

# Main Patents

## ■ Patents registered in 2010

Registration Number	Name	Inventor(s)
4469590	STATOR FOR LINEAR MOTOR AND LINEAR MOTOR	Satoshi Sugita, Kouji Misawa
4469592	LINEAR MOTOR	Satoshi Sugita, Kouji Misawa
4469736	AXIAL-FLOW FAN	Katsumichi Ishihara, Honami Osawa
4574391	SYNCHRONOUS MOTOR AND N-PHASE SYNCHRONOUS MOTOR	Shigenori Miyairi, Kouji Nakatake, Hisayuki Miyajima
4682221	TANDEMPLY- ARRAYED FAN UNIT	Atsushi Yanagisawa, Jirou Watanabe, Toshiki Kobayashi
4691376	PERMANENT MAGNET ROTARY MOTOR	Toshihito Miyashita, Satoru Onodera, Kazuyuki Kitazawa, Masahiro Koyama, Kazuhiko Takizawa
4476202	PERMANENT MAGNET ROTARY MOTOR	Toshihito Miyashita
4495443	A SYNCHRONOUS MOTOR AND A ROTATION CONTROL METHOD THEREOF, AS WELL AS, AN INVERTER FOR USE OF THE SYNCHRONOUS MOTOR	Hisayuki Miyajima, Shigenori Miyairi Co-inventor: Hitachi Industrial Equipment Systems. Co., Ltd.
4497986	THREE-PHASE CLAW-POLE TYPE LINEAR MOTOR	Satoshi Sugita
4498007	FAN APPARATUS AND COOLING DEVICE FOR HEATING ELEMENT	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
4512221	HEAT SINK-EQUIPPED COOLING APPARATUS	Michinori Watanabe, Michihiro Suzuki
4522106	LINEAR MOTOR	YuQi Tang, Satoshi Sugita
4522192	LINEAR MOTOR	Satoshi Sugita, Kouji Misawa
4522402	CONNECTING STRUCTURE FOR LEAD WIRES AND METHOD OF PRODUCING THEREOF	Ikuo Takeshita, Katsue Tezuka, Akira Koike, Hidenori Morita
4540171	UNINTERRUPTIBLE POWER SUPPLY SYSTEM	Naomi Takizawa, Satoshi Atou
4540727	MOTOR CONTROL SYSTEM	Yuuji Ide
4551684	CYLINDER-TYPE LINEAR MOTOR	Satoshi Sugita, YuQi Tang
4560303	COOLING STRUCTURE FOR ARMATURE COIL	Satoshi Sugita, Kouji Misawa
4560465	METHOD OF ESTIMATING TYPE OF STEPPING MOTOR AND METHOD OF SETTING PARAMATER FOR STEPPING MOTOR DRIVE UNIT	Masao Mizuguchi, Nobutoshi Nakamura
4574224	LINEAR MOTOR	Satoshi Sugita, YuQi Tang
4603316	MOVABLE ASSEMBLY FOR CYLINDER-TYPE LINEAR MOTOR	YuQi Tang, Satoshi Sugita
4603590	ROTARY ELECTRIC MACHINE	Masaaki Ohashi, Shigenori Miyairi, Ikuo Takeshita
4617104	AXIAL-FLOW FAN UNIT	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
4617338	ARMATURE FOR LINEAR MOTOR	Satoshi Sugita, Kouji Misawa, Hideyuki Ishii, Shinji Suzuki, Satoru Onodera
4617368	BATTERYLESS ABSOLUTE ENCODER	Kazuhiro Makiuchi, Tomohito Yamazaki, Touro Miyajima, Sigeharu Katou, Toshiaki Ayusawa
4647145	CYLINDER-TYPE LINEAR SYNCHRONOUS MOTOR	Kazuhiro Makiuchi, YuQi Tang, Hideyuki Ishii, Shinji Suzuki, Satoru Onodera
4647575	COMPONENT COOLING APPARATUS	Masatsugu Miyazawa, Toshiki Ogawara, Tomoaki Ikeda
4664196	AXIAL-FLOW FAN	Katsumichi Ishihara, Honami Osawa, Masashi Miyazawa, Tomoaki Ikeda
4664387	RADIATOR	Masashi Miyazawa, Kouji Ueno, Masayuki Iijima
4664388	VEHICLE HAVING POWER GENERATOR	Shinya Otsuki

