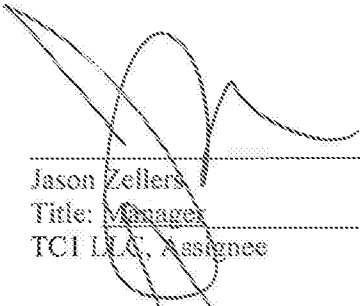
this Confirmatory Assignment and the enforcement of patent(s) or other rights resulting from such patent application(s) or intellectual property.

Assignor hereby agrees that the terms, covenants, and conditions of this Confirmatory Assignment shall be binding upon and inure to the benefit of the Assignee, its successors, assigns and other legal representative.

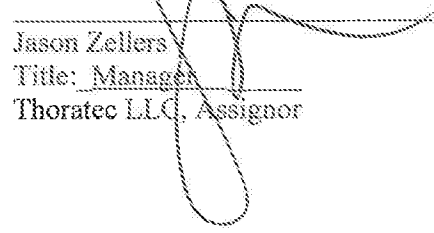
Assignor hereby promises and affirms that Assignor has not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Confirmatory Assignment.

In Witness Whereof, Assignor and Assignee have executed this Confirmatory Assignment on the dates indicated below.

Dated: Nov 28, 2014

  
\_\_\_\_\_  
Jason Zellers  
Title: Manager  
TCI LLC, Assignee

Dated: Nov 28, 2014

  
\_\_\_\_\_  
Jason Zellers  
Title: Manager  
Thoratec LLC, Assignor

## **Exhibit A**

| <b>Knobbe Ref.</b> | <b>Thoratec Ref.</b> | <b>Country</b> | <b>Title of Invention</b>                                                                       | <b>Appl. No.</b>     | <b>Filing Date</b> | <b>Status</b> |
|--------------------|----------------------|----------------|-------------------------------------------------------------------------------------------------|----------------------|--------------------|---------------|
| THOR.001PCA        | P02000X4CA1          | CA             | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                                           | 2480467              | 2/14/2003          | Issued        |
| THOR.001PCAD1      | P02000X4CA2          | CA             | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME                         | 2785934              | 8/7/2012           | Abandoned     |
| THOR.001PPC        | P02000X4WO           | WO             | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                                           | PCT/US2003/0<br>4853 | 2/14/2003          | Abandoned     |
| THOR.007VREP       | P02002EP2            | EP             | CANNULAE<br>HAVING A<br>REDIRECTING TIP                                                         | 8010438.3            | 11/10/2004         | Abandoned     |
| THOR.014A          | P02007               | US             | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME                         | 10/686040            | 10/15/2003         | Abandoned     |
| THOR.033A          | P04000               | US             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 11/227277            | 9/15/2005          | Issued        |
| THOR.033C1         | P04000C1             | US             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 12/157267            | 6/9/2008           | Issued        |
| THOR.033C1C1       | P04000C2             | US             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 13/072624            | 3/25/2011          | Issued        |
| THOR.033C3         | P04000C3             | US             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 13/740042            | 1/11/2013          | Issued        |
| THOR.033C4         | P04000C4             | US             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 14/622339            | 2/13/2015          | Published     |
| THOR.033PR         | P04000A              | US             | LEFT<br>VENTRICULAR<br>ASSIST DEVICE<br>(LVAD) WITH<br>EXPANDABLE<br>CATHETER/IMPELL<br>ER PUMP | 60/610938            | 9/17/2004          | Closed        |
| THOR.033VAU        | P04000AU1            | AU             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 2005286914           | 9/16/2005          | Issued        |
| THOR.033VAUD1      | P04000AU2            | AU             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 2012203159           | 9/16/2005          | Issued        |
| THOR.033VCA        | P04000CA             | CA             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 2580452              | 9/16/2005          | Issued        |
| THOR.033VCN        | P04000CN             | CN             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 200580031227.<br>1   | 9/16/2005          | Issued        |
| THOR.033VEP        | P04000EP             | EP             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 5799883.3            | 9/16/2005          | Published     |
| THOR.033VEPD1      | P04000EP2            | EP             | EXPANDABLE<br>IMPELLER PUMP                                                                     | 13167651             | 5/14/2013          | Published     |

# CONFIRMATORY ASSIGNMENT

Page 4 of 25

| Knobbe Ref.   | Thoratec Ref. | Country | Title of Invention                                | Appl. No.         | Filing Date | Status    |
|---------------|---------------|---------|---------------------------------------------------|-------------------|-------------|-----------|
| THOR.033VHK   | P04000HK      | HK      | EXPANDABLE IMPELLER PUMP                          | 7106935.8         | 9/16/2005   | Published |
| THOR.033VJP   | P04000JP1     | JP      | EXPANDABLE IMPELLER PUMP                          | 2007-532569       | 9/16/2005   | Issued    |
| THOR.033VJPD1 | P04000JP2     | JP      | EXPANDABLE IMPELLER PUMP                          | 2011-000620       | 9/16/2005   | Issued    |
| THOR.033VPC   | P04000WO      | WO      | EXPANDABLE IMPELLER PUMP                          | PCT/US2005/033416 | 9/16/2005   | Closed    |
| THOR.034A     | P04001        | US      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 11/728051         | 3/23/2007   | Issued    |
| THOR.034C1    | P04001C1      | US      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 12/945594         | 11/12/2010  | Issued    |
| THOR.034C2    | P04001C2      | US      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 13/618071         | 9/14/2012   | Issued    |
| THOR.034C3    | P04001C3      | US      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 15/176620         | 6/8/2016    | Pending   |
| THOR.034PR1   | P04001A       | US      | EXPANDABLE IMPELLER PUMP                          | 60/785299         | 3/23/2006   | Closed    |
| THOR.034PR2   | P04002A       | US      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 60/785531         | 3/23/2006   | Closed    |
| THOR.034VAU   | P04001AU      | AU      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 2007230945        | 3/23/2007   | Issued    |
| THOR.034VCA   | P04001CA      | CA      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 2646277           | 3/23/2007   | Issued    |
| THOR.034VCN   | P04001CN1     | CN      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 200780018603.2    | 3/23/2007   | Issued    |
| THOR.034VCND1 | P04001CN2     | CN      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 201110240259.X    | 3/23/2007   | Abandoned |
| THOR.034VEP   | P04001EP      | EP      | HEART ASSIST DEVICE WITH EXPANDABLE IMPELLER PUMP | 7753903.9         | 3/23/2007   | Issued    |

