505554041 07/02/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5600842

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GORDON HILL	10/04/2017
DAVID F. BROYER	09/28/2017
DAVID C. NEUMEISTER	09/29/2017
BRADLY RAYMOND LEFEVRE	09/29/2017

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:	16408752

CORRESPONDENCE DATA

Fax Number: (617)345-3299

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: 6173453000

Email:docketing@burnslev.comCorrespondent Name:BURNS & LEVINSON LLPAddress Line 1:125 SUMMER STREET

Address Line 4: BOSTON, MASSACHUSETTS 02110

NAME OF SUBMITTER:	STEVEN M. MILLS
SIGNATURE:	/Steven M. Mills/
DATE SIGNED:	07/02/2019

Total Attachments: 5

source=MAC-008USDIV_Recorded_Assignment#page1.tif source=MAC-008USDIV_Recorded_Assignment#page2.tif source=MAC-008USDIV_Recorded_Assignment#page3.tif

PATENT 505554041 REEL: 049650 FRAME: 0496

source=MAC-008USDIV_Recorded_Assignment#page4.tif source=MAC-008USDIV_Recorded_Assignment#page5.tif

PATENT REEL: 049650 FRAME: 0497

ASSIGNMENT

WHEREAS, we, Gordon Hill, David F. Broyer, David C. Neumeister, and Bradly Raymond Lefevre have invented one or more inventions described in an application (or provisional application) for Leners Patent of the United States entitled:

ACTIVELY COOLED VACUUM ISOLATION VALVE

and identified by

Attorney Docket No. MAC-008US, and/or executed by us on even date herewith and about to be filed in the United States Patent Office;

Application No. 15/478.623 filed in the United States Patent Office on April 4, 2017; and

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, Massachusetts 01810, desires to acquire an interest therein, in accordance with agreements duly entered into with me;

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, my entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such Letters Patent, and any right, title and interest we may have in provisional applications to which said application claims priority; said invention(s), applications 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 me had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for 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 Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein;

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(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional, substitution, continuation, divisional, releasue, reexamination, or corresponding foreign or international patent applications;

PATENT REEL: 049650 FRAME: 0498 AND, we hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved;

AND, we hereby authorize ASSIGNEE or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on the date of our execution of this assignment;

AND, we hereby authorize and request the Director of the United States Patent and Trademark Office to issue such Letters Patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand-and affixed my seal on the date(s) set forth below.

Inventor	747	<i>2006</i>	Date	10/1/1
	rannanan Pilipi Barata Laba Hebera Rebebbi	Gordon Hill		. %
Address	75 La	211 S.L		
	Arlaka	AA MAYOU	* :	
	-ii	. 2///		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	11 La . 3	· Sand Proper	э.	
Witness Signature			<i>C.</i>	
Print Witness Name	David	(Chiches		
Address	BI BAC	MUK BO		
	Hodson	NH 03001		
**			o en regordo exembre especial do como especial es especial de la especial de la especial de la especial de la e	
Witness Signature	91/1/		993377992711112777777	
Print Witness Name		7.27.		

Address	7.3	<i></i>		
<.	hhiridil.			
		T.		

IN TESTIMONY WHEREOF, I have hereunto set my hand-and affixed my scal on the date(s) set forth below.

Inventor /	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7. 81	::::::::::::::::::::::::::::::::::::::	Q.,/) Jate 9/	2 \$ 201°
		V David F	Broyer				aan waxan baan
Address	o Mar	×1.435	2005	2-4		minnim	
	ingste	54	. 21 <i>Q</i>	23.87.8			
Witness Signature	Bi	20 L	V.ZZ				
Print Witness Name	BRIAN	<u> </u>	<u>levez</u>				
Address	207	EA 5782	U AVE	<i>ART</i>	38		rimoinimississis.
	MANCH	22 6 6_7	011 0	2/04			
Witness Signature	0	s (, was produced in the second	ntice the second		
Print Witness Name		Lecred	2	. 10 S. June			
Address	<u> </u>		60,	SGEE	£		
		<u> </u>	MHT.	2322(<u> </u>		
		V					Manager and American I

IN TESTIMONY WHEREOF, I have hereunto set my hand-and affixed my seal on the date(s) set forth below.

		ammanii)	
Inventor	<i>C</i> -C-7/10/23	Date	7-29-201
	David C. Neumeister		
Address	668 Holland Wicz		
	wgman 10 90503		
Witness Signature			
Print Witness Name	<u> - Mitter Haness</u>	****	
Address	<u> </u>		
	Wasterinston CO 80	<u> </u>	<u></u>
	2 2 2 D 2 2		
Witness Signature	<u> </u>		
Print Witness Name	<u> </u>	· #: 4)
Address	<u> </u>	<u></u>	<u> </u>
	<u> LAIEDOD GO ROZZS</u>	iii Xaayaaa	

IN TESTIMONY WHEREOF, I have hereunto set my hand-and affixed my seal on the date(s) set forth below.

Inventor /4	Jely Paynes Lelon	Date 9/24/24,7
	Bradly Kaymond Lefevre	
Address12	471 West Maryland Drive	
<u></u>	feman co sorià	
Witness Signature		
Print Witness Name	<u> Yel Hausmann</u>	
Address	<u> </u>	
,	<u> 13 64 Ján Co 80307.</u>	
Witness Signature	SNOw	
Print Witness Name	SIMON MYERS	
Address	4901 YAMES GRUE	
· ·	Broomfield Co 90020	

4841-5111-2517.1

S

PATENT REEL: 049650 FRAME: 0502