Registration Number	Name	Inventor(s)
<b>U.S. Patent 7642681</b>	ROTARY ELECTRIC MACHINE EQUIPPED WITH ONE OR MORE MAGNETIC SENSORS	Kazuhiro Makiuchi, Akira Shimizu, Sakae Kishi
<b>U.S. Patent 7696654</b>	LINEAR MOTOR NOT REQUIRING YOKE	Satoshi Sugita, YuQi Tang
<b>U.S. Patent 7696660</b>	STATOR FOR ROTARY ELECTRIC MACHINE	Akira Koike, Ikuo Takeshita
<b>U.S. Patent 7701093</b>	LINEAR MOTOR	YuQi Tang, Satoshi Sugita
<b>U.S. Patent 7702722</b>	COMBINED EQUIPMENT SELECTION SYSTEM USING NETWORK	Masatoshi Kanayama, Akira Katou, Noboru Ishizeki
<b>U.S. Patent 7742302</b>	AXIAL-FLOW FAN UNIT AND HEAT-EMITTING ELEMENT COOLING APPARATUS	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
<b>U.S. Patent 7759822</b>	UNINTERRUPTIBLE POWER SUPPLY DEVICE WITH CIRCUIT FOR DEGRADATION JUDGMENT OF STORAGE BATTERY	Yoshiaki Okui
<b>U.S. Patent 7762767</b>	AXIAL-FLOW FAN	Masashi Miyazawa, Toshiki Ogawara, Tomoaki Ikeda
<b>U.S. Patent 7800336</b>	CONTROL SYSTEM FOR SYNCHRONOUS ELECTRIC MOTOR	Yuuji Ide
<b>U.S. Patent 7828519</b>	AXIAL FLOW FAN	Katsumichi Ishihara, Honami Osawa
<b>U.S. Patent 7839030</b>	LINEAR MOTOR	YuQi Tang, Satoshi Sugita
<b>EP Patent 1511163</b>	MOVABLE ASSEMBLY FOR CYLINDER-TYPE LINEAR MOTOR	YuQi Tang, Satoshi Sugita
<b>EP Patent 1672771</b>	ROTOR FOR HYBRID TYPE STEPPING MOTOR AND MANUFACTURING METHOD THEREOF	Akira Koike, Ikuo Takeshita
<b>EP Patent 1764906</b>	CONTROLLER APPARATUS FOR SYNCHRONOUS MOTOR AND CONTROLLING METHOD THEREOF	Yoshinori Kimura, Nobuo Arakawa
<b>South Korea Patent 966536</b>	COMBINED EQUIPMENT SELECTION SYSTEM USING NETWORK	Masatoshi Kanayama, Akira Katou, Noboru Ishizeki
<b>Taiwan Patent I331836</b>	MOVABLE ASSEMBLY FOR CYLINDER-TYPE LINEAR MOTOR	YuQi Tang, Satoshi Sugita
<b>Philippine Patent 1-2004-000264</b>	AXIAL-FLOW FAN UNIT AND HEAT-EMITTING ELEMENT COOLING APPARATUS	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
<b>Philippine Patent 1-2005-000236</b>	HEAT-EMITTING ELEMENT COOLING APPARATUS	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
<b>China Patent ZL200410071428.1</b>	AXIAL-FLOW FAN UNIT AND HEAT-EMITTING ELEMENT COOLING APPARATUS	Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama
<b>China Patent ZL200610125609.7</b>	ROTARY ELECTRIC MACHINE EQUIPPED WITH MAGNETIC SENSOR	Kazuhiro Makiuchi, Akira Shimizu, Sakae Kishi
<b>China Patent ZL200610149544.X</b>	COUNTER-ROTATING AXIAL-FLOW FAN	Katsumichi Ishihara, Honami Osawa
<b>China Patent ZL200610154012.5</b>	PERMANENT MAGNET ROTARY MOTOR	Toshihito Miyashita
<b>China Patent ZL200610163721.X</b>	METHOD OF ESTIMATING LOAD INERTIA FOR MOTOR	Yuuji Ide
<b>China Patent ZL200710096199.2</b>	AXIAL-FLOW FAN	Toshiyuki Nakamura
<b>China Patent ZL200710180</b>	MOTOR CONTROL SYSTEM	Yuuji Ide, Michio Kitahara