11/26/2014 503077855

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GERARDO A. BRUCKER	11/03/2014
TIMOTHY C. SWINNEY	11/01/2014
BRANDON J. KELLY	10/30/2014
ALFRED A. FUNARI	11/04/2014
MICHAEL N. SCHOTT	11/19/2014
KRISTIAN S. SCHARTAU	11/19/2014

RECEIVING PARTY DATA

Name:	MKS INSTRUMENTS, INC.
Street Address:	2 TECH DRIVE
Internal Address:	SUITE 201
City:	ANDOVER
State/Country:	MASSACHUSETTS
Postal Code:	01810

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14537593

CORRESPONDENCE DATA

Fax Number: (978)341-0136

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 978-341-0036 Email: ann.giso@hbsr.com **Correspondent Name:** JAMES M. SMITH, ESQ.

Address Line 1: 530 VIRGINIA ROAD, BOX 9133

Address Line 2: HAMILTON BROOK SMITH & REYNOLDS, PC Address Line 4: CONCORD, MASSACHUSETTS 01742-9133

ATTORNEY DOCKET NUMBER:	0100.2367-004
NAME OF SUBMITTER:	ANN GISO
SIGNATURE:	/Ann Giso/
DATE SIGNED:	11/26/2014

PAIENI **REEL: 034269 FRAME: 0759** 503077855

Total Attachments: 12 source=01002367004Assignment#page1.tif source=01002367004Assignment#page2.tif source=01002367004Assignment#page3.tif source=01002367004Assignment#page4.tif source=01002367004Assignment#page5.tif source=01002367004Assignment#page6.tif source=01002367004Assignment#page7.tif source=01002367004Assignment#page8.tif source=01002367004Assignment#page9.tif source=01002367004Assignment#page10.tif source=01002367004Assignment#page11.tif source=01002367004Assignment#page11.tif

PATENT REEL: 034269 FRAME: 0760

Joint

ASSIGNMENT

WHEREAS, we, Gerardo A. Brucker, Timothy C. Swinney, Brandon J. Kelly, Alfred A. Funari, Michael N. Schott and Kristian S. Schartau, have invented a certain improvement in Cold Cathode Ionization Vacuum Gauge described in an application for Patent,

	the specification of which is about to be filed in the United States Patent Office (use for utility (37 CFR § 1.53(b)) and design filings only);
	is about to be filed in the United States Patent Office as a Provisional Application
\boxtimes	the specification of which is a Divisional of United States Application No. 14/500,820 filed September 29, 2014;
	the specification of which is a Patent Cooperation Treaty Application, International Application No. [], filed , which designates the United States of America [and is assigned United States Application No.];
	which was patented under United States Patent No. [].

WHEREAS, MKS Instruments, Inc. (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 2 Tech Drive, Suite 201, Andover, MA 01810 desires to confirm its interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for any and all related provisional and nonprovisional, international and national phase applications, including any and all substitution, reissue, divisional, continuation, and continuation-in-part applications, and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; we hereby expressly authorize the filing of an International Patent Application under the

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Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation, continuation-in-part applications, and all related provisional and nonprovisional, international and national phase applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved:

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

Inventor's Signature: Office	edro	
∬ Gera	rdo A. Brucker	
State/Commonwealth		
of Colorado		
County of Poulder		
On this 3Rd day of NOVEMBO public, personally appeared Gerardo A. Bru		
personally known to me, or		
proved to me through satisfactory ev	vidence of identification, which was	
_Gerardo A. Brucka		
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.		
(SEAL)	Notary Public Notary Public W. 9 WWW	
HEIDI L LUCARELLI	Heidi 2. LuCarelli (print name)	
Notary Public State of Colorado	My Commission expires 05/16/30H	
Notary ID 20134031374		
My Commission Expires May 16, 2017		

Inventor's Signature:	C-5-	
	hy C. Swinney	
	nney, before me, the undersigned notary	
personally known to me, or		
proved to me through satisfactory even COLOYGOO Driver	idence of identification, which was \(\square\) 1000 SC # 90-227-738	
to be the person whose name was signed on acknowledged that he/she signed the foregoi (SEAL) Z DUCKWORTH NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20124083569 MY COMMISSION EXPIRES 12/28/2016	the foregoing instrument in my presence, and ing instrument as his/her free act and deed. Notary Public (print name) My Commission expires 12/28/2016	
Inventor's Signature:Brandon J. Kelly		
State/Commonwealth of County of	·	
On this day of 20, before me, the undersigned notary public, personally appeared Brandon J. Kelly,		
personally known to me, or		
proved to me through satisfactory evidence of identification, which was		
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.		
(SEAL)	Notary Public	
	(print name)	
	My Commission expires/	

