



New connection on: : 18-06-2018 : 06:13:13 - Last disconnection on: : 17-06-2018 : 14:28:12

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

Welcome to EPOQUE Rebuild under the Production Environment

[No database/cluster active] ..li

No database has been activated within this session yet.

- Use the command ..FI (CL) in order to activate a database (cluster). *ERROR(-101007)*

[No database/cluster active] ..fi

Select a database: ..FI EPODOC

 Database: EPODOC

[EPODOC: SS 1] motor and rotor and stator and disk and magnet+ and coil

Results in EPODOC **518**

[SS 2] 1 and sensor

Results in EPODOC **23**

[SS 3] ..v

[EPODOC: SS 3] ..li



1/23 © EPODOC / EPO

PN - [CN206411271U](#) U 20170815

PR - CN2017258324U 20170117

AP - CN2017258324U 20170117

DT - I

PA - XI'AN JIAOTONG UNIV

TI - Line scanning laser radar based on **disk rotor motor**

AB - Line scanning laser radar based on **disk rotor motor**, this laser radar includes electric **motor rotor**, **motor stator**, bearing, the angle measurement **sensor** who is connected with electric **motor rotor**, system processors with angle measurement **sensor** is connected with the laser instrument that system processors is connected, is fixed in the collimating lens on the laser instrument emission

optical path, and the reflect meter that is fixed in laser instrument emission optical path and links firmly with electric **motor rotor** is fixed in the focusing lens on the reflect meter reflected light path, is fixed in focusing lens system processors 0 system processors 1 on the road, the system processors 3 that is connected with system processors 1, laser ranging module is connected with system processors, still include the permanent **magnet** that links firmly with electric **motor rotor**, the **coil** of winding on **motor stator**, **motor stator** and electric **motor rotor** all are annular hollow discs, and the lasing all can therefrom be passed with receipt laser, the utility model discloses can realize the automatic obstacle avoiding ability of unmanned equipment.

2/23 © EPODOC / EPO

- PN - [CN206041761U](#) U 20170322
- PR - CN20162985680U 20160829
- AP - CN20162985680U 20160829
- DT - I
- PA - SUI HUAXING
- TI - **Disk** does not have iron core direct current **motor** driven steamboat footpath solid tyre integral type **motor**
- AB - The utility model discloses a **disk** does not have iron core direct current **motor** driven steamboat footpath solid tyre integral type **motor**, epaxial cover in proper order has first bearing, **stator disk** and second bearing in, including the axis, on first bearing and the second bearing respectively the cover have the first **rotor** dish and the second **rotor** dish, the first **rotor** dish is connected through wheel hub with the the second **rotor** dish, the last solid tyre that installs of wheel hub, the permanent **magnet** is installed to inboard that the first **rotor** dish and the second **rotor** coiled, **stator disk** is last to be equipped with the pear -shaped hole who is used for installing the **coil** of the annular distribution of a plurality of, the **coil** passes through stop device to be fixed in pear -shaped hole, still include three hall **sensor**, an annular circuit board and be used for electric power and signal transmission's cable harness. The utility model has the advantages of simple structure, reliable, small, the light in weight of operation, efficient, speed adjusting performance good outward, still owing to adopted no iron core structure, the very little and anhysteretic resistance of no -load current.

3/23 © EPODOC / EPO

PN - [GB2541360](#) A 20170222

PR - GB20150011226 20150625

AP - GB20150011226 20150625

DT - **

CT - || STSE (A)
[WO2016135725](#) A2
 20160901 [] (GAVRIELOV SHMUEL[IL]);
[US5798591](#) A 19980825 [] (LILLINGTON PAULEVAN [AU], et al)

CCI - [H02K21/12](#) ; [H02K29/08](#) ;
[H02K1/27](#) ; [H02K3/28](#) ;
[H02K3/47](#)

CNOI - [H02K21/185](#) ; [H02K29/08](#) ;
[H02K1/141](#) ; [H02K1/278](#) ;
[H02K3/28](#)

PA - VASTECH HOLDINGS LTD [GB]

