08-09-2004 U.S. Department of Commerce FORM PTO-1619A Expires 06/30/99 Patent and Trademark Office OMB 0651-0027 **PATENT** 102809494 KM COVER SHEET PATENTS ONLY TO: The Director of the United States Patent and Trademark Office: Please record the attached original document(s) or copy(ies). **Submission Type** Conveyance Type **Assignment** ✓ New **Security Agreement** Resubmission (Non-Recordation) License **Change of Name Document ID# Correction of PTO Error** Merger Other Reel# Frame # U.S. Government Corrective Document (For Use ONLY by U.S. Government Agencies) Reel# Frame # Departmental File Secret File Mark if additional names of conveying parties attached Execution Date Month Day Year Conveying Party(ies) Name (line 1) FRIEDRICH, Michael 5/10/2004 Name (line 2) **Execution Date** Second Party Day Name (line 1) D'ARRIGO, Robert 5/10/2004 Name (line 2) Receiving Party Mark if additional names of receiving parties attached If document to be recorded Name (line 1) KVAERNER U.S. Inc. is an assignment and the receiving party is not domiciled in the United Name (fine 2) States, an appointment of a domestic representative is attached. Address (line 1) 1200 Penn Avenue (Designation must be a separate document from Assignment.) Address (line 2) Address (line 3) Pittsburgh PA 15222 State/Country Zip Code **Domestic Representative Name and Address** Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3) Address (line 4) FANAIA2 00000024 10818440 FOR OFFICE USE ONLY 2004

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U.S. Department of Commerce Patent and Trademark Office PATENT

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A	uthorization to charge additional fees:	Yes No
Statement and Signature		
To the best of my knowledge and beli attached copy is a true copy of the or indicated herein.		_
Won Joon Kouh	Wortlill	8/2/2004
Name of Person Signing	Signature	Date

Attorney Docket No.: E1493-005

ASSIGNMENT AND AGREEMENT

For value received, we, Michael Friedrich and Robert D'Arrigo, hereby sell, assign and transfer to Kvaerner U.S., Inc. with its principal place of business located at 1200 Penn Ave., Pittsburgh, PA 15222, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to PREHEATING COLD BLAST AIR OF A BLAST FURNACE FOR TEMPERING THE HOT BLAST TEMPERATURE described in an application for Letters Patent of the United States, filed on April 5, 2004 as Application Serial No. 10/818,440 and executed on even date herewith, and all the rights and privileges in said application and under any and all Letters Patent and any divisions, continuations, continuations-in-part, reexamination certificates, reissues, and extensions thereof that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Kvaerner U.S., Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Kvaerner U.S., Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Kvaerner U.S., Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Kvaerner U.S., Inc. in the United States and in all countries foreign to the United States, or to such nominees as Kvaerner U.S., Inc. may designate.

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PATENT REEL: 015648 FRAME: 0142

Attorney Docket No.: E1493-005

We agree that, when requested, we shall, without charge to Kvaerner U.S., Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Inventor 1:
Dated: Mey 10, 2004 Michael Friedrich Michael Friedrich
Residence: 579 Crystal Drive, Pittsburgh, PA 15228
This pathday of May, 2004, before me personally came the above-named, known as the individual who executed the foregoing Assignment, who acknowledged to me that he executed the same of his own free will for the purposes therein set forth.
Witness my hand and Notarial seal the day and year immediately above-written.
OMMONWEALTH OF PENNSYLVANIA Notarial Seal Patricia A. Surmacz, Notary Public City of Pittsburgh, Allegheny County My Commission Expires June 20, 2007 Import. Pennsylvania Association of Notaries Notary Public
$\mathcal{L}_{\mathcal{L}}$
Dated: 5 /10 /04 Residence: 720 Augusta Drive, Bridgeville, PA 15017
This <u>New</u> day of <u>May</u> , 200 <u>4</u> , before me personally came the above-named , known as the individual who executed the foregoing Assignment, who acknowledged to me that <u>he</u> executed the same of <u>his</u> own free will for the purposes therein set forth.
Witness my hand and Notarial seal the day and year immediately above-written.
MMONWEALTH OF PENNSYLVANIA Notarial Seal Patricia A. Surmacz, Notary Public City of Pittsburgh, Allegheny County ly Commission Expires June 20, 2007 There Reposition of Notaries

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