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August 24, 2016

*VIA EMAIL/
OVERNIGHT COURIER*

Richard T. McCaulley, Jr.
Ropes & Gray LLP
191 North Wacker Drive, 32nd Floor
Chicago, Illinois 60606-4302

Re: *Maquet Cardiovascular LLC Patent Portfolio and Abiomed's Impella
Circulatory Support Systems and Patent Application*

Dear Mr. McCaulley:

We learned that your firm, in its representation of Abiomed, Inc., has paid, through its patent agent Steven Obiajulu, the issue fee for U.S. Patent Application No. 10/566,423 (Abiomed's '423 Application), and that the '423 Application is scheduled to be issued on Tuesday, August 30, 2016. Abiomed, Inc. and Ropes and Gray (collectively Abiomed) have failed to provide to the Patent Office a full disclosure of prior art relevant to Abiomed's '423 Application that is undoubtedly known to Abiomed. Any patent issuing from the Abiomed's '423 Application without disclosure of this information known to Abiomed will be unenforceable due to inequitable conduct.

In addition, we want to bring to your attention Maquet's recent filing of three applications and new continuation claims that should be considered in connection with any discussions between the parties.

Abiomed's Failure to Disclose

Maquet's Patent No. 8,888,728 ('728 Patent) anticipates in certain instances, and unequivocally renders obvious in other instances, the currently-allowed claims in Abiomed's '423 Application. The '728 Patent discloses all of the claim limitations including the pigtail feature that was central to Abiomed's arguments for patentability. As Abiomed must be aware, the '728 Patent incorporates by reference U.S. Application Nos. 09/280,970 (the '970 Application) and 09/280,988 (the '988 Application). Both applications share the disclosure of pigtail shaped features, and at least the '988 application discusses in detail a pigtail feature at the distal end of the cannula. For example, this reference discloses: "Various distal tip configuration can be selected for

cannula, depending on the particular application as appreciated by those of ordinary skill in the art. For example, a *pigtail shape* can be used for crossing the aortic valve retrograde..." '988 Application, p. 11:24-27; *see also* the figures of the '988 Application and the '970 Application.

Copies of the '970 and '988 Applications are enclosed, along with a claim chart that we have prepared that outlines how the '728 Patent, including the incorporated by reference '970 and '988 Applications, anticipates the independent claim of Abiomed's '423 Application. While the claim chart explicitly address independent claim 1, claims 2, 6 and 7 are clearly anticipated by the same disclosure. Furthermore, the expansible suction basket of allowed claim 5 is clearly disclosed in U.S. Pat. No. 5,928,132 (e.g., see figures 3, 4, and 7 – 11 of the '132 patent).

Abiomed's failure to disclose to the Patent Office the incorporated disclosures (or any of the published equivalents such as US Pat. 6,295,877 or WO2000057805A1), which disclose novelty destroying subject matter as part of the '988 Application, violates its duty of candor. Abiomed has been aware of the '728 Patent since at least December 15, 2015, when Maquet sent a letter outlining Abiomed's infringement of this patent. Abiomed's investigation prior to filing its declaratory judgment action on May 19, 2016 concerning alleged non-infringement of the '728 Patent should have encompassed consideration of the disclosure of the '728 Patent, including the material incorporated-by-reference in the '728 Patent specification. If Abiomed is proceeding under the Quick Path Information Disclosure Statement (QPIDS) program (Maquet makes no admission whether that is appropriate), any disclosure to remedy Abiomed's deliberate omissions should be made without delay in view of the imminent close of prosecution. Should Abiomed elect not to inform the Patent Office of the contents of the '988 Application prior to issuance of the '423 Application, any patent that may issue from the '423 Application will be unenforceable.

The '728 Patent shares its disclosure with PCT Published Application No. WO 01/17581 A2 (the '581 Published Application). A copy of the '581 Published Application is attached. The '581 Published Application was published on March 15, 2001 and as such is a prior art reference under 35 U.S.C. Section 102(b). Like the '728 Patent, the '581 Published Application also incorporates by reference the '970 Application and the '988 Application. Abiomed has not disclosed the '581 Published Application to the PTO, but at the very least now has a duty to disclose it along with the other items mentioned above.