CONFIRMATORY ASSIGNMENT

Page 5 of 25

| Knobbe Ref.   | Thoratec Ref.      | Country | Title of Invention                                         | Appl. No.          | Filing Date | Status     |
|---------------|--------------------|---------|------------------------------------------------------------|--------------------|-------------|------------|
| THOR.034VEP   | P04001DE           | DE      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 7753903.9          | 3/23/2007   | Issued     |
| THOR.034VEP   | P04001GB           | GB      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 7753903.9          | 3/23/2007   | Issued     |
| THOR.034VEP   | P04001NL           | NL      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 7753903.9          | 3/23/2007   | Issued     |
| THOR.034VEP   | P04001FR           | FR      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 7753903.9          | 3/23/2007   | Issued     |
| THOR.034VEPD1 | THOR-<br>P04001EP2 | EP      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 16169053           | 5/10/2016   | Pending    |
| THOR.034VHK   | P04001HK           | HK      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 9100058            | 3/23/2007   | ABA Intent |
| THOR.034VJP   | P04001JP1          | JP      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 2009-501590        | 3/23/2007   | Abandoned  |
| THOR.034VJPD1 | P04001JP2          | JP      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 2011-102836        | 3/23/2007   | Abandoned  |
| THOR.034VJPD2 | P04001JP3          | JP      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | 2012-083873        | 3/23/2007   | Issued     |
| THOR.034VPC   | P04001WO           | WO      | HEART ASSIST<br>DEVICE WITH<br>EXPANDABLE<br>IMPELLER PUMP | PCT/US07/073<br>13 | 3/23/2007   | Closed     |
| THOR.039A     | P04003             | US      | BLOOD PUMP WITH<br>EXPANDABLE<br>CANNULA                   | 12/829359          | 7/1/2010    | Issued     |
| THOR.039AU    | P04003AU           | AU      | BLOOD PUMP WITH<br>EXPANDABLE<br>CANNULA                   | 2010266166         | 7/1/2010    | Issued     |
| THOR.039C1    | P04003C            | US      | BLOOD PUMP WITH<br>EXPANDABLE<br>CANNULA                   | 13/968161          | 8/15/2013   | Issued     |
| THOR.039CA    | P04003CA           | CA      | BLOOD PUMP WITH<br>EXPANDABLE<br>CANNULA                   | 2769631            | 7/1/2010    | Pending    |

## CONFIRMATORY ASSIGNMENT

Page 6 of 25

| Knobbe Ref.  | Thoratec Ref. | Country | Title of Invention                           | Appl. No.         | Filing Date | Status    |
|--------------|---------------|---------|----------------------------------------------|-------------------|-------------|-----------|
| THOR.039CN   | P04003CN      | CN      | BLOOD PUMP WITH EXPANDABLE CANNULA           | 201080038684.4    | 7/1/2010    | Abandoned |
| THOR.039EP   | P04003EP      | EP      | BLOOD PUMP WITH EXPANDABLE CANNULA           | 10730681          | 7/1/2010    | Published |
| THOR.039JP   | P04003JP1     | JP      | BLOOD PUMP WITH EXPANDABLE CANNULA           | 2012-518617       | 7/1/2010    | Issued    |
| THOR.039JPD1 | P04003JP2     | JP      | BLOOD PUMP WITH EXPANDABLE CANNULA           | 2015-186444       | 9/24/2015   | Pending   |
| THOR.039PR   | P04003A       | US      | BLOOD PUMP WITH EXPANDABLE CANNULA           | 61/222236         | 7/1/2009    | Expired   |
| THOR.039VPC  | P04003WO      | WO      | BLOOD PUMP WITH EXPANDABLE CANNULA           | PCT/US2010/040847 | 7/1/2010    | Expired   |
| THOR.045A    | P04008        | US      | PERCUTANEOUS HEART PUMP                      | 13/345597         | 1/6/2012    | Issued    |
| THOR.045C1   | P04008C       | US      | PERCUTANEOUS HEART PUMP                      | 14/858354         | 9/18/2015   | Published |
| THOR.045PR   | P04008A       | US      | PERCUTANEOUS HEART PUMP                      | 61/430537         | 1/6/2011    | Expired   |
| THOR.045WO   | P04008WO      | WO      | PERCUTANEOUS HEART PUMP                      | PCT/US2012/020553 | 1/6/2012    | Expired   |
| THOR.046A    | P04009        | US      | CATHETER PUMP                                | 13/343618         | 1/4/2012    | Issued    |
| THOR.046CA   | P04009CA      | CA      | PERCUTANEOUS HEART PUMP                      | 2823951           | 7/4/2013    | Pending   |
| THOR.046EP   | P04009EP      | EP      | PERCUTANEOUS HEART PUMP                      | 12731913          | 8/5/2013    | Published |
| THOR.046PR   | P04009A       | US      | PERCUTANEOUS HEART PUMP                      | 61/430129         | 1/5/2011    | Expired   |
| THOR.046TW   | P04009TW      | TW      | HEART PUMP AND CATHETER ASSEMBLY THEREFOR    | 101100509         | 1/5/2012    | Issued    |
| THOR.046WO   | P04009WO      | WO      | PERCUTANEOUS HEART PUMP                      | PCT/US2012/020382 | 1/5/2012    | Expired   |
| THOR.047A    | P04010        | US      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 13/343617         | 1/4/2012    | Issued    |
| THOR.047AU   | P04010AU      | AU      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 2012204321        | 7/2/2013    | Pending   |
| THOR.047CA   | P04010CA      | CA      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 2823950           | 7/4/2013    | Pending   |

## CONFIRMATORY ASSIGNMENT

Page 7 of 25

| Knobbe Ref.  | Thoratec Ref. | Country | Title of Invention                           | Appl. No.         | Filing Date | Status    |
|--------------|---------------|---------|----------------------------------------------|-------------------|-------------|-----------|
| THOR.047EP   | P04010EP      | EP      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 12732507          | 8/5/2013    | Published |
| THOR.047PR   | P04010A       | US      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 61/430146         | 1/5/2011    | Expired   |
| THOR.047TW   | P04010TW      | TW      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | 101100510         | 1/5/2012    | Abandoned |
| THOR.047WO   | P04010WO      | WO      | IMPELLER HOUSING FOR PERCUTANEOUS HEART PUMP | PCT/US2012/020369 | 1/5/2012    | Expired   |
| THOR.048A    | P04011        | US      | CATHETER PUMP                                | 13/344544         | 1/5/2012    | Issued    |
| THOR.048PR   | P04011A1      | US      | PERCUTANEOUS HEART PUMP                      | 61/430171         | 1/6/2011    | Expired   |
| THOR.048PR2  | P04011A2      | US      | PERCUTANEOUS HEART PUMP                      | 61/430517         | 1/6/2011    | Expired   |
| THOR.048WO   | P04011WO      | WO      | PERCUTANEOUS HEART PUMP                      | PCT/US2012/020383 | 1/5/2012    | Expired   |
| THOR.072A    | P04013        | US      | DISTAL BEARING SUPPORT                       | 13/802556         | 3/13/2013   | Issued    |
| THOR.072C1   | P04013C       | US      | DISTAL BEARING SUPPORT                       | 15/266864         | 9/15/2016   | Pending   |
| THOR.072DE   | P04013DE      | DE      | DISTAL BEARING SUPPORT                       | 102013008158      | 5/13/2013   | Published |
| THOR.072EP   | P04013EP      | EP      | DISTAL BEARING SUPPORT                       | 13791119          | 11/12/2014  | Published |
| THOR.072GB   | P04013GB1     | GB      | DISTAL BEARING SUPPORT                       | 1308544.4         | 5/13/2013   | Issued    |
| THOR.072GBD1 | P04013GB2     | GB      | DISTAL BEARING SUPPORT                       | 1414709.4         | 8/19/2014   | Abandoned |
| THOR.072JP   | P04013JP      | JP      | DISTAL BEARING SUPPORT                       | 2015-512724       | 11/13/2014  | Pending   |
| THOR.072PR   | P04013A       | US      | DISTAL BEARING SUPPORT                       | 61/646755         | 5/14/2012   | Expired   |
| THOR.072WO   | P04013WO      | WO      | DISTAL BEARING SUPPORT                       | PCT/US2013/040798 | 5/13/2013   | Expired   |
| THOR.084A    | P04012        | US      | FLUID HANDLING SYSTEM                        | 14/203978         | 3/11/2014   | Issued    |
| THOR.084D1   | P04012D       | US      | FLUID HANDLING SYSTEM                        | 15/198342         | 6/30/2016   | Published |
| THOR.084DA1  | D04018        | US      | CATHETER PUMP CONSOLE INTERFACE              | 29/449306         | 3/14/2013   | Issued    |
| THOR.084DA2  | D04020        | US      | CATHETER PUMP CONSOLE                        | 29/449287         | 3/14/2013   | Issued    |

