

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
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EPAS ID: PAT2842229

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	JUNHUA DING	05/01/2014
RECEIVING PARTY DATA		
Name:	MKS INSTRUMENTS, INC.	
Street Address:	2 TECH DRIVE	
City:	ANDOVER	
State/Country:	MASSACHUSETTS	
Postal Code:	01810	
PROPERTY NUMBERS Total: 1		
Property Type	Number	
Application Number:	14269778	
CORRESPONDENCE DATA		
Fax Number:	(202)756-8087	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>		
Phone:	(202) 756-8000	
Email:	ptedesco@mwe.com	
Correspondent Name:	MCDERMOTT WILL & EMERY	
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Address Line 2:	500 NORTH CAPITOL STREET, N.W.	
Address Line 4:	WASHINGTON, DISTRICT OF COLUMBIA 20001	
ATTORNEY DOCKET NUMBER:	086400-0190 (MKS-235)	
NAME OF SUBMITTER:	TOBY H. KUSMER	
SIGNATURE:	/Toby H. Kusmer/	
DATE SIGNED:	05/05/2014	
Total Attachments: 2		
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ASSIGNMENT OF PATENT RIGHTS

We, **Junhua Ding**, residing at **67 Emanuel Drive, Boxborough, MA 01719** having invented improvements in **SYSTEM FOR AND METHOD OF MULTIPLE CHANNEL FAST PULSE GAS DELIVERY**, and having filed a patent application in the United States Patent and Trademark Office describing the same and based thereon, Serial No. 14/269,778, filed May 5, 2014, (and we hereby authorize our attorney(s), authorized to prosecute said application, to insert the serial number and filing date of said application, when known), for good and valuable consideration, receipt of which is hereby acknowledged from **MKS Instruments, Inc.**, a Massachusetts corporation having its principal place of business at **2 Tech Drive, Andover, MA 01810** (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee, our entire right, title, and interest, in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application;

And for the same consideration we do also hereby sell, assign and transfer unto the Assignee all our rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty and all other treaties of like purpose in respect of said inventions and said application, and do hereby authorize the Assignee to apply in our name or in their own name (in a manner to be agreed upon by the Assignee) or their designee, for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;


And for the same consideration we do hereby agree for ourselves and for our respective heirs, executors and administrators, promptly upon request of the Assignee, to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, reissue or other application or applications for patent or patents or like rights of exclusion of any country, or other lawful documents and any further assurances that may be deemed necessary or desirable by the Assignee fully to secure to it said right, title, and interest as aforesaid in and to said inventions, application, and said several patents and like rights of exclusion, or any of them, all, however, at the expense of the Assignee;

And we do hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee any and all patents and like rights of exclusion which may be granted in any country upon said application or on or for said inventions;

And we do hereby covenant for ourselves and for our respective legal representatives and agree with the Assignee that we have granted no right or license to make, use or sell said inventions to anyone except the Assignee, that prior to the execution of this deed my right, title and interest in and to said

inventions has not been otherwise encumbered by us, and that we have not executed and will not execute any instrument in conflict herewith.

IN WITNESS WHEREOF, we hereunto set our hands and seal on the day and year hereinafter noted.

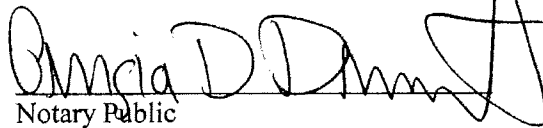


Junhua Ding

State of Massachusetts)

County of Essex) ss.

Before me this 1st day of May, year of 2014, personally appeared **Junhua Ding**, who is to me personally known, and acknowledged the foregoing instrument to be his free act and deed.



Notary Public

