An implant delivery device (100) preferably includes a first shaft (10) having a proximal portion and a distal portion. The first shaft (10) includes an outer surface and an inner surface defining a first lumen along a longitudinal axis. The distal portion includes a tip (18) defining a taper in the distal direction toward the longitudinal axis and terminating at a distal opening. The device (100) also includes a second shaft (19) having a proximal portion and a distal portion and an inner surface defining a second lumen therebetween having a first cross-section. The second shaft is disposed within the first lumen such that the second lumen is generally coaxial with the first lumen to define a chamber. The distal portion of the second shaft terminates in a port (19A) having an opening in communication with the distal opening of the first shaft. The port preferably includes a second cross-section greater than the first cross-section.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61F2/84

According to International Patent Classification (IPC) or to both national classification and IPC.

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<td>X</td>
<td>WO 2004/062458 A2 (ANGIOMED GMBH &amp; CO MEDIZINTECH [DE]; DORN JUERGEN [DE]; WUEBBELING MAR) 29 July 2004 (2004-07-29) page 22, paragraph 2 - page 24, paragraph 2; figures 3,3A,3B</td>
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<td>WO 2004/096091 A1 (ANGIOMED GMBH &amp; CO (DE); DORN JUERGEN [DE]) 11 November 2004 (2004-11-11) page 7, paragraph 2; figure 3 page 8</td>
<td>1,6,9,11,12,18,54</td>
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Date of the actual completion of the international search

19 December 2006

Date of mailing of the international search report

19-03-2007

Authorized officer

Neumann, Elisabeth

Form PCT/ISA/210 (second sheet) (April 2005)
**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

   1-21, 54

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant’s protest.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (2)) (January 2004)
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-21,54

An implant delivery device comprising an outer shaft having a tapered distal tip and an inner coaxial shaft having two different cross-sections.

2. claims: 22-32,54

An implant delivery device comprising an outer sheath and inner shaft being movable relative to the outer sheath and a member disposed between inner shaft and outer sheath.

3. claims: 33-50,54

An implant delivery device comprising an inner shaft and outer sheath being movable relative to the inner shaft, the outer sheath having three discrete portions along the longitudinal axis with each having a discrete durometer.

4. claims: 51-53

A method of forming an outer sheath of an implant delivery device by forming a tubular membrane over a mandrel.

5. claims: 55-59

A catheter sheath comprising three polymer materials along its longitudinal axis and a marker contiguous to one of the first or second polymers.

6. claims: 60-74

A catheter sheath having an inner and outer layer whereby the outer layer has a first polymer and a second polymer having a durometer greater than the first polymer and a third polymer between first and second polymer.
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