## CONFIRMATORY ASSIGNMENT

Page 8 of 25

| Knobbe Ref.    | Thoratec Ref. | Country | Title of Invention              | Appl. No.           | Filing Date | Status    |
|----------------|---------------|---------|---------------------------------|---------------------|-------------|-----------|
| THOR.084EP     | P04012EP      | EP      | FLUID HANDLING SYSTEM           | 14779928            | 9/9/2015    | Published |
| THOR.084JP     | P04012JP      | JP      | FLUID HANDLING SYSTEM           | 2016-500668         | 9/11/2015   | Pending   |
| THOR.084PR     | P04012A1      | US      | FLUID HANDLING SYSTEM           | 61/646861           | 5/14/2012   | Abandoned |
| THOR.084PR2    | P04012A2      | US      | FLUID HANDLING SYSTEM           | 61/780656           | 3/13/2013   | Expired   |
| THOR.084WO     | P04012WO      | WO      | FLUID HANDLING SYSTEM           | PCT/US2014/020790   | 3/5/2014    | Expired   |
| THOR.084XAU1   | D04018AU      | AU      | CATHETER PUMP CONSOLE INTERFACE | 14455/2013          | 9/9/2013    | Issued    |
| THOR.084XAU2   | D04020AU1     | AU      | CATHETER PUMP CONSOLE           | 14456/2013          | 9/9/2013    | Issued    |
| THOR.084XAU3   | D04020AU2     | AU      | CATHETER PUMP CONSOLE           | 14457/2013          | 9/9/2013    | Issued    |
| THOR.084XCA1   | D04018CA      | CA      | CATHETER PUMP CONSOLE INTERFACE | 152903              | 9/9/2013    | Issued    |
| THOR.084XCA2   | D04020CA      | CA      | CATHETER PUMP CONSOLE           | 152904              | 9/9/2013    | Issued    |
| THOR.084XCA2D1 | D04020CA2     | CA      | CATHETER PUMP CONSOLE           | 157980              | 7/31/2014   | Issued    |
| THOR.084XEU1   | D04018EP      | EM      | CATHETER PUMP CONSOLE INTERFACE | 001383715-0001      | 9/10/2013   | Issued    |
| THOR.084XEU2   | D04020EP      | EM      | CATHETER PUMP CONSOLE           | 001383624-0001-0002 | 9/10/2013   | Issued    |
| THOR.084XJP1   | D04018JP      | JP      | CATHETER PUMP CONSOLE INTERFACE | 2013-021388         | 9/17/2013   | Issued    |
| THOR.084XJP2   | D04020JP      | JP      | CATHETER PUMP CONSOLE           | 2013-021389         | 9/17/2013   | Issued    |
| THOR.089A      | P04014        | US      | SHEATH SYSTEM FOR CATHETER PUMP | 13/801833           | 3/13/2013   | Published |
| THOR.089DE     | P04014DE      | DE      | SHEATH SYSTEM FOR CATHETER PUMP | 102013008159.9      | 5/13/2013   | Published |
| THOR.089EP     | P04014EP      | EP      | SHEATH SYSTEM FOR CATHETER PUMP | 13790890            | 11/21/2014  | Published |
| THOR.089GB     | P04014GB      | GB      | SHEATH SYSTEM FOR CATHETER PUMP | 1308566.7           | 5/13/2013   | Issued    |
| THOR.089PR     | P04014A       | US      | SHEATH SYSTEM FOR CATHETER PUMP | 61/646789           | 5/14/2012   | Expired   |

## CONFIRMATORY ASSIGNMENT

Page 9 of 25

| Knobbe Ref. | Thoratec Ref. | Country | Title of Invention               | Appl. No.         | Filing Date | Status    |
|-------------|---------------|---------|----------------------------------|-------------------|-------------|-----------|
| THOR.089WO  | P04014WO      | WO      | SHEATH SYSTEM FOR CATHETER PUMP  | PCT/US2013/040799 | 5/13/2013   | Expired   |
| THOR.090A   | P04015        | US      | IMPELLER FOR CATHETER PUMP       | 13/802570         | 3/13/2013   | Issued    |
| THOR.090C1  | -P04015C      | US      | IMPELLER FOR CATHETER PUMP       | 15/142522         | 4/29/2016   | Published |
| THOR.090DE  | P04015DE      | DE      | IMPELLER FOR CATHETER PUMP       | 102013008168.8    | 5/13/2013   | Published |
| THOR.090EP  | P04015EP      | EP      | IMPELLER FOR CATHETER PUMP       | 13790364          | 11/21/2014  | Published |
| THOR.090GB  | P04015GB      | GB      | IMPELLER FOR CATHETER PUMP       | 1308563.4         | 5/13/2013   | Abandoned |
| THOR.090NP  | P04015US      | US      | IMPELLER FOR CATHETER PUMP       | 14/401096         | 11/13/2014  | Issued    |
| THOR.090PR  | P04015A1      | US      | BLADES FOR CATHETER PUMP         | 61/646827         | 5/14/2012   | Expired   |
| THOR.090PR2 | P04015A2      | US      | BLADES FOR CATHETER PUMP         | 61/667875         | 7/3/2012    | Expired   |
| THOR.090WO  | P04015WO      | WO      | IMPELLER FOR CATHETER PUMP       | PCT/US2013/040809 | 5/13/2013   | Expired   |
| THOR.092A   | P04016        | US      | CATHETER PUMP                    | 13/801528         | 3/13/2013   | Issued    |
| THOR.092D1  | P04016D       | US      | CATHETER PUMP                    | 15/172664         | 6/3/2016    | Published |
| THOR.092EP  | P04016EP      | EP      | CATHETER PUMP                    | 13813867          | 12/23/2014  | Published |
| THOR.092PR  | P04016A       | US      | CATHETER PUMP                    | 61/667903         | 7/3/2012    | Expired   |
| THOR.092WO  | P04016WO      | WO      | CATHETER PUMP                    | PCT/US2013/048343 | 6/27/2013   | Expired   |
| THOR.093A   | P04017        | US      | MOTOR ASSEMBLY FOR CATHETER PUMP | 13/802468         | 3/13/2013   | Issued    |
| THOR.093C1  | P04017C       | US      | MOTOR ASSEMBLY FOR CATHETER PUMP | 14/719816         | 5/22/2015   | Abandoned |
| THOR.093C2  | P04017C2      | US      | MOTOR ASSEMBLY FOR CATHETER PUMP | 15/242024         | 8/19/2016   | Pending   |
| THOR.093DE  | P04017DE      | DE      | MOTOR ASSEMBLY FOR CATHETER PUMP | 102013011042.4    | 7/2/2013    | Published |
| THOR.093EP  | P04017EP      | EP      | MOTOR ASSEMBLY FOR CATHETER PUMP | 13813687          | 12/23/2014  | Published |
| THOR.093GB  | P04017GB      | GB      | MOTOR ASSEMBLY FOR CATHETER PUMP | 1311685           | 6/28/2013   | Abandoned |
| THOR.093PR  | P04017A       | US      | CATHETER PUMP                    | 61/667869         | 7/3/2012    | Expired   |
| THOR.093WO  | P04017WO      | WO      | MOTOR ASSEMBLY FOR CATHETER PUMP | PCT/US2013/048332 | 6/27/2013   | Expired   |

