

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZHONGSHAN BROAD OCEAN MOTOR CO., LTD.
Petitioner

v.

NIDEC MOTOR CORPORATION
Patent Owner

Case IPR2014-01121
Patent 7,626,349

TITLE: LOW NOISE HEATING, VENTILATING AND/OR AIR
CONDITIONING (HVAC) SYSTEMS

FILED: FEBRUARY 1, 2007

INVENTOR(S): MARCINKIEWICS ET AL.

ISSUED: DECEMBER 1, 2009

**REVISED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT
NO. 7,626,349
UNDER 35 U.S.C. § 312**

Petitioner's Exhibit List

Exhibit No.	Description
1001	U.S. Patent No. 7,626,349
1002	Excerpts from the Prosecution History of Application 11/701,350, which issued as the '349 Patent
1003	Japanese Patent Publication JP 2003-348885 ("Hideji")
1004	English Abstract of Hideji
1005	English translation of Hideji
1006	U.S. Patent 5,410,230 to Bessler, et al. ("Bessler")
1007	"Electronic Control of Torque Ripple in Brushless Motors" by Peter Franz Kocybik ("Kocybik")
1008	Excerpts from Paul C. Krause et al, Analysis of Electric Machinery and Drive Systems (2nd ed. 2002) ("Krause")
1009	Expert Declaration of Dr. Mark Ehsani
1010	Complaint filed in <i>Nidec Motor Corporation v. Broad Ocean Motor LLC et al.</i> , Civil Action No. 4:13-CV-01895-JCH (E. D. Mo.).

I. INTRODUCTION

Pursuant to 35 U.S.C. § 312 and 37 C.F.R. § 42.100 *et seq.*, Zhongshan Broad Ocean Motor Co., Ltd., Broad Ocean Motor LLC, and Broad Ocean Technologies, LLC (collectively, “Petitioner”) request *inter partes* review of claims 1, 2, 3, 8, 9, 12, 16, and 19 (the “Challenged Claims”) of U.S. Patent No. 7,626,349 (“the ‘349 Patent,” Ex. 1001), which issued on December 1, 2009. The Board is authorized to deduct all required fees associated with this petition from Fulbright & Jaworski Deposit Account No. 06-2380, under Order No. 11405494.

The ‘349 Patent is generally directed to systems and methods for heating, ventilating and/or heating (“HVAC”) systems with a permanent magnet synchronous motor (“PM Motor”) that drives a fan or blower. More specifically, the PM Motor drive of the ‘349 Patent uses sine wave commutation and independent q- and d-axis currents to create continuous currents in the PM Motor’s windings.

As demonstrated by various references discussed below and the declaration of Professor Mark Ehsani, long before the ‘349 Patent’s priority date, PM Motors using sine wave commutation and vector control (q- and d-axis currents) were well understood, developed, and used in a variety of industries, including HVAC. As

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such, there is a reasonable likelihood that Petitioner will prevail on at least one of the challenged claims.

II. MANDATORY NOTICES

A. Real Party in Interest (37 C.F.R. § 42.8(b)(1))

Zhongshan Broad Ocean Motor Co., Ltd., Broad Ocean Motor LLC, and Broad Ocean Technologies, LLC are the real parties-in-interest.

B. Related Matters (37 C.F.R. § 42.8(b)(2))

The following matter may affect, or be affected by, a decision in this proceeding: *Nidec Motor Corporation v. Broad Ocean Motor LLC et al.*, Civil Action No. 4:13-CV-01895-JCH (E. D. Mo.) (the “Litigation”).

C. Lead and Back-Up Counsel (37 C.F.R. § 42.8(b)(3))

Lead counsel: Nathan J. Rees (Reg. No. 63,820)

Back-up counsel: Daniel A. Prati (Reg. No. 65,869)

D. Service Information (37 C.F.R. § 42.8(b)(4))

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Petitioner consents to electronic service.

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III. GROUNDS FOR STANDING

Pursuant to 37 C.F.R. § 42.104(a), Petitioner certifies that the '349 Patent is available for *inter partes* review, and that Petitioner is not barred or estopped from requesting an *inter partes* review challenging the Challenged Claims on the grounds identified in this Petition. The '349 Patent has not been subject to a previous proceeding of the AIA that results in estoppel and the complaint served on Petitioner in the Litigation was served within the last 12 months.

IV. STATEMENT OF PRECISE RELIEF REQUESTED FOR EACH CLAIM CHALLENGED

A. Claims for Which Review is Requested (37 C.F.R. § 42.104(b)(1))

Petitioner requests review and invalidation of claims 1-3, 8-9, 12, 16, and 19 of the '349 Patent.

B. Statutory Grounds of Challenge (37 C.F.R. § 42.104(b)(2))

For the reasons presented below, Petitioner seeks the following relief:

Ground 1: Invalidation of claims 1-3, 8-9, 12, 16, and 19 under 35 U.S.C. § 102(b) based on Japanese Patent Publication JP 2003-348885 to Hideji ("Hideji") (Ex. 1003). Hideji published in Japan on December 5, 2003, and is therefore prior art to the '349 Patent (whose priority date is February 1, 2007) at least under 35 U.S.C. § 102(b).

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