PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5702147

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ZHANPING XU	08/22/2019
DANIEL A. KAUFF	08/25/2019
ROBERT J. SANGER	08/22/2019
SATHIT KULPRATHIPANJA	09/03/2019
EMADODDIN ABBASI	08/22/2019

RECEIVING PARTY DATA

Name:	UOP LLC
Street Address:	25 EAST ALGONQUIN ROAD
Internal Address:	PATENT DEPARTMENT
City:	DES PLAINES
State/Country:	ILLINOIS
Postal Code:	60017

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62526219
Application Number:	16015146

CORRESPONDENCE DATA

Fax Number: (602)293-2822

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: (602)293-1254
Email: rlyons@gbc.law

Correspondent Name: HONEYWELL INTERNATIONAL INC
Address Line 1: 101 COLUMBIA ROAD P. O. BOX 2245
Address Line 2: MAIL STOP AB/2B PATENT SERVICES
Address Line 4: MORRISTOWN, NEW JERSEY 07962

ATTORNEY DOCKET NUMBER:	H0055591-US-2 (134348)
NAME OF SUBMITTER:	PATRICIA L. PRIOR
SIGNATURE:	/PATRICIA L. PRIOR/
DATE SIGNED:	09/04/2019

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APPARATUS FOR VAPOR-LIQUID DISTRIBUTION

	for which application for patent in the United States and PCT:
	has been executed on even date herewith;
	was executed on;
<u>X</u>	was filed on June 28, 2017 and assigned U.S. Application No. 62/526,219; and
Х	was filed on June 21, 2018 and assigned U.S. Application No. 16/015,146.

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein:

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;

AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;

AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.

If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.

This assignment shall be construed, governed, interpreted and applied in accordance with the laws of the State of Delaware, United States of America.

U.S Application No. 16/015,146

(Rev.03/20/2012)

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

ZHANPING XU	Date: 8/22/2) [
DANIEL A. KAUFF	Date:	
ROBERT J. SANGER	Date:	***************************************
SATHIT KULPRATHIPANJA	Date:	
EMADODDIN/ABBASI	Date: <u>8/22/2019</u>	

U.S Application No. 16/015,146

(Rev.03/20/2012)

APPARATUS FOR VAPOR-LIQUID DISTRIBUTION

	for which application for patent in the United States and PCT:
	has been executed on even date herewith;
	was executed on;
<u> X</u>	was filed on June 28, 2017 and assigned U.S. Application No. 62/526,219; and
Х	was filed on June 21, 2018 and assigned U.S. Application No. 16/015 146

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algoriquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;

AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filling date and application number of said Application when known;

AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.

If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.

This assignment shall be construed, governed, interpreted and applied in accordance with the laws of the State of Delaware, United States of America.

U.S Application No. 16/015,146

(Rev.03/20/2012)

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

	Oate:	
ZHANPING XU		
ARRANA Kan	Date:	2-25-201
ROBERT J. SANGER	Date:	
Sathit Kulprathipanja	Owte:	
EMADOCON ABBASI	Date:	

(Mex.03/20/20/12)

U.S Application No. 18/015,146

APPARATUS FOR VAPOR-LIQUID DISTRIBUTION

	for which application for patent in the United States and PCT:
	has been executed on even date herewith;
	was executed on;
Χ	was filed on June 28, 2017 and assigned U.S. Application No. 62/526,219; and
<u>X</u>	was filed on June 21, 2018 and assigned U.S. Application No. 16/015,146.

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;

AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;

AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.

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U.S Application No. 16/015,146 (Rev.03/20/2012)

Ashley E. Romano
Deputy Chief IP Counsel
UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

ZHANPING XU	Date:
DANIEL A. KAUFF	Date:
ROBERT L'SANGER	Date: 8-72-19
SATHIT KULPRATHIPANJA	Date:
EMADODDIN ABBASI	Date:

APPARATUS FOR VAPOR-LIQUID DISTRIBUTION

for	hich application for patent in the United States and PCT:	
ha	been executed on even date herewith;	
wa	executed on	
X wa	filed on June 28, 2017 and assigned U.S. Application No. 62/526,219; and	
	filed on June 21, 2018 and assigned U.S. Application No. 16/015,146.	
ANI	WHEREAS, the "Assigned Property" shall mean (i) the above-identified United State	\$ 2

AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;

AND WHEREAS, UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein:

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U.S Application No. 16/015.146

(Rev.03/20/2012)

Ashley E. Romano Deputy Chief IP Counsel UOP LLC

EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:

ZHANPING XU	Date:
DANIEL A. KAUFF	Date:
ROBERT J. SANGER	Date:
SELLE VALLETANIA PARA	Date: Syptember 3.1, 2019
EMADODDIN ABBASI	Date:

U.S Application No. 16/015,146

(Rev.03/20/2012)