TI - Electric **motor**

AB - An electric **motor** has a **rotor** comprising a plurality of permanent **magnets** 23 that are equi-angularly spaced and equi-radially disposed on a **disk** 22; and a **stator** comprising plural solenoids 31 that are equi-angularly spaced and equi-radially disposed. Each solenoid has a solenoid core 33 having a rectangular shape in cross-section, a cavity (fig 2b, 34) and a **disk** slot (fig 2b, 35); and a **coil** 37. The **rotor disk** is positioned within the solenoid slots, and the permanent **magnets** pass through the solenoid core cavities as the **rotor** rotates. The solenoid **coil** can be a one turn **coil** formed of a single conductor (fig 4b, 37) through which a DC current is alternately reversed depending on a signal received from a Hall **sensor**. **Rotor magnets** 23 can be disposed on a **rotor** base, arranged in a closed ring with a ferromagnetic rod (fig 3, 25) between them and arranged

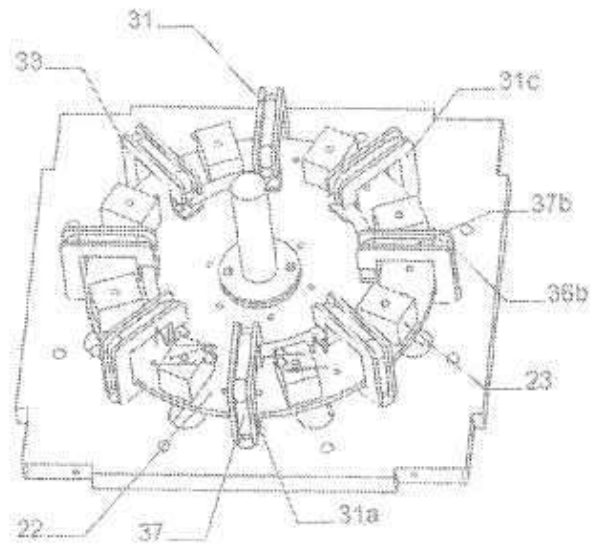


Fig. 4a

with identical poles facing
each other, north to north and
south to south.

4/23 © EPODOC / EPO

- PN - [CN104811105](#) A 20150729
- PNFP - CN104811105B B 20171031
- PR - CN20151234718 20150508
- AP - CN20151234718 20150508
- DT - I
- CT - || STSE (A)
[CN101041918](#) A 20070926 [A] (LGL ELECTRONICS SPA [IT])
[A] 1-5
* 全文 *;
[US2008272765](#) A1 20081106 [A] (SONG CHI-YOUNG [KR], et al)
[A] 1-5
* 全文 *;
[CN201873847U](#) U 20110622 [Y] (NANTONG TEXTILE VOCATIONAL TECHNOLOGY COLLEGE)
[Y] 1-2
* 说明书第5段, 第18-19段, 图1-2 *;
[CN201918945U](#) U 20110803 [A] (SHENZHEN BOJUXING IND DEV CO LTD)
[A] 1-5
* 全文 *;
[CN102820840](#) A 20121212 [A] (BEIJING INST TECHNOLOGY)
[A] 1-5
* 全文 *;
[CN103107750](#) A 20130515 [A] (SHENYANG HONGDA INF TECH CO)
[A] 1-5
* 全文 *;
[CN103475282](#) A 20131225 [Y] (ZHONGSHAN BROAD OCEAN MOTOR CO)
[Y] 1-2
* 说明书第34段, 图1 *;
[JP2014207779](#) A 20141030 [A] (MURATA MACHINERY LTD)
[A] 1-5
* 全文 *;
[CN204539018U](#) U 20150805 [R] (JIANGSU COLLEGE ENG & TECHNOLOGY)
[R] 1-2
* 权利要求1-2 *
- CNOI - (A)
[H02K29/08](#) ; [H02K29/14](#) ; [H02P6/08](#)
- PA - (A)
JIANGSU COLLEGE ENG & TECHNOLOGY
- TI - (A)
Single-Hall three-phase brushless direct current **motor** used for high speed industrial sewing machine and control method thereof
- AB - (A)
The invention provides a single-Hall three-phase brushless direct current **motor** used for a high speed industrial sewing machine. The single-Hall three-phase brushless direct current **motor** comprises a permanent **magnet rotor**, a **stator** arranged at the periphery of the permanent **magnet rotor**, a **coil** arranged at

the **stator**, an electronic phase converter used for controlling a **coil** access, a Hall **sensor** arranged at the **stator**, a photoelectric coded **disk** and a controller arranged at the permanent **magnet rotor**, wherein the controller is electrically connected with the photoelectric coded **disk**, the Hall **sensor** and the electronic phase converter. The single-Hall three-phase brushless direct current **motor** used for the high speed industrial sewing machine and a control method thereof provided by the invention not only overcomes the method that the control on the operation of the sewing machine and the detection on the **motor** rotation speed are separated in a system that the existing brushless direct current **motor** is used as a servo **motor**, but also overcomes the traditional servo control device combination of three Hall sensors and one photoelectric encoder, therefore, the structure is simplified and the device cost is reduced.

