

# Major Patents

## ■ Patents registered in 2019

Registration Number	Name	Inventor(s)
Japan - 06465282	LINEAR MOTOR	Yuqi Tang, Takashi Matsushita, Kazuhito Yamaura
Japan - 06480316	MOTOR CONTROLLER	Yuji Ide, Toshio Hiraide
Japan - 06480849	INTERCONNECTION POWER SUPPLY SYSTEM	Makoto Ishida, Minoru Yanagisawa
Japan - 06489746	MAGNETIC SHIELD COVER FOR ENCODER OF MAGNETIC DETECTION TYPE AND ENCODER OF MAGNETIC DETECTION TYPE	Kazuhiro Makiuchi, Yoshihiro Shoji
Japan - 06489842	MOTOR CONTROLLER	Yuji Ide, Takao Oshimori, Hiroaki Koike
Japan - 06491497	MOTOR CONTROL DEVICE	Yuji Ide, Daigo Kuraishi, Akihiko Takahashi, Toshio Hiraide
Japan - 06498087	MEASUREMENT DEVICE	Masahiro Koike, Tomoaki Ikeda, Takahisa Toda, Yo Muramatsu, Katsumichi Ishihara, Hikaru Urushimoto
Japan - 06498541	MEASUREMENT DEVICE	Katsumichi Ishihara, Takahisa Toda, Yo Muramatsu
Japan - 06518515	SENSOR FOR MOTOR	Takayoshi Seki
Japan - 06529894	CORELESS LINEAR MOTOR	Yuqi Tang
Japan - 06570783	MEASUREMENT DEVICE	Yo Muramatsu, Takahisa Toda, Katsumichi Ishihara, Hikaru Urushimoto
Japan - 06601788	MOTOR ROTATOR, MOTOR DEVICE, AND METHOD FOR MANUFACTURING THE MOTOR ROTATOR	Koji Nakatake, Masaaki Ohashi
Philippines - 1-2015-000337	MOTOR CONTROL UNIT	Yuji Ide, Takao Oshimori, Hiroaki Koike
Philippines - 1-2016-000071	MOTOR CONTROL DEVICE	Yuji Ide, Daigo Kuraishi, Akihiko Takahashi, Toshio Hiraide
Europe - 02107669	MOTOR WITH AN ELECTROMAGNETIC BRAKE	Toshihito Miyashita, Masahiro Yamaguchi
Europe - 02169812	MOLDED MOTOR	Toshihito Miyashita, Hiroshi Hioki, Junichi Chiku
Europe - 02199620	AXIAL FLOW FAN	Katsumichi Ishihara
Europe - 02295818	CENTRIFUGAL FAN	Kevin Yen, Hiromitsu Kuribayashi
Europe - 02381111	FAN WITH REDUCED NOISE	Naoya Inada, Toshiyuki Nakamura, Toshiki Ogawara, Yoshinori Miyabara
Europe - 02644902	AXIAL FLOW FAN	Naoya Inada, Jiro Watanabe
Europe - 02662571	FAN FRAME	Masahiro Koike, Soma Araki, Toshiki Ogawara
Europe - 02706243	AXIAL FLOW FAN	Atsushi Yanagisawa
Europe - 02913912	LINEAR MOTOR	Akihiko Takahashi
Europe - 03141764	MEASUREMENT DEVICE	Masahiro Koike, Tomoaki Ikeda, Takahisa Toda, Yo Muramatsu, Katsumichi Ishihara, Hikaru Urushimoto
Korea Patent 101952145	SHAFT ROTARY TYPE LINEAR MOTOR AND SHAFT ROTARY TYPE LINEAR MOTOR UNIT	Yuqi Tang, Satoshi Sugita
Korea - 101967926	MOTOR CONTROLLER	Yuji Ide, Michio Kitahara, Satoshi Yamazaki
Korea - 101971691	GROUND WIRE CONNECTION STRUCTURE FOR MOTOR	Toshihito Miyashita, Manabu Horiuchi
Korea - 101992818	MOTOR STRUCTURE	Toshihito Miyashita, Manabu Horiuchi
Korea - 101993174	LINEAR MOTOR	Yuqi Tang, Takashi Matsushita
Hong Kong - HK1199559	LINEAR MOTOR	Yuqi Tang, Satoshi Sugita
Hong Kong - HK1204716	LINEAR MOTOR UNIT	Yuqi Tang, Kazuhito Yamaura
Hong Kong - HK1204717	LINEAR MOTOR	Yuqi Tang, Takashi Matsushita
Taiwan - I649942	LINEAR MOTOR	Yuqi Tang, Takashi Matsushita

