502570734 11/15/2013

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT2616592

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YOUFAN GU	11/07/2013
MATTHEW C. GROUT	11/07/2013

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:	14075163

CORRESPONDENCE DATA

Fax Number: (970)492-1101 **Phone**: (970) 492-1100

Email: lynetted@patentlegal.com

Correspondence will be sent via US Mail when the email attempt is unsuccessful.

Correspondent Name: COCHRAN FREUND & YOUNG LLC

Address Line 1: 2026 CARIBOU DRIVE

Address Line 2: SUITE 201

Address Line 4: FORT COLLINS, COLORADO 80525

ATTORNEY DOCKET NUMBER: MKSI.87US01 NAME OF SUBMITTER: LYNETTE DEBREY-COTA Signature: /Lynette DeBrey-Cota/		
	Signature:	/Lynette DeBrey-Cota/
ATTORNEY DOCKET NUMBER: MKSI.87US01	NAME OF SUBMITTER:	LYNETTE DEBREY-COTA
	ATTORNEY DOCKET NUMBER:	MKSI.87US01

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Date:	11/15/2013
Total Attachments: 2 source=MKSI87US01ASSIGN#page1.tif source=MKSI87US01ASSIGN#page2.tif	

PATENT REEL: 031610 FRAME: 0135 When recorded please return to: Cochran Fraund & Young LLC 2026 Caribou Drive, Suite 201 Fort Collins, CO 80525

PATENT APPLICATION DOCKET NO.: MKSI.87US01

ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to <u>MKS INSTRUMENTS, INC.</u> having a place of business at 2 Tech Drive, Suite 201, Andover, MA 01810 (hereinafter "Assignee"), for good
and valuable consideration, receipt of which is hereby acknowledged, and do hereby sell, assign and transfer to Assignee, its successors and assigns, the entire right, title and interest in, to and under an application for Letters Patent of the United States entitled:
POWDER AND DEPOSITION CONTROL IN THROTTLE VALVES
Filing date: November 8, 2013 Application No: 14/075,163
and the invention(s) and improvement(s) set forth therein, and any and all provisionals, non-provisionals, continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Letter Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefor; and any reissues, or reexaminations, or extensions of said Letters Patent. The undersigned (each) also agree to and hereby do, assign and transfer to the assignee the right to claim priority to said patent application(s) as well as to claim priority to any parent or other application(s) to which said patent application(s) claim(s) priority.
I/We additionally authorize Assignee to file applications in my/our name or in the Assignee's own name, for Letters Patent in any country, to be held and enjoyed by Assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, sale and transfer not been made;
AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Letters Patent, to Assignee, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to Assignee or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid Assignee, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by Assignee.
AND I/we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to Assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.
I/we further authorize and direct Assignee's attorneys to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.
IN WITNESS WHERPOF, I/we hereunto set my/our hand(s) and seal(s);
Date Assignment Signed: Nov. 7, 2v/3
Inventor's Signature (Seal) / Youfan Gu
State of Colora Lo
Country of Bordder) \$85.5
Before me this 1_ day of Novembeer, 2013, personally appeared. You fan Gu who is nersonally known or
proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.
Jacit Jena THACIL SENA
My commission expires 4 30 26/3 STATE OF COLORADO My commission expires 4 30/26/3 STATE OF COLORADO
Page 1 of 2 My Commission Exprise August 30, 2016

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Cochran Freund & Young LLC
2026 Caribou Drive, Suite 201
Fort Collins, CO 80525

Inventor No. 2

PATENT APPLICATION DOCKET NO.: MKSL87US01

ASSIGNMENT OF PATENT APPLICATION (cont.)

	Date Assignment Signed:	7-13
Inventor's Signature (Seaf) Inventor's Typed Name: <u>Matthew C. Grout</u>	9	
State of Coloralo		
State of Coloralo)ss.:		
Before me this 7 day of Mrshm he/	, 2013, personally appearedMatthew C. C	Succession - Andrew St. Andrew Land Co.
proved to the on the basis of satisfactory evidence i	to be the person who acknowledged the foregoin	nous — who is personally known or ginstrument of assignment to be his/her
broacd to the outine pasts of satisfactory exidence i	to be the person who acknowledged the foregoin	g instrument of assignment to be his/her TRACI L. SENA NOTARY PUBLIC
proved to me on the basis of satisfactory evidence ifree act and deed.	to be the person who acknowledged the foregoing Notary Public My commission expires:	g instrument of assignment to be his/her TRACI L. SENA

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