5/23 © EPODOC / EPO

- PN - [CN103595215](#) A 20140219
- PR - CN20131588805 20131120
- AP - CN20131588805 20131120
- DT - I
- CT - || STSE (A)
[CN1304575](#) A 20010718 [Y] (HOEGANAES AB [SE])
 [Y] 2-4
 说明书第1页第3行-第4页第3行,图1-8
[CN203589994U](#) U 20140507 [R] (UNIV HUAZHONG SCIENCE TECH)
 [R] 1-4
 权利要求1-4
[CN103346638](#) A 20131009 [Y] (INST ELECTRICAL ENG CAS)
 [Y] 1-4
 说明书第15-30段,图1-4
[US4952830](#) A 19900828 [Y] (SHIRAKAWA HIROYUKI [JP])
 [Y] 1-4
 说明书第1栏第5行-第5栏第36行,图1-6
[CN2556843Y](#) Y 20030618 [A] (ANNAIDA DRIVE TECH CO LTD SHAN [CN])
 [A] 1-4
 全文
[JP2009022146](#) A 20090129 [A] (SUMITOMO ELECTRIC INDUSTRIES)
 [A] 1-4
 全文
- PA - UNIV HUAZHONG SCIENCE TECH
- TI - Axial **magnetic** field permanent **magnet** brushless direct current **motor**
- AB - The invention discloses an axial **magnetic** field permanent **magnet** brushless direct current **motor**. The brushless direct current **motor** comprises a rotary shaft, a bearing, a front end cover, a rear end cover, an enclosure, a **rotor disk**, a permanent **magnet**, a **stator**, a fixed ring, a **sensor magnet** ring and a control circuit board, wherein an iron core of the **stator** is formed by silicon steel sheets and soft **magnetic** composite materials in a combined mode. The axial **magnetic** field permanent **magnet** brushless direct current **motor** not only can play the advantage of saving materials of an armature **motor** with an iron core, but also can have the advantages of being simple in iron core machining technology and winding process and high in **coil** space factor.

6/23 © EPODOC / EPO

PN - [KR20120136069](#) A 20121218
 PNFP - KR101291079B B1 20130801
 PR - KR20110055061 20110608
 AP - KR20110055061 20110608
 DT - I
 PA - (A)
 HYUN DAI HEAVY IND CO LTD [KR]
 TI - (A)
 STRUCTURE AND CONTROL OF MULTI-PHASE DISC TYPE **MOTOR** FOR SF6 GAS CIRCUIT-BREAKER
 - (B1)
 Structure and control of multi-phase disc type **motor** for SF6 gas circuit-breaker
 AB - (A)
 PURPOSE: A multiphase **disk motor** for an SF6 gas blast circuit breaker and a **motor** control method thereof are provided to wind a **coil** of a multiphase on a **stator** and a **rotor** by forming the **stator** and the **rotor** into a **disk** shape. CONSTITUTION: A **disk motor**(10) includes a housing(11), a **rotor**(13), a **stator**(14), a **sensor**(15), and a cable (16). The housing includes an axis(12) embedded around the center. The axis is connected with a breaker side. The **rotor** is installed on an outer surface of the axis. The **stator** includes plural permanent **magnets** formed in a radial form from the center of circumference. The **sensor** senses the revolution of the axis. The cable is in contact with a contact point unit of the **rotor**. [Reference numerals] (20) Control unit

