PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YOSHINORI ISHIDA	01/11/2018
HIROTAKA KAWABATA	01/15/2018
HIROYUKI FUKUHARA	01/20/2018

RECEIVING PARTY DATA

Name:	PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.
Street Address:	1-61, SHIROMI 2-CHOME, CHUO-KU, OSAKA-SHI
City:	OSAKA
State/Country:	JAPAN
Postal Code:	540-6207

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15757934

CORRESPONDENCE DATA

Fax Number:

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.

Email: ppc.docket@ml.jp.panasonic.com

Correspondent Name: PANASONIC IP MANAGEMENT CO., LTD.

Address Line 1: 7F OBP PANASONIC TOWER

Address Line 2: 1-61, SHIROMI 2-CHOME, CHUO-KU

Address Line 4: OSAKA, JAPAN 540-6207

ATTORNEY DOCKET NUMBER:	P0460315US01
NAME OF SUBMITTER:	HIROO MAEDA
SIGNATURE:	/Hiroo MAEDA/
DATE SIGNED:	09/21/2018

Total Attachments: 3

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PATENT 505104891 REEL: 046933 FRAME: 0182

	Assignment Form 3.0 (Oct. 2008
Panasonic Ref*: P0460315US01	Application Serial No. $15/757934$
Japan Firm Name: ARCO	Japan Firm Ref: 16P153US/KYO
US Firm Name*: HSM (* nust be filled)	US Firm Ref:
ASSIGNI	MENT
WHEREAS, the undersigned has (have) invented the invention entitled: Box 1	
Title of Invention:	

REFRIGERANT COMPRESSOR AND REFRIGERATING DEVICE INCLUDING SAME 1. For use when signing Declaration prior to filling U.S. patent application (check only one box below) (a)□ for which an application for U.S. patent has been executed by the undersigned concurrently herewith, or (b)□ for which an application for U.S. patent has been executed on the following date(s): Declaration & Assignment are signed on the same day, check (a) and make no entry in the blank; if the Declaration was signed before this Assignment, enter the date(s) on which you signed the Declaration) or (c) for which an International Application has been filed as: (for the PCT-US national entry, check only (c) and enter PCT application number in the right) PCT Application No. PCT/JP2016/003910 and. 2. For use when signing Declaration after filing U.S. patent application (d)☐ for which an application for U.S. patent has been filed on: Application Filing Date and.

WHEREAS, Panasonic Intellectual Property Management Co., Ltd. of 1-61, Shiromi 2-chome, Chuo-ku, Osaka-shi, Osaka 540-6207, JAPAN, its/their heirs, successors, legal representatives and assigns (hereinafter designated as "Assignee(s)") is/are desirous of acquiring the entire right, title, and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and intended to be legally bound hereby, the undersigned, by these presents, does sell, assign and transfer unto said Assignee(s) the entire and exclusive right, title and interest in and to; (i) said invention in the United States of America, its territories, dependencies and possessions (hereinafter designated as the United States) and in all countries foreign to the United States; and (ii) this patent application and any and all related patent application(s) disclosing said invention, including provisionals, non-provisionals, conversions, divisions, continuations, continuations-in-part and reissues thereof in the United States and all countries foreign to the United States (hereinafter designated as "Related Applications"), along with all rights of priority created by this patent application under any treaty relating thereto; and (iii) any and all Letters Patent(s), including all renewals, extensions, reissues and reexamination certificates which may be granted therefore, and all rights to sue for past and future infringement thereunder, in the United States and in all countries foreign to the United States for the full term or terms thereof.

The undersigned agree(s) to execute all papers necessary in connection with this application and any and all Related Applications thereof, all papers and documents and perform any act which may be necessary in connection with claims or provisions of the international Convention for Protection of Industrial Property or similar agreements, all papers necessary in connection with any interference which may be declared concerning this application or any and all Related Applications thereof and to cooperate with the Assignee(s) in every way possible in obtaining and producing evidence and proceeding with such interference, and for any and all litigations regarding, or for the purpose of protecting the right, title and interest in and to said invention, this application and any and all Related Applications or Letters Patent(s) therefore, and to testify in any legal proceeding relating thereto and in support thereof, for the benefit of Assignee(s), and also to execute separate assignments in connection with such applications as the Assignee(s) may deem necessary or expedient.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States and any foreign patent(s) to the Assignee(s) and to vest all rights hereby conveyed to the Assignee(s) as fully and entirely as the same would have been held by the undersigned if this Assignment had not been made.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents, and officials of all foreign countries, whose duty is to issue patents, to issue any and all Letters Patent(s) resulting from said application or any and all Related Applications thereof to said Assignee(s) and hereby covenants that the undersigned has (have) full right to convey the entire interest herein assigned, and that the undersigned has

(have) not executed, and will not execute, any assignment, sale, agreement or encumbrances in conflict herewith.