Maquet's Recent Applications

Maquet filed three applications on August 17, 2016 that should be a part of the parties' discussions. Maquet has also filed a preliminary amendment in pending application serial no. 14/966,669. The claims of these applications and preliminary amendment are attached for your reference. As you can see, these claims include limitations directed to a pigtail and other features utilized by Abiomed's Impella pumps.

Richard T. McCaulley, Jr.

August 24, 2016

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These applications are being expedited and thus Maquet reasonably expects them to be issued within the coming year. These claims read directly on Abiomed's products, and thus, to the extent any claims issue from these applications, Maquet intends to seek all available remedies for Abiomed's unlicensed use of this technology.

We look forward to meeting with you soon to discuss these matters.

Sincerely



Michael S. Connor

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Appendix Materials:

U.S. Pat. No. 8,888,728

U.S. Patent Application No. 09/280,970

U.S. Patent Application No. 09/280,988

Claim chart for anticipation of Claim 1 of Abiomed's '423 Application

U.S. Pat. No. 5,928,132

PCT Published Application No. WO 01/17581 A2

Supplemental Amendments in Maquet's pending application serial no. 14/966,669 dated August 17 and August 18, 2016

U.S. Patent Application Serial No. 15/239,574 (Atty. Docket No. 06-01506US07)

U.S. Patent Application Serial No. 15/239,697 (Atty. Docket No. 06-01506US08)

U.S. Patent Application Serial No. 15/239,772 (Atty. Docket No. 06-01506US09)

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January 20, 2017

VIA EMAIL AND FIRST CLASS MAIL

Mr. Steve McEvoy
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Re: Abiomed's Infringement of Maquet's Newly-Issued
U.S. Patent No. 9,545,468 B2

Gentlemen:

Maquet Cardiovascular LLC ("Maquet") brings to the attention of Abiomed, Inc., Abiomed R&D, Inc., and Abiomed Europe GmbH (collectively "Abiomed") Maquet's newly issued United States Patent No. 9,545,468 B2 ("the '468 Patent").

The '468 Patent was issued on January 17, 2017. A copy of it is provided herewith.

Abiomed's making, use, sale, importation, and/or offers to sell, and other actions concerning its Impella 2.5, 5.0, and CP blood pumps, infringe, directly and indirectly independent claims 1 and 22 as well as certain dependent claims.

This letter constitutes actual notice under 35 U.S.C. § 287(a) of the '468 Patent and Abiomed's infringement of it.

Sincerely,

ALSTON & BIRD LLP



Michael S. Connor

Enclosure

January 20, 2017

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cc: Mr. Steven C. Obiajulu, Ropes & Gray LLP
Mr. Scott Weingaertner

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February 7, 2017

VIA EMAIL AND FIRST CLASS MAIL

Mr. Steve McEvoy
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Mr. Charles Larsen
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75 State Street
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charles.larsen@whitecase.com

Re: Abiomed's Infringement of Maquet's Newly-Issued U.S. Patent
Number 9,561,314

Gentlemen:

Maquet Cardiovascular LLC ("Maquet") brings to the attention of Abiomed, Inc., Abiomed R&D, Inc., and Abiomed Europe GmbH (collectively "Abiomed") Maquet's newly issued United States Patent No. 9,561,314 B2 ("the '314 Patent").

The '314 Patent was issued on February 7, 2017. A copy of it is provided herewith.

Abiomed's making, use, sale, importation, and/or offers to sell, and other actions concerning its Impella 2.5, 5.0, and CP blood pumps, infringe, directly and indirectly independent claims 1, 20 and 27 as well as certain dependent claims.

This letter constitutes actual notice under 35 U.S.C. § 287(a) of the '314 Patent and Abiomed's infringement of it.

Sincerely,

ALSTON & BIRD LLP



Michael S. Connor

Enclosure

February 7, 2017
Page 2

cc: Mr. Steven C. Obiajulu, Ropes & Gray LLP
Mr. Scott Weingaertner