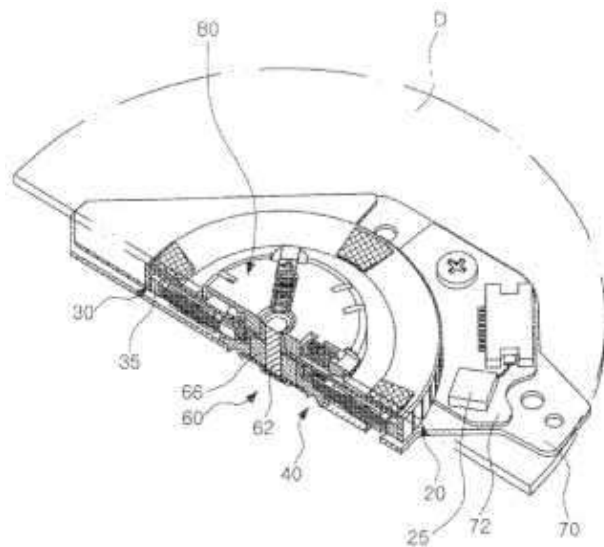
7/23 © EPODOC / EPO

PN - [KR20110060119](#) A 20110608
 PNFP - KR101101429B B1 20120102
 PR - KR20090116615 20091130
 AP - KR20090116615 20091130
 DT - I
 CCI - [G11B7/0037](#) ; [G11B17/0282](#) ;
[G11B19/2009](#) ; [G11B19/28](#) ;
[H02K29/14](#)

PA - (A)
 SAMSUNG ELECTRO MECH [KR]

TI - (A)
MOTOR
 - (B1)
Motor

AB - (A)
 PURPOSE: A **motor** is provided to reduce a manufacturing cost and to make **disk** labelling possible by using a **magnetic sensor**, installed at a circumferential face of a **magnet** coupling part of a **rotor** case, which can recognize an analog signal. CONSTITUTION:



A **rotor** case(32) forms a driving **magnet**, which offers a driving force via interaction with a **stator coil**, at an inner circumferential side. A slow speed control **magnet**(20) is formed in an outer circumference of the **rotor** case. The low speed control **magnet** generates a frequency for low speed rotation which makes it possible to print a label. The slow speed control **magnet** has the number of contacted **magnetic** poles more than a driving **magnet** (35). A sensing part senses an analog signal generated from the slow speed control **magnet**.

8/23 © EPODOC / EPO

PN - [CN201682395U](#) U 20101222
 PR - CN20102209955U 20100526
 AP - CN20102209955U 20100526
 DT - I
 PA - TAIYUAN INST CHINA COAL RES INST; SHANXI COAL MINING MACHINERY CO LTD OF CHINA COAL RES INST
 TI - Flameproof permanent **magnet** DC brushless **motor** with controller
 AB - The utility model relates to a flameproof permanent **magnet** direct current (DC) brushless **motor** with a controller, mainly comprising a **motor**, a **stator**, a **rotor**, a controller, a junction box, a heavy current binding post, a light current patch board, a protective guard, a fan, a **motor** shaft, a sealing bearing, a **stator coil**, a **stator** silicon steel sheet, a **rotor** neodymium-iron-boron **magnet** strip, a position **sensor**, a **magnetic disk** and a cable. Inside the **motor**, a connection structure of the **stator coil**, the silicon steel sheet, the **rotor** neodymium-iron-boron **magnet** strip, the position **sensor**, the **magnetic disk** and the fan is adopted; the bearing adopts the sealing bearing, the controller conducts control by virtue of a microcomputer program, and heavy current and light current are combined; the **motor** and the controller are advanced in design; and with the advantages of compact structure, safety, stability, reliability, high efficiency, energy saving, large overload torque, dust resistance, water resistance, brushless property and infinite variable speed, the flameproof permanent **magnet** DC brushless **motor** with a brake is extremely ideal.

9/23 © EPODOC / EPO

PN - [CN201167268Y](#) Y 20081217
 PR - CN2008282033U 20080108
 AP - CN2008282033U 20080108
 DT - I

PA - JINDONG LI [CN]
 TI - Permanent-**magnet** DC **motor**
 AB - The utility model relates to a permanent **magnet** direct current **motor**, which comprises a **stator** and a **rotor** arranged in the **motor** casing, a winding **coil** arranged on the **stator** iron core, a **magnetic** core formed by laminating **disk**-shaped steel sheets and arranged on the **rotor** rotating shaft, a **rotor magnetic** shoe fixed on the periphery of the **magnetic** core, and a position **sensor** element arranged on the **motor** and provided with **sensor magnetic** steel and a Hall element. The **sensor magnetic** steel is arranged in a **magnetic** steel seat, the **magnetic** steel seat is fixed on the **motor** rotating shaft extending out of the end cover, and the **sensor magnetic** steel and the Hall element are arranged in the cavity formed by the end cover and a dust cap. Because **magnetic** steel seat is fixed on the **motor** rotating shaft extending out of the end cover, the external interference is low, and thereby the electronic reversing signal of the **motor** can not be interfered by the machining precision of the **rotor** and the armature current. The position **sensor** element is only influenced by the external environmental temperature; therefore, the operation of the **motor** can be more stable.