CONFIRMATORY ASSIGNMENT

Page 10 of 25

| Knobbe Ref. | Thoratec Ref. | Country | Title of Invention                        | Appl. No.         | Filing Date | Status    |
|-------------|---------------|---------|-------------------------------------------|-------------------|-------------|-----------|
| THOR.097A   | P04019        | US      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 14/209889         | 3/13/2014   | Issued    |
| THOR.097C1  | P04019C       | US      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 15/065573         | 3/9/2016    | Published |
| THOR.097EP  | P04019EP      | EP      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 14764393          | 10/7/2015   | Published |
| THOR.097NP  | P04019US      | US      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 14/775501         | 9/11/2015   | Published |
| THOR.097PR  | P04019A1      | US      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 61/798590         | 3/15/2013   | Expired   |
| THOR.097PR2 | P04019A2      | US      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | 61/903282         | 11/12/2013  | Expired   |
| THOR.097WO  | P04019WO      | WO      | CATHETER PUMP ASSEMBLY INCLUDING A STATOR | PCT/US2014/020878 | 3/5/2014    | Expired   |
| THOR.102A   | P04022        | US      | SENSORS FOR CATHETER PUMPS                | 14/687493         | 4/15/2015   | Published |
| THOR.102EP  | P04022EP      | EP      | SENSORS FOR CATHETER PUMPS                | 15780622          | 10/28/2016  | Pending   |
| THOR.102PR  | P04022A       | US      | SENSORS FOR CATHETER PUMPS                | 61/979920         | 4/15/2014   | Expired   |
| THOR.102WO  | P04022WO      | WO      | SENSORS FOR CATHETER PUMPS                | PCT/US2015/025960 | 4/15/2015   | Published |
| THOR.103NP  | P04024US      | US      | CATHETER PUMP WITH OFF-SET MOTOR POSITION | 15/303711         | 10/12/2016  | Pending   |
| THOR.103PR  | P04024A       | US      | CATHETER PUMP WITH OFF-SET MOTOR POSITION | 61/979876         | 4/15/2014   | Expired   |
| THOR.103WO  | P04024WO      | WO      | CATHETER PUMP WITH OFF-SET MOTOR POSITION | PCT/US2015/025959 | 4/15/2015   | Expired   |
| THOR.104NP  | P04026        | US      | HEART PUMP PROVIDING ADJUSTABLE OUTFLOW   | 15/303698         | 10/12/2016  | Pending   |

## CONFIRMATORY ASSIGNMENT

Page 11 of 25

| Knobbe Ref. | Thoratec Ref. | Country | Title of Invention                            | Appl. No.         | Filing Date | Status    |
|-------------|---------------|---------|-----------------------------------------------|-------------------|-------------|-----------|
| THOR.104PR  | P04026A       | US      | HEART PUMP PROVIDING ADJUSTABLE OUTFLOW       | 61/979925         | 4/15/2014   | Expired   |
| THOR.104WO  | P04026WO      | WO      | HEART PUMP PROVIDING ADJUSTABLE OUTFLOW       | PCT/US2015/026014 | 4/15/2015   | Expired   |
| THOR.105A   | P04021        | US      | CATHETER PUMP WITH POSITIONING BRACE          | 15/130170         | 4/15/2016   | Published |
| THOR.105PR  | P04021A1      | US      | CATHETER PUMP WITH POSITIONING BRACE          | 61/979974         | 4/15/2014   | Expired   |
| THOR.105PR2 | P04021A2      | US      | CATHETER PUMP WITH POSITIONING BRACE          | 62/148420         | 4/16/2015   | Expired   |
| THOR.106A   | P04027        | US      | CATHETER PUMP WITH ACCESS PORTS               | 14/687382         | 4/15/2015   | Published |
| THOR.106EP  | P04027EP      | EP      | CATHETER PUMP WITH ACCESS PORTS               | 15780293          | 10/28/2016  | Pending   |
| THOR.106PR  | P04027A       | US      | CATHETER PUMP WITH ACCESS PORTS               | 61/979952         | 4/15/2014   | Expired   |
| THOR.106WO  | P04027WO      | WO      | CATHETER PUMP WITH ACCESS PORTS               | PCT/US2015/026013 | 4/15/2015   | Expired   |
| THOR.107EP  | P04023EP      | EP      | CATHETER PUMP INTRODUCER SYSTEMS AND METHODS  | 15779336          | 10/28/2016  | Pending   |
| THOR.107NP  | P04023US      | US      | CATHETER PUMP INTRODUCER SYSTEMS AND METHODS  | 15/303709         | 10/12/2016  | Pending   |
| THOR.107PR  | P04023A       | US      | CATHETER PUMP INTRODUCER SYSTEMS AND METHODS  | 61/979937         | 4/15/2014   | Expired   |
| THOR.107WO  | P04023WO      | WO      | CATHETER PUMP INTRODUCER SYSTEMS AND METHODS  | PCT/US2015/026025 | 4/15/2015   | Expired   |
| THOR.108PR  | P04025A       | US      | GUIDE FEATURES FOR PERCUTANEOUS CATHETER PUMP | 62/038678         | 8/18/2014   | Expired   |