Registration Number	Name	Inventor(s)
Taiwan - I649957	CONTROL DEVICE OF FAN MOTOR	Takahisa Toda, Takashi Kaise, Jiro Watanabe
Taiwan - I657645	LINEAR MOTOR UNIT	Yuqi Tang, Kazuhito Yamaura
Taiwan - I661179	MAGNETIC SHIELD COVER FOR ENCODER OF MAGNETIC DETECTION TYPE AND ENCODER OF MAGNETIC DETECTION TYPE	Kazuhiro Makiuchi, Yoshihiro Shoji
Taiwan - I661654	STATOR CORE AND PERMANENT MAGNET MOTOR	Toshihito Miyashita, Manabu Horiuchi
Taiwan - I661657	GROUND WIRE CONNECTION STRUCTURE FOR MOTOR	Toshihito Miyashita, Manabu Horiuchi
Taiwan - I666853	STATOR, METHOD FOR MANUFACTURING STATOR, AND MOTOR	Toshihito Miyashita, Masashi Suzuki, Manabu Horiuchi, Masaki Musha
Taiwan - I667616	PRODUCT SPECIFICATION SETTING APPARATUS AND FAN MOTOR HAVING THE SAME	Tetsuya Yamazaki, Takahisa Toda
Taiwan - I671614	MOTOR CONTROLLER	Yuji Ide, Michio Kitahara, Satoshi Yamazaki
Taiwan - I673434	WATERPROOF AXIAL FLOW FAN	Katsumichi Ishihara, Akira Nakayama, Tatsuya Midorikawa, Masato Kakeyama
Taiwan - I675965	HOUSING OF FAN MOTOR	Toshiya Nishizawa, Haruka Sakai, Jiro Watanabe, Masashi Yokota
Taiwan - I677631	STRUCTURE FOR ATTACHING COOLING FAN	Daigo Kuraishi
Taiwan - I678065	MOTOR CONTROLLER	Yuji Ide, Michio Kitahara, Satoshi Yamazaki, Toshio Hiraide
China - ZL201410443216.5	COIL INSULATING STRUCTURE / Bobbin with Grooves for Inserting Insulating Slot Closer (OF ELECTROMAGNETIC MOTOR STATOR)	Koji Nakatake, Yasushi Yoda, Masaaki Ohashi
China - ZL201410459216.4	HOUSING OF FAN MOTOR	Toshiya Nishizawa, Haruka Sakai, Jiro Watanabe, Masashi Yokota
China - ZL201410468768.1	CONTROL DEVICE OF FAN MOTOR	Takahisa Toda, Takashi Kaise, Jiro Watanabe
China - ZL201410730354.1	WATERPROOF AXIAL FLOW FAN	Katsumichi Ishihara, Akira Nakayama, Tatsuya Midorikawa, Masato Kakeyama
China - ZL201410745918.9	MOTOR CONTROLLER	Yuji Ide, Michio Kitahara, Satoshi Yamazaki
China - ZL201510023115.7	STATOR CORE AND PERMANENT MAGNET MOTOR	Toshihito Miyashita, Manabu Horiuchi
China - ZL201510042487.4	STATOR, METHOD FOR MANUFACTURING STATOR, AND MOTOR	Toshihito Miyashita, Masashi Suzuki, Manabu Horiuchi, Masaki Musha
China - ZL201510063992.7	MOTOR STRUCTURE	Toshihito Miyashita, Manabu Horiuchi
China - ZL201510088131.4	LINEAR MOTOR	Akihiko Takahashi
China - ZL201510105596.6	STRUCTURE FOR ATTACHING COOLING FAN	Daigo Kuraishi
China - ZL201510217658.2	MOTOR CONTROLLER	Yuji Ide, Michio Kitahara, Satoshi Yamazaki, Toshio Hiraide
China - ZL201510528340.6	STEPPER MOTOR	Yasushi Yoda, Koji Nakatake, Masaaki Ohashi
China - ZL201510572450.2	MOTOR CONTROLLER	Yuji Ide, Satoshi Yamazaki, Masahisa Koyama
China - ZL201510612683.0	MOTOR CONTROL UNIT	Yuji Ide, Takao Oshimori, Hiroaki Koike
U.S. - 10170970	STEPPER MOTOR	Yasushi Yoda, Koji Nakatake, Masaaki Ohashi
U.S. - 10193431	LINEAR MOTOR	Akihiko Takahashi
U.S. - 10224797	LINEAR MOTOR	Yasushi Misawa, Hiroyuki Sato, Akihiko Takahashi, Satoshi Sugita
U.S. - 10236732	INDUCTOR TYPE ROTARY MOTOR	Satoshi Sugita, Yuqi Tang, Yasushi Misawa, Shigenori Miyairi
U.S. - 10260519	BIDIRECTIONAL AXIAL FAN DEVICE	Satoshi Fujimaki, Toshiya Nishizawa, Takashi Kawashima
U.S. - 10274341	MAGNETIC SHIELD COVER FOR ENCODER OF MAGNETIC DETECTION TYPE AND ENCODER OF MAGNETIC DETECTION TYPE	Kazuhiro Makiuchi, Yoshihiro Shoji