10/23 © EPODOC / EPO

PN - [CN101256914](#) A 20080903
 PR - CN2008110540 20080305
 AP - CN2008110540 20080305
 DT - I
 PA - UNIVSHENYANGTECHNOLOGY[CN]
 TI - High-voltage circuit-breaker rotating servo **motor** operating mechanism
 AB - The high-voltage circuit-breaker rotating servo **motor** operating mechanism belongs to transmission and distribution equipment technology field, which includes a rotary electric machine, a servo- controller and a transmission mechanism, the electrical machine main shaft of the rotary electric machine connects the movable contact of the high-voltage circuit-breaker by the transmission mechanism, the rotary electric machine connects with the servo- controller by the armature winding and the position and the speed-sensing device. The rotary electric machine includes a **stator** core, a **rotor** core, an armature winding, a permanent **magnet**, a shell, a position **sensor** and a speed-sensing device and a braking retaining device. The **magnetic** field produced by the **coil** makes armature sucking the **magnet** yoke, the armature is divorced from the brake **disk**, when the **coil** break circuit, **magnetic** flux is disappear and the armature is released, the friction plate is pressed on the brake **disk**, thereby the maintaining position of the on-off brake is implemented. The present invention possesses the beneficial effects of reducing the mechanical drive chain, simple and reliable structure. The use of the servo control can cancel the conventional buffering mechanism, which is provided by the backward force of the electrical machine, and can return the remanent energy to the energy storage unit.

11/23 © EPODOC / EPO

PN - [US4704566](#) A 19871103

PR - US19860876185 19860619

AP - US19860876185 19860619

DT - *

CT - [US3988024](#) A []; [US4103191](#) A [];
[US4256997](#) A []; [US4496887](#) A [];
[US4499407](#) A [
]; [JPS53140520](#) A [];
[JPS54153211](#) A [
]; [JPS58207853](#) A [];
[JPS60141156](#) A []

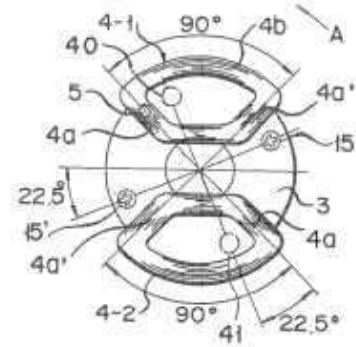
CCI - [H02K29/08](#)

PA - SHICOH ENG CO LTD [JP]

TI - Self-starting **disk-type** brushless **motor** with screw projection for generating cogging

AB - A **disk-type** brushless **motor** comprises a 2p-pole **magnet rotor** (p represents an integer of 2 or more) having alternating N and S poles and a single position **sensor** element. A **stator** armature having an armature **coil** is formed on two conductors which contribute to the generation of torques and extend with an opening angle substantially equal to the width of each **magnetic pole** of the **magnet rotor**. A projection such as a screw for generating cogging to enable the self-start of the **magnet rotor** is disposed at a place somewhere short substantially by a width $Pw4+nxPw$ wherein Pw is a width per pole of the **magnet rotor**, and n is a positive integer of 1 or more, from the conductor which contributes to the generation of torques toward the rotational direction of the **magnet rotor**.