CONFIRMATORY ASSIGNMENT

Page 12 of 25

| Knobbe Ref.   | Thoratec Ref. | Country | Title of Invention                                          | Appl. No.         | Filing Date | Status    |
|---------------|---------------|---------|-------------------------------------------------------------|-------------------|-------------|-----------|
| THOR.108WO    | P04025WO      | WO      | GUIDE FEATURES FOR PERCUTANEOUS CATHETER PUMP               | PCT/US2015/045370 | 8/14/2015   | Published |
| THOR.127A     | P04028        | US      | REDUCED ROTATIONAL MASS MOTOR ASSEMBLY FOR CATHETER PUMP    | 15/003576         | 1/21/2016   | Published |
| THOR.127PR    | P04028A       | US      | REDUCED ROTATIONAL MASS MOTOR ASSEMBLY FOR CATHETER PUMP    | 62/106670         | 1/22/2015   | Expired   |
| THOR.127WO    | P04028WO      | WO      | REDUCED ROTATIONAL MASS MOTOR ASSEMBLY FOR CATHETER PUMP    | PCT/US2016/014371 | 1/21/2016   | Published |
| THOR.128A     | P04029        | US      | MOTOR ASSEMBLY WITH HEAT EXCHANGER FOR CATHETER PUMP        | 15/003682         | 1/21/2016   | Published |
| THOR.128PR    | P04029A       | US      | MOTOR ASSEMBLY WITH HEAT EXCHANGER FOR CATHETER PUMP        | 62/106675         | 1/22/2015   | Expired   |
| THOR.128WO    | P04029WO      | WO      | MOTOR ASSEMBLY WITH HEAT EXCHANGER FOR CATHETER PUMP        | PCT/US2016/014379 | 1/21/2016   | Published |
| THOR.130A     | P04030        | US      | ATTACHMENT MECHANISMS FOR MOTOR OF CATHETER PUMP            | 15/003696         | 1/21/2016   | Published |
| THOR.130PR    | P04030A       | US      | ATTACHMENT MECHANISMS FOR MOTOR OF CATHETER PUMP            | 62/106673         | 1/22/2015   | Expired   |
| THOR.130WO    | P04030WO      | WO      | ATTACHMENT MECHANISMS FOR MOTOR OF CATHETER PUMP            | PCT/US2016/014391 | 1/21/2016   | Published |
| THOR.1CP6C5C2 | P02000X6C5C1  | US      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 12/565651         | 9/23/2009   | Issued    |
| THORCV.001A   | P02000        | US      | IMPLANTABLE HEART ASSIST SYSTEM                             | 09/166005         | 10/2/1998   | Issued    |

CONFIRMATORY ASSIGNMENT

Page 13 of 25

| Knobbe Ref.       | Thoratec Ref. | Country | Title of Invention                                                      | Appl. No. | Filing Date | Status |
|-------------------|---------------|---------|-------------------------------------------------------------------------|-----------|-------------|--------|
| THORCV.001C1      | P02000C1      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 09/558445 | 4/25/2000   | Issued |
| THORCV.001CP1     | P02000X1      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 09/289231 | 4/9/1999    | Issued |
| THORCV.001CP2     | P02000X2      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 09/470841 | 12/23/1999  | Issued |
| THORCV.001CP3     | P02000X3      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 09/552979 | 4/21/2000   | Issued |
| THORCV.001CP4     | P02000X4      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/078260 | 2/15/2002   | Issued |
| THORCV.001CP5     | P02000X5      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/171023 | 6/11/2002   | Issued |
| THORCV.001CP6     | P02000X6      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/289467 | 11/6/2002   | Issued |
| THORCV.001GC<br>H | P02000X6CH    | CH      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3 | 10/28/2003  | Issued |
| THORCV.001GD<br>E | P02000X6DE    | DE      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3 | 10/28/2003  | Issued |
| THORCV.001GEP     | P02000X6EP    | EP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 3778067.3 | 10/28/2003  | Issued |
| THORCV.001GES     | P02000X6ES    | ES      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3 | 10/28/2003  | Issued |

## CONFIRMATORY ASSIGNMENT

Page 14 of 25

| Knobbe Ref.       | Thoratec Ref. | Country | Title of Invention                                                      | Appl. No.             | Filing Date | Status    |
|-------------------|---------------|---------|-------------------------------------------------------------------------|-----------------------|-------------|-----------|
| THORCV.001GFR     | P02000X6FR    | FR      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001GG<br>B | P02000X6GB    | GB      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001GIT     | P02000X6IT    | IT      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001GLI     | P02000X6LI    | LI      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001GN<br>L | P02000X6NL    | NL      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001GPC     | P02000X6WO    | WO      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | PCT/US2003/0<br>34869 | 10/28/2003  | Closed    |
| THORCV.001GSE     | P02000X6SE    | SE      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 3778067.3             | 10/28/2003  | Issued    |
| THORCV.001HA<br>U | P02000X2AU    | AU      | HEART ASSIST<br>SYSTEM                                                  | 38844/00              | 3/15/2000   | Abandoned |
| THORCV.001HC<br>A | P02000X2CA1   | CA      | HEART ASSIST<br>SYSTEM                                                  | 2367469               | 3/15/2000   | Abandoned |
| THORCV.001HC<br>H | P02000X2CH    | CH      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |
| THORCV.001HD<br>E | P02000X2DE    | DE      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |
| THORCV.001HEP     | P02000X2EP    | EP      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |
| THORCV.001HES     | P02000X2ES    | ES      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |
| THORCV.001HFR     | P02000X2FR    | FR      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |
| THORCV.001HG<br>B | P02000X2GB    | GB      | HEART ASSIST<br>SYSTEM                                                  | 917948.2              | 3/15/2000   | Issued    |

## CONFIRMATORY ASSIGNMENT

Page 15 of 25

| Knobbe Ref.   | Thoratec Ref. | Country | Title of Invention                                          | Appl. No.     | Filing Date | Status    |
|---------------|---------------|---------|-------------------------------------------------------------|---------------|-------------|-----------|
| THORCV.001HIT | P02000X2IT    | IT      | HEART ASSIST SYSTEM                                         | 917948.2      | 3/15/2000   | Issued    |
| THORCV.001HLI | P02000X2LI    | LI      | HEART ASSIST SYSTEM                                         | 917948.2      | 3/15/2000   | Issued    |
| THORCV.001HNL | P02000X2NL    | NL      | HEART ASSIST SYSTEM                                         | 917948.2      | 3/15/2000   | Issued    |
| THORCV.001HPC | P02000X2WO    | WO      | HEART ASSIST SYSTEM (AMEND PER PCT SEARCH REPT)             | PCTUS00/06749 | 3/15/2000   | Closed    |
| THORCV.001HSE | P02000X2SE    | SE      | HEART ASSIST SYSTEM                                         | 917948.2      | 3/15/2000   | Abandoned |
| THORCV.001HTW | P02000X2TW    | TW      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 89105156      | 3/21/2000   | Abandoned |
| THORCV.001PAU | P02000X4AU    | AU      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 2003215293    | 2/14/2003   | Abandoned |
| THORCV.001PR  | P02000A       | US      | IMPLANTABLE HEART ASSIST DEVICE                             | 60/061434     | 10/9/1997   | Closed    |
| THORCV.001VAU | P02000AU      | AU      | IMPLANTABLE HEART ASSIST SYSTEM                             | 97976/98      | 10/9/1998   | Issued    |
| THORCV.001VBR | P02000BR      | BR      | IMPLANTABLE HEART ASSIST SYSTEM                             | PI9814060-4   | 10/9/1998   | Abandoned |
| THORCV.001VCA | P02000CA      | CA      | IMPLANTABLE HEART ASSIST SYSTEM                             | 2305443       | 10/9/1998   | Issued    |
| THORCV.001VCH | P02000CH      | CH      | IMPLANTABLE HEART ASSIST SYSTEM                             | 98952226      | 10/9/1998   | Issued    |
| THORCV.001VCN | P02000CN      | CN      | IMPLANTABLE HEART ASSIST SYSTEM                             | 98809992      | 10/9/1998   | Abandoned |
| THORCV.001VCZ | P02000CZ      | CZ      | IMPLANTABLE HEART ASSIST SYSTEM                             | PV2000-1173   | 10/9/1998   | Issued    |
| THORCV.001VDE | P02000DE      | DE      | IMPLANTABLE HEART ASSIST SYSTEM                             | 98952226      | 10/9/1998   | Issued    |
| THORCV.001VEP | P02000EP      | EP      | IMPLANTABLE HEART ASSIST SYSTEM                             | 98952226      | 10/9/1998   | Issued    |