Registration Number	Name	Inventor(s)
U.S. - 10312763	STATOR, METHOD FOR MANUFACTURING STATOR, AND MOTOR	Toshihito Miyashita, Masashi Suzuki, Manabu Horiuchi, Masaki Musha
U.S. - 10344764	AXIAL BLOWER AND SERIES-TYPE AXIAL BLOWER	Toshiyuki Nakamura, Shuji Miyazawa
U.S. - 10367393	MOTOR ROTATOR, MOTOR DEVICE, AND METHOD FOR MANUFACTURING THE MOTOR ROTATOR	Koji Nakatake, Masaaki Ohashi
U.S. - 10393127	HOUSING OF FAN MOTOR	Toshiya Nishizawa, Haruka Sakai, Jiro Watanabe, Masashi Yokota
U.S. - 10465692	FAN MOTOR	Naruhiko Kudo, Munenori Takakuwa, Tatsuya Midorikawa

## Internal Recognition: Invention Grand Prize (Excellence Award)

Awarded in May 2019

Prize	Title	Division	Name
Excellence Award	Drainage Structure of Splash Proof Blower	Cooling Systems Div., Design Dept.	Masaki Kodama, Toshiya Nishizawa, Kakuhiko Hata

## Internal Recognition: Manufacturing Grand Prize (Excellence Award)

Awarded in May 2019

Prize	Title	Division	Name
Excellence Award	Injection Mold Technology which Realized Both Miniaturization and High Quality Product Appearance	Cooling Systems Div., Production Dept. Production Engineering Sect. 2	Yoichi Yamada Rikiya Niimura
Excellence Award	Automation of Plate Processing for Linear Servo Motors	Human Resources Dept. (On secondment from SANYO DENKI Techno Service Co., LTD.)	Takashi Miyasaka, Toru Kamimura
		SANYO DENKI Techno Service CO., LTD.	Hideaki Kobayashi
		Servo Systems Div., Production Engineering Dept., Process Engineering Sect. 1, Subsect. 1	Yoshiaki Hirabayashi