$Pw4+nxPw$

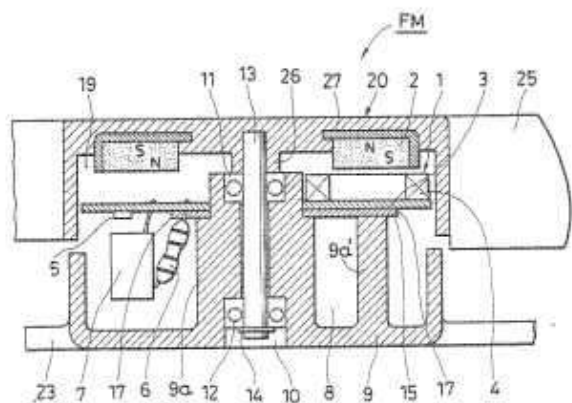


PR - JP19960174273 19960613
AP - US19970861066 19970521
DT - *
CT - [US5109193](#) A []; [US5705871](#) A []
CCI - [H02K21/24](#) ; [H02K29/14](#)
PA - MINEBEA CO LTD [JP]
TI - Pulse generator
AB - An index signal is used for assuring media for use in a floppy **disk** drive to be exchangeable with each other. While the signal is output once for each rotation of a spindle **motor**, since the signal generation is carried out in a non-contact manner with rotating members including the medium, a hole **sensor** or the like has been previously used. However, such a hole **sensor** is expensive and fragile under temperature and mechanical stress. A pulse generator has been proposed, in which the **rotor magnet** is provided with **magnets** having unequally allocated angles and disposed all along a circumference and a **stator coil** and is disposed so as to match with the **rotor magnet** to have a pulse generated once for each rotation. However, the generated signal has, been poor in its S/N characteristic. It is an object of the invention to overcome the difficulties and provide a pulse generator that is highly reliable and excellent in the S/N characteristic with the manner of allocation of angles for the **rotor magnet** improved. A **rotor** assembly having a permanent **magnet** with a plurality, i.e., M pieces, of **magnetic** poles of opposite polarities to each other alternately disposed in a circumferential direction and a **stator** assembly having a plurality of **stator** coils disposed in confronting and coaxial relationship with **rotor** assembly, at least one set of the **magnetic** poles are set to have equally allocated angles from the center of the shaft. The remaining **magnetic** poles are set to have unequally allocated angles. The **stator** coils electromagnetically match the **rotor** assembly only once for each rotation thereof and a very large pulse is generated. In addition, a waveform with a satisfactory S/N characteristic can be obtained.

13/23 © EPODOC / EPO

PN - [US4620139](#) A 19861028
PR - US19850757172 19850722
AP - US19850757172 19850722
DT - *
CT - [US4164690](#) A []; [US4256997](#) A [];
[US4496887](#) A []; [US4499407](#) A [];
[US4504751](#) A [
]; [JPS55166473](#) A [];
[JPS58123360](#) A []

CCI - [H02K29/08](#)
PA - SHICOH GIKEN KK [JP]
TI - Brushless d.c. **motor**
AB - A brushless d.c. **motor** is equipped with a **stator** armature, which is composed of a **stator** yoke and at least one armature **coil** arranged on



the **stator** yoke, and a $2p$ (p : a positive integer of 1 or more)-pole **magnetic rotor** facing the **stator** armature, rotatable relative to the **stator** armature and having alternating N and S poles. The **motor** can self-start by utilizing a cogging torque produced upon feeding a direct current to a position **sensor**. The **stator** yoke defines at such a point as permitting self-starting of the **magnet rotor** a cut-off portion of such a shape that ensures the self-starting of the **magnet rotor** and provides an ideal composite torque curve. The brushless d. c. **motor** enjoys easy assembly work, low manufacturing cost, compact size, good performance, good mass productivity, etc. It is suited particularly as a **disk-type brushless motor** or **disk-type burshless fan motor**.

14/23 © EPODOC / EPO

PN - [JP2003274625](#) A 20030926

PNFP - JP3740083B B2 20060125

PR - JP20020076118 20020319

AP - JP20020076118 20020319

DT - I

FI - F04D19/04&A; F04D19/04&G; F04D19/04&H; F04D29/00&B; F04D29/04&M; F04D29/048; F04D29/056&Z; H02K21/14&M; H02K29/08; H02K7/09; H02K7/14&B

FT - 3H022/AA01; 3H022/BA03; 3H022/BA06; 3H022/CA15; 3H022/CA16; 3H022/CA50; 3H022/CA56; 3H022/DA11; 3H031/DA01; 3H031/DA02; 3H031/DA07; 3H031/EA12; 3H031/EA13; 3H031/EA15; 3H031/FA13; 3H031/FA16; 3H031/FA40; 3H130/AA13; 3H130/AA25; 3H130/AB28; 3H130/AB52; 3H130/AC30; 3H130/BA13A; 3H130/BA13G; 3H130/BA13H; 3H130/BA97A; 3H130/BA97G; 3H130/BA97H; 3H130/BA98A; 3H130/BA98G; 3H130/BA98H; 3H130/CA21; 3H130/DB01Z; 3H130/DB02X; 3H130/DD03X; 3H130/DF01X; 3H130/DF03X; 3H130/EB01A; 3H130/EB01D; 3H131/AA01; 3H131/AA02; 3H131/AA07; 3H131/BA12; 3H131/BA13; 3H131/BA15; 3H131/CA13; 3H131/CA16; 3H131/CA40; 5H019/AA05; 5H019/BB03; 5H019/BB05; 5H019/BB08; 5H019/BB22; 5H019/CC03; 5H019/CC10; 5H019/EE14; 5H019/FF03; 5H607/AA12; 5H607/BB01; 5H607/BB09; 5H607/BB14; 5H607/BB25; 5H607/CC01; 5H607/DD09; 5H607/DD19; 5H607/FF06; 5H607/GG03; 5H607/GG17; 5H607/HH01; 5H607/HH03; 5H607/HH09; 5H621/GA01; 5H621/HH09; 5H621/JK02; 5H621/JK05; 5H621/JK08; 5H621/JK10; 5H621/JK15; 5H621/JK18; 5H621/JK19