CONFIRMATORY ASSIGNMENT

Page 16 of 25

| Knobbe Ref.         | Thoratec Ref. | Country | Title of Invention                    | Appl. No.            | Filing Date | Status    |
|---------------------|---------------|---------|---------------------------------------|----------------------|-------------|-----------|
| THORCV.001VES       | P02000ES      | ES      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VFR       | P02000FR      | FR      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VGB       | P02000GB      | GB      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VHK       | P02000HK      | HK      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 106798.1             | 10/9/1998   | Abandoned |
| THORCV.001VIL       | P02000IL      | IL      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 135209               | 10/9/1998   | Issued    |
| THORCV.001VIT       | P02000IT      | IT      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VJP       | P02000JP1     | JP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 2000-515640          | 10/9/1998   | Issued    |
| THORCV.001VJP<br>D2 | P02000JP3     | JP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 2010-037404          | 10/9/1998   | Issued    |
| THORCV.001VK<br>R   | P02000KR      | KR      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 10-2000-<br>7003855  | 10/9/1998   | Issued    |
| THORCV.001VM<br>X   | P02000MX      | MX      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | PA/a/2000/003<br>173 | 10/9/1998   | Issued    |
| THORCV.001VNL       | P02000NL      | NL      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VPC       | P02000WO      | WO      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | PCTUS98/214<br>24    | 10/9/1998   | Closed    |
| THORCV.001VRJ<br>P  | P02000JP2     | JP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 2004-372152          | 10/9/1998   | Issued    |
| THORCV.001VR<br>U   | P02000RU      | RU      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 200107816            | 10/9/1998   | Issued    |
| THORCV.001VSE       | P02000SE      | SE      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 98952226             | 10/9/1998   | Issued    |
| THORCV.001VSG       | P02000SG      | SG      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 200001547-9          | 10/9/1998   | Issued    |
| THORCV.001VT<br>W   | P02000TW      | TW      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM | 87116785             | 1/28/1999   | Abandoned |

## CONFIRMATORY ASSIGNMENT

Page 17 of 25

| Knobbe Ref.     | Thoratec Ref. | Country | Title of Invention                                        | Appl. No.         | Filing Date | Status    |
|-----------------|---------------|---------|-----------------------------------------------------------|-------------------|-------------|-----------|
| THORCV.001VUA   | P02000UA      | UA      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                     | 2000041978        | 10/9/1998   | Issued    |
| THORCV.006A     | P02001        | US      | EXTRA-<br>CORPOREAL<br>VASCULAR<br>CONDUIT                | 09/780083         | 2/9/2001    | Issued    |
| THORCV.006VPC   | P02001WO      | WO      | EXTRA-<br>CORPOREAL<br>VASCULAR<br>CONDUIT                | PCTUS01/295<br>42 | 9/20/2001   | Closed    |
| THORCV.007VCA   | P02002CA      | CA      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 2545838           | 11/10/2004  | Abandoned |
| THORCV.007VCH   | P02002CH      | CH      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VDE   | P02002DE      | DE      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VEP   | P02002EP1     | EP      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VED2  | P02002EP3     | EP      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 10185579.9        | 11/10/2004  | Abandoned |
| THORCV.007VES   | P02002ES      | ES      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VFR   | P02002FR      | FR      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VGB   | P02002GB      | GB      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VHKD2 | P02002HK      | HK      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 11105622          | 11/10/2004  | Abandoned |
| THORCV.007VIT   | P02002IT      | IT      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VNL   | P02002NL      | NL      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.007VSE   | P02002SE      | SE      | CANNULAE<br>HAVING A<br>REDIRECTING TIP                   | 4810735.3         | 11/10/2004  | Abandoned |
| THORCV.008A     | P02003        | US      | MULTILUMEN<br>CATHETER FOR<br>MINIMIZING LIMB<br>ISCHEMIA | 09/876281         | 6/6/2001    | Issued    |
| THORCV.008CP1   | P02003X1      | US      | MULTILUMEN<br>CATHETER FOR<br>MINIMIZING LIMB<br>ISCHEMIA | 10/078283         | 2/14/2002   | Abandoned |

CONFIRMATORY ASSIGNMENT

Page 18 of 25

| Knobbe Ref.     | Thoratec Ref. | Country | Title of Invention                                 | Appl. No.  | Filing Date | Status    |
|-----------------|---------------|---------|----------------------------------------------------|------------|-------------|-----------|
| THORCV.008DV1   | P02003D1      | US      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 10/743841  | 12/22/2003  | Abandoned |
| THORCV.008DV3   | P02003D3      | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 11/417509  | 5/3/2006    | Abandoned |
| THORCV.008DV4   | P02003D4      | US      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 11/418499  | 5/3/2006    | Abandoned |
| THORCV.008QAU   | P02003X1AU1   | AU      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2003211034 | 2/13/2003   | Abandoned |
| THORCV.008QAUD2 | P02003X1AU3   | AU      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2011202758 | 2/13/2003   | Abandoned |
| THORCV.008QCA   | P02003X1CA    | CA      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2480465    | 2/13/2003   | Abandoned |
| THORCV.008QCH   | P02003X1CH    | CH      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Issued    |
| THORCV.008QDE   | P02003X1DE    | DE      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Issued    |
| THORCV.008QEP   | P02003X1EP    | EP      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 3739796.5  | 2/13/2003   | Issued    |
| THORCV.008QES   | P02003X1ES    | ES      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Abandoned |
| THORCV.008QFR   | P02003X1FR    | FR      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Issued    |
| THORCV.008QGB   | P02003X1GB    | GB      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Issued    |
| THORCV.008QIT   | P02003X1IT    | IT      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5  | 2/13/2003   | Issued    |

## CONFIRMATORY ASSIGNMENT

Page 19 of 25

| Knobbe Ref.      | Thoratec Ref. | Country | Title of Invention                                 | Appl. No.        | Filing Date | Status    |
|------------------|---------------|---------|----------------------------------------------------|------------------|-------------|-----------|
| THORCV.008QJP    | P02003X1JP1   | JP      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2003-567483      | 2/13/2003   | Issued    |
| THORCV.008QJP D1 | P02003X1JP2   | JP      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2010-059190      | 2/13/2003   | Issued    |
| THORCV.008QLI    | P02003X1LI    | LI      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5        | 2/13/2003   | Issued    |
| THORCV.008QNL    | P02003X1NL    | NL      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5        | 2/13/2003   | Issued    |
| THORCV.008QPC    | P02003X1WO    | WO      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | PCT/US2003/04401 | 2/13/2003   | Abandoned |
| THORCV.008QRAU   | P02003X1AU2   | AU      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2008200502       | 2/13/2003   | Abandoned |
| THORCV.008QSE    | P02003X1SE    | SE      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA   | 3739796.5        | 2/13/2003   | Issued    |
| THORCV.008VAU    | P02003AU      | AU      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2002214653       | 10/15/2001  | Abandoned |
| THORCV.008VCA    | P02003CA      | CA      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2449689          | 10/15/2001  | Abandoned |
| THORCV.008VCH    | P02003CH      | CH      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207          | 10/15/2001  | Abandoned |
| THORCV.008VDE    | P02003DE      | DE      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207          | 10/15/2001  | Abandoned |
| THORCV.008VEP    | P02003EP      | EP      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207          | 10/15/2001  | Issued    |
| THORCV.008VES    | P02003ES      | ES      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207          | 10/15/2001  | Abandoned |