The undersigned hereby does sell, assign and transfer unto said Assignee(s) the full and exclusive authority for revoking power of attorney(s) executed by the undersigned in connection with this application and for appointing a new power of attorney in place thereof. The undersigned hereby grant(s) the Assignee(s) and the appointed U.S. patent attorneys and agents the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent Office for recordation of this

The undersigned hereby agree(s) that the above obligations shall apply to the undersigned both individually and collectively. The undersigned hereby agree(s) that this Assignment shall be construed in accordance with the law of the appropriate jurisdiction within

IN WITNESS WHEREOF, executed by the undersigned on the date(s) following the undersigned pame(s)

- }	Each Inventor, please Sign and Date (e) First Name, Last Name		
(1)	Shingo OYAGI	(f) Signature	(g) Date signed Month, Date, Year
(2)	Yoshinori ISHIDA	Joshinori (Ishida	Month, Dale, Year
(3)	Hirotaka KAWABATA	The Charles	Month, Date, Year
(4)	Hiroyuki FUKUHARA		Month, Dale, Year

□Check if additional paper(s) is/are attached. Total of

pages are submitted

Panasonic Ref*: <u>P0460315US01</u>	Application Serial No15/757934
lanan Firm Name: ABCO	Japan Firm Ref: 16P153US/KYO
IIS Firm Name* UCM	US Firm Ref:
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ASSIGNMENT

WHEREAS, the undersigned has (have) invented the invention entitled:			
Box 1			
Title of Invention:			
REFRIGERANT COMPRESSOR AND REFRIGERA	TING DEVICE INCLU	JDING SAME	
1. For use when signing Declaration prior to filing	IIS natent application (shock as	hone being between	
(a) ☐ for which an application for U.S. patent has been execute	d by the undersigned cond	currently herewith, or	
(b) of for which an application for U.S. patent has been executed (if Declaration & Assignment are signed on the same day, check (a) and make no entry in the blank; if it	am Alas Estimates I a day		, or
(c) for which an International Application has been filed as: (for the PCT-US national entry, check only (c) and enter PCT application number in the right)	PCT Application No.	PCT/JP2016/003910	and,
2. For use when signing Declaration	n after filing U.S. patent application	100	
(d)□ for which an application for U.S. patent has been filed on:	Application Filing Date		and,

WHEREAS, Panasonic Intellectual Property Management Co., Ltd. of 1-61, Shiromi 2-chome, Chuo-ku, Osaka-shi, Osaka 540-6207, JAPAN, its/their heirs, successors, legal representatives and assigns designated as "Assignee(s)") is/are desirous of acquiring the entire right, and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and intended to be legally bound hereby, the undersigned, by these presents, does sell, assign and transfer unto said Assignee(s) the entire and exclusive right, as the United States) and in all countries foreign to the United States; and (ii) this patent application and any and all related patent applications, including provisionals, non-provisionals, conversions, divisions, continuations, continuations-in-part and reissues thereof in the United States and all countries foreign to the United States (hereinafter designated as "Related Applications"), along with all rights of priority created by this patent application under any treaty relating thereto; and (iii) any and all Letters Patent(s), including all renewals, extensions, United States and in all countries foreign to the United States for the full term or terms thereof.

The undersigned agree(s) to execute all papers necessary in connection with this application and any and all Related Applications thereof, for Protection of Industrial Property or similar agreements, all papers necessary in connection with claims or provisions of the International Convention concerning this application or any and all Related Applications thereof and to cooperate with the Assignee(s) in every way possible in obtaining title and interest in and to said invention, this application and any and all Related Applications or Letters Patent(s) therefore, and to testify in any with such applications as the Assignee(s) may deem necessary or expedient.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States and any foreign patent(s) to the Assignee(s) and to vest all rights hereby conveyed to the Assignee(s) as fully and entirely as the same would have been held by undersigned if this Assignment had not been made.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents, and officials of all foreign countries, whose duty is to issue patents, to issue any and all Letters Patent(s) resulting from said application or any and all Related Applications thereof to said Assignee(s) and hereby covenants that the undersigned has (have) full right to convey the entire interest herein assigned, and that the undersigned has (have) not executed, and will not execute, any assignment, sale, agreement or encumbrances in conflict herewith.