Inventor's Signature:	H Suner
Alfred	d A. Funari
State/Commonwealth of Colorado County of Larimer	
On this day of	20 14, before me, the undersigned notary
personally known to me, or	
proved to me through satisfactory evid	ence of identification, which was
Colorado Drivers Liceuse.	
State of Colorado Notary ID 20094003068	
Inventor's Signature:	
	el N. Schott
State/Commonwealth of	
County of	
Journ's O	
On this day of public, personally appeared Michael N. Schot	20 , before me, the undersigned notary t,
personally known to me, or	
proved to me through satisfactory evid	lence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.	
(SEAL)	Notary Public
_	(print name)
	My Commission expires / /

Inventor's Signature:		
Kristian S. Schartau		
State/Commonwealth of Colorado County of Boulder		
On this day of November		
personally known to me, or		
proved to me through satisfactory evidence of identification, which was		
DRIVER LICENSE		
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed. (SEAL) CHRISTINE ANDERSON BISHOP Notary Public Notary Public		
NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20144028972 MY COMMISSION EXPIRES JULY 24, 2018 My Commission expires 07 / 24 / 2018 My Commission expires 07 / 24 / 2018		

Joint

<u>ASSIGNMENT</u>

WHEREAS, we, Gerardo A. Brucker, Timothy C. Swinney, Brandon J. Kelly, Alfred A. Funari, Michael N. Schott and Kristian S. Schartau, have invented a certain improvement in Cold Cathode Ionization Vacuum Gauge described in an application for Patent,

	the specification of which is about to be filed in the United States Patent Office (use for utility (37 CFR § 1.53(b)) and design filings only);
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\boxtimes	the specification of which is a Divisional of United States Application No. 14/500,820 filed September 29, 2014;
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NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for any and all related provisional and nonprovisional, international and national phase applications, including any and all substitution, reissue, divisional, continuation, and continuation-in-part applications, and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein; we hereby expressly authorize the filing of an International Patent Application under the

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Patent Cooperation Treaty which corresponds to and claims the priority of the above-identified application;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation, continuation-in-part applications, and all related provisional and nonprovisional, international and national phase applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved:

AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

<u> </u>		
Inventor's Signature: Official Control of the Contr		
∬ Gerardo A. Brucker		
State/Commonwealth		
of <u>Colorado</u>		
County of PoulCer		
On this 3Rd day of NOVEM Des 2014, before me, the undersigned public, personally appeared Gerardo A. Brucker,	l notary	
personally known to me, or		
proved to me through satisfactory evidence of identification, which was		
Gerardo A. Brucker		
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.		
(SEAL) Notary Public Notary No	WW.	
HEIDIL LUCARELLI Heidi 2. Lucarelli (pr	int name)	
Notary Public My Commission expires 05 / 10 / 2	OFF	
State of Colorado Notary ID 20134031374		
My Commission Expires May 16, 2017		

Inventor's Signature:
Timothy C. Swinney State/Commonwealth of County of
On this day of 20, before me, the undersigned notary public, personally appeared Timothy C. Swinney, personally known to me, or proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.
(SEAL) Notary Public(print name My Commission expires/
Inventor's Signature: Brandon J. Kelly State/Commonwealth of Color County of Boulds On this 30 day of Color 2014, before me, the undersigned notary public, personally appeared Brandon J. Kelly, personally known to me, or proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free/act and deed. (SEAL) MARY L BLATZER NOTARY PUBLIC STATE OF COLORADO NOTARY ID 19984010748 MY COMMISSION EXPIRES AUGUST 7, 2017 My Commission expires My Commission expires

Inventor's Signature:
Alfred A. Funari State/Commonwealth
of County of
On this day of, before me, the undersigned notary public, personally appeared Alfred A. Funari,
personally known to me, or
proved to me through satisfactory evidence of identification, which was
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.
(SEAL) Notary Public
(print name) My Commission expires/
Inventor's Signature: M. Charl M. h. h.
Michael N. Schott State/Commonwealth
of <u>Colorado</u> County of <u>Boulder</u>
On thisday ofday ofday ofday ofday ofday ofday ofday ofday of
personally known to me, or
proved to me through satisfactory evidence of identification, which was
Driver License
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.
(SEAL) Notary Public Certific And Base
CHRISTINE ANDERSON BISHOP NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20144028972 MY COMMISSION EXPIRES JULY 24, 2018 CONTRIBUTE A. BISHOP (print name) My Commission expires 07 / 24 / 2018

Docket No. 0100.2367-004

Inventor's Signature:		
Kristian S. Schartau		
State/Commonwealth of Colorado County of Boulder		
On this day of November 2014, before me, the undersigned not public, personally appeared Kristian S. Schartau,	ary	
personally known to me, or		
proved to me through satisfactory evidence of identification, which was		
DRIVER LICENSE		
to be the person whose name was signed on the foregoing instrument in my presence, and acknowledged that he/she signed the foregoing instrument as his/her free act and deed.		
(SEAL) CHRISTINE ANDERSON BISHOP NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20144028972 Notary Public Link A Bishop (print r	name)	
My Commission Expires July 24, 2018 My Commission expires 07 / 24 / 2018		