PA - (A)
MITSUBISHI HEAVY IND LTD

TI - (A)
DCBRUSHLESS **MOTOR** AND TURBO-MOLECULAR PUMP

AB - (A)
PROBLEM TO BE SOLVED: To provide a turbo-molecular pump with a built-in DC brushless **motor** wherein length of a **rotor** can be reduced and miniaturization and reduction of vibration are enabled.
- SOLUTION: In the turbo-molecular pump P, a plurality of **stator** wings 3 and a **rotor** wing 5 which is collectively formed integrally with a **rotor** 4 are arranged in a casing 1, the **rotor** wing 5 is rotated at a high speed by using the DC brushless **motor** 11 wherein a **stator coil** 11a is arranged so as to surround an outer periphery of a **rotor** shaft 4a, and vacuum-discharge is performed. A **rotor magnetic** pole phase detecting part 20 constituted of a **sensor** and a target is arranged on a part of a thrust **disk** 6 in an end portion of the **rotor** shaft 4a, an exciting current is supplied to the **stator coil** 11a on the basis of a signal from the **sensor**, and the **rotor** 4 is rotated and driven.
- COPYRIGHT: (C)2003,JPO

15/23 © EPODOC / EPO

PN - [JPS63133352](#) A 19880606

PR - JP19860280321 19861125

AP - JP19860280321 19861125

DT - I

FI - G11B19/20&D; H02K29/00; H02K29/00&Z

FT - 5D109/BA03; 5D109/BA15; 5D109/BA38; 5H019/AA08; 5H019/AA10; 5H019/BB01; 5H019/BB05; 5H019/BB14; 5H019/BB19; 5H019/BB24; 5H019/CC03

PA - SEIKO EPSON CORP

TI - SPINDLE **MOTOR**

AB - PURPOSE: To improve an assemblage in feasibility by providing a **rotor magnet** of a spindle **motor** for rotating a **disk** at a prescribed speed on the inner circumferential side of a **stator** core to make the **motor** as of inner **rotor** type. CONSTITUTION: A **rotor magnet** 6 and index **magnet** 16 are fixed on the outer circumferential side of a **rotor** yoke 5, while a **rotor sensor** 20 for detecting rotating position of the **rotor magnet** 6 as a **magnetic** detecting element is fixed by soldering 21, etc., on the side of a **stator coil** 7 of a **motor** cover 14 composed of a **motor** substrate 18 and a backing plate 19. An index **sensor** 22 for detecting rotating position of an index **magnet** 16 as a **magnetic** detecting element is fixed by soldering 21, etc., through a hole section 23 on the opposite side of the **sensor** 20 and **motor** substrate 18. Since each fixing process for the **rotor magnet** 6 and index **magnet** 16 to the **rotor** yoke is performed all in the same process, an assemblage can therefore be for ease of automation, etc.

16/23 © EPODOC / EPO

PN - [JPH1198803](#) A 19990409

PR - JP19970253138 19970918

AP - JP19970253138 19970918

DT - I

FI - H02K11/00&C; H02K11/215; H02K11/22; H02K37/14&535Y; H02P8/00; H02P8/00&303C

FT - 5H580/AA03; 5H580/AA10; 5H580/BB10; 5H580/CA02; 5H580/CA12; 5H580/FA04; 5H580/HH08; 5H580/HH09; 5H611/BB10; 5H611/PP05; 5H611/QQ03; 5H611/RR02; 5H611/RR04; 5H611/TT01; 5H611/UA01; 5H611/UA07; 5H611/UB01