The undersigned hereby does sell, assign and transfer unto said Assignee(s) the full and exclusive authority for revoking power of

attorney(s) executed by the undersigned in connection with this application and for appointing a new power of attorney in place thereof. The undersigned hereby grant(s) the Assignee(s) and the appointed U.S. patent attorneys and agents the power to insert on this assignment any document.

The undersigned hereby agree(s) that the above obligations shall apply to the undersigned both individually and collectively.

The undersigned hereby agree(s) that this Assignment shall be construed in accordance with the law of the appropriate jurisdiction within

IN WITNESS WHEREOF, executed by the undersigned on the date(s) following the undersigned name(s) and signature(s).

Box2 ((Each Inventor, please Sign and Date	below)	ame(s) and signature(s).
	(e) First Name, Last Name	(f) Signature	(g) Date signed
(1)	Shingo OYAGI		Month, Date, Year
(2)	Yoshinori ISHIDA		Month, Dale, Year
(3)	Hirotaka KAWABATA	Hontoka Kanabata	Month, Date, Year Jan 15.2018
(4)	Hiroyuki FUKUHARA	1 to 1- 1- 1 and the Co-	Month, Dale, Year

□Check if additional paper(s) is/are attached. Total of

pages are submitted.

Panasonic Ref*: <u>P0460315US01</u>	Application Serial No. 15/757934
Japan Firm Name: ARCO	Japan Firm Ref: 16P153US/KYO
US Firm Name*: HSM (* must be filled)	US Firm Ref:

ASSIGNMENT

VYHEREAS, the undersigned has (have) invented the invention entitled:			
Box 1			
Title of Invention:			
REFRIGERANT COMPRESSOR AND REFRIGERA	TING DEVICE INCLU	DING SAME	
1. For use when signing Declaration prior to filing	U.S. patent application (check only	one box below)	
(a)☐ for which an application for U.S. patent has been execute	d by the undersigned conc	urrently herewith, or	
(b) or which an application for U.S. patent has been executed (if Declaration & Assignment are signed on the same day, check (a) and make no entry in the blank; if it	on the following date(s):	Wildred surface de description and the descrip	, or
(c) for which an International Application has been filed as: (for the PCT-US national entry, check only (c) and enter PCT application number in the right)	PCT Application No.	PCT/JP2016/003910	and,
2. For use when signing Declaration	n after filing LLS patent application		
	J STOT POLETY CAPPRICATION	·	
(d)□ for which an application for U.S. patent has been filed on:	Application Filing Date		and,

WHEREAS, Panasonic Intellectual Property Management Co., Ltd. of 1-61, Shiromi 2-chome, Chuo-ku, Osaka-shi, Osaka 540-6207, JAPAN, its/itheir heirs, successors, legal representatives and assigns (hereinafter designated as "Assignee(s)") is/are desirous of acquiring the entire right, title, and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and intended to be legally bound hereby, the undersigned, by these presents, does sell, assign and transfer unto said Assignee(s) the entire and exclusive right, title and interest in and to; (i) said invention in the United States of America, its territories, dependencies and possessions (hereinafter designated as the United States) and in all countries foreign to the United States; and (ii) this patent application and any and all related patent application(s) disclosing said invention, including provisionals, non-provisionals, conversions, divisions, continuations, continuations-in-part and reissues thereof in the United States and all countries foreign to the United States (hereinafter designated as "Related Applications"), along with all rights of priority created by this patent application under any treaty relating thereto; and (iii) any and all Letters Patent(s), including all renewals, extensions, united States and in all countries foreign to the United States for the full term or terms thereof.

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IN WITNESS WHEREOF, executed by the undersigned on the date(s) following the undersigned name(s) and signature(s)

Box2 (Ea	(Each Inventor, please Sign and Date below)		
	(e) First Name, Last Name	(f) Signature	(g) Date signed
(1)	Shingo OYAGI		Month, Date, Year
(2)	Yoshinori ISHIDA		Month, Date, Year
(3)	Hirotaka KAWABATA		Month, Date, Year
(4)	Hiroyuki FUKUHARA	Hiroyuki Fukuhara	Month, Dale, Year Jan. 20, 2018

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