

Main Patents

■ Patents registered in 2005

| Registration Number | Name | Inventor(s) |
|-------------------------|---|--|
| 3660475 | Rotary joint equipment | Nobuji Suzuki, Kazuhito Yamaura, Shared with Brother Industries, Ltd. |
| 3662245 | Electrical parts cooling device | Nobumasa Kodama, Toshiki Ogawara |
| 3665732 | Method for detection of absolute position | Akihide Takayanagi, Hideyuki Ishii, Satoru Onodera, Sakae Kishi |
| 3665733 | Method and equipment for resolver phase error compensation | Hideyuki Ishii, Shigeharu Kato, Sakae Kishi |
| 3665737 | nX reluctance resolver | Akihide Takayanagi, Hideyuki Ishii, Satoru Onodera, Sakae Kishi |
| 3672883 | Control device for synchronous motor | Yuuji Ide |
| 3672919 | Permanent magnet rotor motor | Toshihito Miyashita, Shintaro Koichi |
| 3685932 | Electric actuator with motion interrupt | Mitsuru Kurahashi, Nobuji Suzuki, Michio Kitahara, Satoru Onodera, Manabu Matsushita |
| 3685944 | Method for high resolution encoding and high resolution encoder | Hideyuki Ishii, Shoji Ito, Shigeharu Kato, Tomoharu Sekine, Takahisa Sakuma |
| 3686005 | Cooling apparatus with heat sink | Toshiki Ogawara, Haruhisa Maruyama, Michinori Watanabe, Shared with SASA Laboratory |
| 3686079 | Method and device for fan selection | Akira Kato, Shared with Office JI |
| 3694171 | Fan Motor | Kazuyuki Kitazawa, Yutaka Takeuchi |
| 3694224 | Centrifugal with waterproof construction | Yoshihiko Kudo, Kesatsugu Watanabe |
| 3698977 | Equipment for diagnosing irregularities with a servo controller | Yasuhiro Hisama, Susumu Ishikura, Shunichi Miyazaki |
| 3704462 | Absolute position detection device using a reluctance resolver | Akihide Takayanagi, Hideyuki Ishii, Sakae Kishi |
| 3708855 | Permanent synchronized internal magnetic motor | Toshihito Miyashita, Satoru Onodera, Manabu Matsushita |
| 3717318 | Anti-vibration fasteners | Kazuyuki Kitazawa, Shoji Suzuki, Ikuo Takeshita |
| 3717338 | Anti-vibration fasteners and fixed construction for rotating electrical machine | Ikuo Takeshita, Shoji Suzuki |
| 3717436 | Cylindrical linear synchronized motor | Yu Qi Tang, Kazuhiro Makiuchi, Satoshi Sugita, Hideyuki Ishii, Nobuji Suzuki, Satoru Onodera |
| 3717446 | Linear motor and linear motor armature | Satoshi Sugita, Yasushi Misawa |
| 3722712 | Stator for rotation electrical machine | Yutaka Yamazaki, Masahiro Koyama, Hideyuki Ishii, Shintaro Koichi, Shoji Suzuki |
| 3722822 | Permanent magnet rotation motor | Toshihito Miyashita, Satoru Onodera |
| 3724993 | Stator for rotation electrical machine | Kazuyuki Kitazawa, Kazuhiko Takizawa, Shoji Suzuki |
| 3725015 | Uninterruptible power supply device | Yoshiaki Okui |
| 3728405 | Control device for synchronized motor | Yuuji Ide, Toshihito Miyashita |
| 3730461 | Waterproof brushless fan motor | Kesatsugu Watanabe, Osamu Kawakami, Nobuyuki Aoki |
| 3730475 | Finger guard for use with fan | Hiromitsu Kuribayashi, Tomoaki Ikeda, Yoshikazu Oya |
| 3741678 | Brushless fan motor | Kesaji Watanabe, Honami Osawa, Hisashi Takizawa, Osamu Kawakami |
| 3751162 | Rotating speed control device for motor | Kikuo Miyahara |
| 3751311 | Inductor-type resolver | Sakae Kishi, Kazuhiro Makiuchi |
| 3754063 | Multiwinding motor | Toshihito Miyashita, Shintaro Koichi, Kazuyoshi Murata, Masanori Sakai |
| U.S.Patent 6,891,413 | PERIODIC SIGNAL CONTROLLER | Yoshiaki Okui |
| U.S.Patent 6,927,979 | HEAT-EMITTING ELEMENT COOLING APPARATUS | Michinori Watanabe, Toshiki Ogawara, Haruhisa Maruyama, Masayuki Iijima |
| U.S.Patent 6,944,929 | METHOD OF JOINING RUBBER MAGNET TO YOKE | Noriaki Ogawa, Masato Akachi, Akihiko Okubo, Hisashi Ueno, Takashi Miyamoto |
| U.S.Patent 6,949,846B2 | Linear Motor With Reduced Cogging Force | Satoshi Sugita, Yasushi Misawa |
| U.S.Patent 6,969,Patent | ROTATIONAL POSITION DETECTING SENSOR-EQUIPPED MOTOR AND BIAXIAL MOTOR | Nobuji Suzuki, Hideyuki Ishii, Hidetoshi Hayashi, Sakae Kishi |

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|-----------------------------------|------------------------------------|--|
| China Patent ZL01111796.6 | Finger guard for use with fan | Hiromitsu Kuibayashi, Tomoaki Ikeda, Yoshikazu Oya |
| China Patent ZL01111795.8 | Filter unit for use with fan | Hiromitsu Kuibayashi, Tomoaki Ikeda, Yoshikazu Oya |
| Philippine Patent 1-2001-02354 | DRIVE UNIT FOR BRUSHLESS FAN MOTOR | Murata Masato, Yoshihiko Kudo |
| Taiwanese Patent I232626 | Waterproof brushless fan motor | Yoshihiko Kudo, Kakuhiko Hata |

Internal Recognition: Invention Grand Prize (Excellence Award) May 2005 Recommendations

| Prize | Title of Paper | Division | Name |
|---------------------|-------------------------------------|--|--|
| Excellence Award | Uninterruptible power supply device | Power Systems Division, 1st Design Dept. | Yoshiaki Okui |
| | Permanent magnet rotor motor | Servo Systems Division, 1st Design Dept. | Toshihito Miyashita, Satoru Onodera |

Technical Papers Published Outside the Company (April 2005 to March 2006)

| Title of Paper | Authors | Name of Journal/Symposium | Issued | Publisher |
|--|-----------------|--|--------|---------------------------------|
| Trends in AC servo motor development | Hideji Watanabe | "Mechanical Design" Vol. 49 No. 6 | 05.4. | Nikkan Kogyo Shinbun |
| Information Equipment Elemental Technology and Fan Motors | Hideji Watanabe | " '05 Motor Technology Symposium " | 05.4. | Japan Management Association |
| The Backup Power Supply Market and Sanyo Denki's UPS Introduction to the "SANUPS E" Hybrid UPS | Yoshiaki Okui | Clean Technology | 06.1. | Japan Industrial Publishing |
| A Parallel Processing Uninterruptible Power Supply Suitable for Use in the Clean Room | Yoshiaki Okui | Book Form "Protection Against Power Loss and Voltage Drop in the Clean Room" | 06.3. | Japan Industrial Publishing |

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