## CONFIRMATORY ASSIGNMENT

Page 20 of 25

| Knobbe Ref.   | Thoratec Ref. | Country | Title of Invention                                 | Appl. No.         | Filing Date | Status    |
|---------------|---------------|---------|----------------------------------------------------|-------------------|-------------|-----------|
| THORCV.008VFR | P02003FR      | FR      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207           | 10/15/2001  | Abandoned |
| THORCV.008VGB | P02003GB      | GB      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207           | 10/15/2001  | Abandoned |
| THORCV.008VIT | P02003IT      | IT      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207           | 10/15/2001  | Abandoned |
| THORCV.008VJP | P02003JP      | JP      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 2003-501535       | 10/15/2001  | Abandoned |
| THORCV.008VNL | P02003NL      | NL      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207           | 10/15/2001  | Abandoned |
| THORCV.008VPC | P02003WO      | WO      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | PCTUS01/427<br>74 | 10/15/2001  | Closed    |
| THORCV.008VSE | P02003SE      | SE      | A MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA | 1983207           | 10/15/2001  | Issued    |
| THORCV.009A   | P02004        | US      | PERCUTANEOUS CATHETER ASSEMBLY                     | 09/741695         | 12/19/2000  | Issued    |
| THORCV.009C1  | P02004C       | US      | PERCUTANEOUS CATHETER ASSEMBLY                     | 10/308235         | 12/2/2002   | Issued    |
| THORCV.021A   | P02011        | US      | CANNULAE HAVING REDUCED FLOW RESISTANCE            | 10/866535         | 6/10/2004   | Issued    |
| THORCV.027A   | P02012        | US      | QUICK PRIMING CONNECTORS FOR BLOOD CIRCUIT         | 11/370225         | 3/6/2006    | Issued    |
| THORCV.027C1  | P02012C       | US      | QUICK PRIMING CONNECTORS FOR BLOOD CIRCUIT         | 12/254746         | 10/20/2008  | Issued    |
| THORCV.027VCN | P02012CN      | CN      | QUICK PRIMING CONNECTORS FOR BLOOD CIRCUIT         | 200780013366      | 3/6/2007    | Abandoned |
| THORCV.027VEP | P02012EP      | EP      | QUICK PRIMING CONNECTORS FOR BLOOD CIRCUIT         | 7752420.5         | 3/6/2007    | Abandoned |
| THORCV.031A   | P02013        | US      | BLOOD CONDUIT CONNECTOR                            | 11/371208         | 3/8/2006    | Abandoned |

## CONFIRMATORY ASSIGNMENT

Page 21 of 25

| Knobbe Ref.        | Thoratec Ref. | Country | Title of Invention                                                      | Appl. No.             | Filing Date | Status    |
|--------------------|---------------|---------|-------------------------------------------------------------------------|-----------------------|-------------|-----------|
| THORCV.059AU       | P02018AU      | AU      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 2009285537            | 8/28/2009   | Abandoned |
| THORCV.059CA       | P02018CA      | CA      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 2771158               | 8/28/2009   | Abandoned |
| THORCV.059EP       | P02018EP      | EP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 9810687.5             | 8/28/2009   | Abandoned |
| THORCV.059JP       | P02018JP      | JP      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 2011-525254           | 8/28/2009   | Abandoned |
| THORCV.059NP       | P02018US      | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | 13/061086             | 2/25/2011   | Abandoned |
| THORCV.059WO       | P02018WO      | WO      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM                                   | PCT/US2009/0<br>55431 | 8/28/2009   | Expired   |
| THORCV.105A        | P01060        | US      | MULTI-LUMEN<br>CANNULA                                                  | 12/469328             | 5/20/2009   | Issued    |
| THORCV.105AU       | P01060AU1     | AU      | MULTI-LUMEN<br>CANNULA                                                  | 2010249562            | 11/22/2011  | Abandoned |
| THORCV.105AU<br>D1 | P01060AU2     | AU      | MULTI-LUMEN<br>CANNULA                                                  | 2013203979            | 4/11/2013   | Abandoned |
| THORCV.105C1       | P01060C       | US      | MULTI-LUMEN<br>CANNULA                                                  | 13/561197             | 7/30/2012   | Issued    |
| THORCV.105CA       | P01060CA      | CA      | MULTI-LUMEN<br>CANNULA                                                  | 2762569               | 11/18/2011  | Issued    |
| THORCV.105CN       | P01060CN      | CN      | MULTI-LUMEN<br>CANNULA                                                  | 201080028684.<br>6    | 12/27/2011  | Abandoned |
| THORCV.105EP       | P01060DE      | EP      | MULTI-LUMEN<br>CANNULA                                                  | 10721065              | 12/14/2011  | Issued    |
| THORCV.105HK       | P01060HK      | HK      | MULTI-LUMEN<br>CANNULA                                                  | 12104748              | 5/15/2012   | Abandoned |
| THORCV.105JP       | P01060JP      | JP      | MULTI-LUMEN<br>CANNULA                                                  | 2012-511994           | 11/18/2011  | Issued    |
| THORCV.105WO       | P01060WO      | WO      | MULTI-LUMEN<br>CANNULA                                                  | PCT/US2010/0<br>35424 | 5/19/2010   | Closed    |
| THORCV.1CP4C1      | P02000X4C1    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/408926             | 4/7/2003    | Issued    |
| THORCV.1CP4C1<br>C | P02000X4C1C   | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/878592             | 6/28/2004   | Issued    |

CONFIRMATORY ASSIGNMENT

Page 22 of 25

| Knobbe Ref.         | Thoratec Ref. | Country | Title of Invention                                                      | Appl. No. | Filing Date | Status    |
|---------------------|---------------|---------|-------------------------------------------------------------------------|-----------|-------------|-----------|
| THORCV.1CP4C2       | P02000X4C2    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/418490 | 5/3/2006    | Abandoned |
| THORCV.1CP4C3       | P02000X4C3    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/418502 | 5/3/2006    | Abandoned |
| THORCV.1CP4C4       | P02000X4C4    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/417917 | 5/3/2006    | Abandoned |
| THORCV.1CP6C1       | P02000X6C1    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/729026 | 12/5/2003   | Issued    |
| THORCV.1CP6C2       | P02000X6C2    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 10/878591 | 6/28/2004   | Issued    |
| THORCV.1CP6C3       | P02000X6C3    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/121352 | 5/3/2005    | Issued    |
| THORCV.1CP6C4       | P02000X6C4    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/418393 | 5/3/2006    | Abandoned |
| THORCV.1CP6C5       | P02000X6C5    | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 11/417905 | 5/3/2006    | Issued    |
| THORCV.1CP6C5<br>C  | P02000X6C5C2  | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 12/616087 | 11/10/2009  | Issued    |
| THORCV.1CP6C5<br>C3 | P02000X6C5C3  | US      | IMPLANTABLE<br>HEART ASSIST<br>SYSTEM AND<br>METHOD OF<br>APPLYING SAME | 13/175735 | 7/1/2011    | Issued    |

## CONFIRMATORY ASSIGNMENT

Page 23 of 25

| Knobbe Ref.     | Thoratec Ref. | Country | Title of Invention                                          | Appl. No.   | Filing Date | Status    |
|-----------------|---------------|---------|-------------------------------------------------------------|-------------|-------------|-----------|
| THORCV.1CP6C6   | P02000X6C6    | US      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 11/417889   | 5/3/2006    | Issued    |
| THORCV.1CP6C7   | P02000X6C7    | US      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 11/417677   | 5/3/2006    | Issued    |
| THORCV.1HR1C A  | P02000X2CA2   | CA      | HEART ASSIST SYSTEM                                         | 2466577     | 3/15/2000   | Abandoned |
| THORCV.8CP1D V1 | P02003X1D1    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417652   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V2 | P02003X1D2    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417662   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V3 | P02003X1D3    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417918   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V4 | P02003X1D4    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/418377   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V5 | P02003X1D5    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417647   | 5/3/2006    | Issued    |
| THORCV.8CP1D V6 | P02003X1D6    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417937   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V7 | P02003X1D7    | US      | MULTILUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA            | 11/417487   | 5/3/2006    | Abandoned |
| THORCV.8CP1D V8 | P02003X1D8    | US      | MULTI-LUMEN CATHETER FOR MINIMIZING LIMB ISCHEMIA           | 11/418489   | 5/3/2006    | Abandoned |
| FORFLOW.001PE P | P02000X4EP    | EP      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | 3711112.7   | 2/14/2003   | Abandoned |
| FORFLOW.001PJ P | P02000X4JP    | JP      | IMPLANTABLE HEART ASSIST SYSTEM                             | 2003-569252 | 2/14/2003   | Abandoned |

## CONFIRMATORY ASSIGNMENT

Page 24 of 25

| Knobbe Ref.        | Thoratec Ref. | Country | Title of Invention                                          | Appl. No.             | Filing Date | Status    |
|--------------------|---------------|---------|-------------------------------------------------------------|-----------------------|-------------|-----------|
| FORFLOW.006V<br>AU | P02001AU      | AU      | EXTRA-CORPOREAL VASCULAR CONDUIT                            | 2001292901            | 9/20/2001   | Abandoned |
| FORFLOW.006V<br>CA | P02001CA      | CA      | EXTRA-CORPOREAL VASCULAR CONDUIT                            | 2437796               | 9/20/2001   | Abandoned |
| FORFLOW.006VE<br>P | P02001EP      | EP      | EXTRA-CORPOREAL VASCULAR CONDUIT                            | 1973308.8             | 9/20/2001   | Abandoned |
| FORFLOW.009VP<br>C | P02004WO      | WO      | IMPROVED PERCUTANEOUS CATHETER ASSEMBLY                     | PCTUS01/427<br>73     | 10/15/2001  | Abandoned |
| ORQIS.007A         | P02002        | US      | CANNULAE HAVING A REDIRECTING TIP                           | 10/706346             | 11/12/2003  | Abandoned |
| ORQIS.007C1        | P02002C1      | US      | CANNULAE HAVING A REDIRECTING TIP                           | 11/417916             | 5/3/2006    | Abandoned |
| ORQIS.007C2        | P02002C2      | US      | CANNULAE HAVING A REDIRECTING TIP                           | 11/417510             | 5/3/2006    | Abandoned |
| ORQIS.007C3        | P02002C3      | US      | CANNULAE HAVING A REDIRECTING TIP                           | 11/417528             | 5/3/2006    | Abandoned |
| ORQIS.007C4        | P02002C4      | US      | CANNULAE HAVING A REDIRECTING TIP                           | 11/417877             | 5/3/2006    | Abandoned |
| ORQIS.007C5        | P02002C5      | US      | CANNULAE HAVING A REDIRECTING TIP                           | 11/417678             | 5/3/2006    | Abandoned |
| ORQIS.007VAU       | P02002AU      | AU      | CANNULAE HAVING A REDIRECTING TIP                           | 2004289319            | 11/10/2004  | Abandoned |
| ORQIS.007VJP       | P02002JP      | JP      | CANNULAE HAVING A REDIRECTING TIP                           | 2006-539854           | 11/10/2004  | Abandoned |
| ORQIS.007VPC       | P02002WO      | WO      | CANNULAE HAVING A REDIRECTING TIP                           | PCT/US2004/0<br>37636 | 11/10/2004  | Closed    |
| ORQIS.010A         | P02005        | US      | SYSTEM INCLUDING A CANNULA HAVING REDUCED FLOW RESISTANCE   | 10/865045             | 6/10/2004   | Abandoned |
| ORQIS.013A         | P02006        | US      | METHODS FOR MINIMALLY INVASIVE VASCULAR ACCESS              | 11/083042             | 3/17/2005   | Abandoned |
| ORQIS.014VPC       | P02007WO      | WO      | IMPLANTABLE HEART ASSIST SYSTEM AND METHOD OF APPLYING SAME | PCT/US2004/0<br>33575 | 10/12/2004  | Abandoned |

CONFIRMATORY ASSIGNMENT

Page 25 of 25

| Knobbe Ref.  | Thoratec Ref. | Country | Title of Invention                                                  | Appl. No.         | Filing Date | Status    |
|--------------|---------------|---------|---------------------------------------------------------------------|-------------------|-------------|-----------|
| ORQIS.015A   | P02008        | US      | METHODS FOR REDUCING BLEEDING FROM A CANNULATION SITE               | 11/057692         | 2/14/2005   | Abandoned |
| ORQIS.015VPC | P02008WO      | WO      | APPARATUS AND METHODS FOR REDUCING BLEEDING FROM A CANNULATION SITE | PCT/US2006/005038 | 2/13/2006   | Closed    |
| ORQIS.018A   | P02009        | US      | CANNULAE FOR SELECTIVELY ENHANCING BLOOD FLOW                       | 10/735413         | 12/12/2003  | Abandoned |
| ORQIS.019A   | P02010        | US      | CANNULA HAVING REDUCED FLOW RESISTANCE                              | 10/866649         | 6/10/2004   | Abandoned |
| ORQIS.021VEP | P02011EP      | EP      | CANNULAE AND SYSTEM HAVING REDUCED FLOW RESISTANCE                  | 5757823.9         | 6/10/2005   | Abandoned |
| ORQIS.021VPC | P02011WO      | WO      | CANNULAE AND SYSTEM HAVING REDUCED FLOW RESISTANCE                  | PCT/US2005/020663 | 6/10/2005   | Closed    |
| ORQIS.027VPC | P02012WO      | WO      | QUICK PRIMING CONNECTORS FOR BLOOD CIRCUIT                          | PCT/US2007/005719 | 3/6/2007    | Closed    |
| ORQIS.031VPC | P02013WO      | WO      | BLOOD CONDUIT CONNECTOR                                             | PCT/US2007/005875 | 3/7/2007    | Abandoned |
| ORQIS.037PR  | P02018A       | US      | IMPLANTABLE HEART ASSIST SYSTEM                                     | 61/092714         | 8/28/2008   | Closed    |

24513051  
110816