PA - MATSUSHITA ELECTRIC IND CO LTD

TI - STEPPING **MOTOR** WITH ENCODER

AB - PROBLEM TO BE SOLVED: To allow an encoder function to be added without increasing the number of parts by attaching a **sensor** on the encoder side to a printed wiring board to which terminal pins of a stepping **motor** are soldered and by processing the terminals of the **motor** and the terminals of an encoder on the same printed wiring board. SOLUTION: A **stator** is formed of a group of **stator** yokes that confront a **rotor magnet** through an air gap, together with four-phase coils wound around a **coil bobbin**. The **disk-like rotor magnet** is arranged on a rotary shaft 5 so as to form a **rotor**. Terminal pins 13 and 14 provided on the **coil bobbin** are soldered to a printed wiring board 16 passing through a terminal cover 15 for protecting the coils. A rotation signal **disk** 17 is fixed to the non-output side of the shaft 5. A **magnetic** position detecting **sensor** 18 such as a Hall element is bonded to the board 16. The terminals of a **motor** and the terminals of the **sensor** 18 are processed on the same board 16, and thus the common line of the **motor** and the power supply line of the **sensor** can be shared on a printed pattern.

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PN - [JPS6257120](#) A 19870312

PR - JP19850195802 19850906

AP - JP19850195802 19850906

DT - I

CT - [JPS55150125](#) A []

FI - G11B5/52&101; G11B5/52&101A

FT - 5D036/AA00; 5D036/AA02; 5D036/AA12; 5D036/AA14; 5D036/AA16; 5D036/AA17; 5D036/AA19; 5D036/BB02; 5D036/BB12; 5D036/CC04; 5D036/CC28; 5D036/CC30; 5D036/CC32; 5D036/CC51; 5D036/GG02

PA - HITACHI LTD

TI - CYLINDER **MOTOR**

AB - PURPOSE: To position a **magnetic** field detecting **sensor**, etc. with a high accuracy by structuring a **stator coil** as one body with a supporting structure body by means of mold forming, etc., and fixing it to the surface of the lower cylinder. CONSTITUTION: A cylinder **motor** consists of a structure which has connected directly a flat type three-phase DC brushless **motor** to the lower part of the lower cylinder, its **rotor magnet magnetic** pole is placed downward, and also its **stator** is placed in the lowest part so as to be opposed to said pole. Two pieces of bearings 2, 2' are provided on the upper and the lower parts of the center part of the lower cylinder 12 and support a revolving shaft 1. On the revolving shaft 1, a **disk** 17 is fixed to the upper part of the upper bearing 2, and the upper cylinder 13 is fixed onto said **disk**. In the lower side opposed to the **magnet** pole surface of a **rotor magnet** 5, a **motor stator** of an integral structure which has formed a **stator coil** 6, **magnetic** field detecting elements 8, 8' and 8'', and a wiring board 18 by a mold 7 is fixed to the lower cylinder 12. Therefore, the **stator coil** 6 and the **magnetic** field detecting elements 8, 8' and 8'' can be positioned with a high accuracy.

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PN - [JPS6070948](#) A 19850422

PR - JP19830177662 19830926

AP - JP19830177662 19830926

DT - I

CCI - [H02K29/06](#) ; [H02K3/04](#)

FI - H02K11/00&C; H02K11/215; H02K23/54; H02K7/14&A

FT - 5H607/AA04; 5H607/AA12; 5H607/BB01; 5H607/BB09; 5H607/BB13; 5H607/BB27; 5H607/CC01; 5H607/CC07; 5H607/DD01; 5H607/DD02; 5H607/DD08; 5H607/FF04; 5H607/HH01; 5H607/KK10; 5H611/AA01; 5H611/BB08; 5H611/QQ03; 5H611/RR02; 5H611/UA01; 5H623/AA02; 5H623/AA04; 5H623/BB03; 5H623/BB06; 5H623/GG12; 5H623/GG17; 5H623/GG23; 5H623/GG25; 5H623/HH01; 5H623/HH06; 5H623/HH09; 5H623/JJ00; 5H623/LL01; 5H623/LL14

PA - TAKAHASHI Y

TI - **DISK-TYPE BRUSHLESS FAN MOTOR WITH A POSITION SENSOR AND AN ARMATURE COIL IN ONE PHASE**

AB - **PURPOSE:**To enable to manufacture motors having good performance in a mass production by forming an armature **coil** in the prescribed shape and eliminating a dead point. **CONSTITUTION:**An armature **coil** 4' for forming a **stator** armature is formed in an hour-glass-shaped frame **coil** in a plane adapted for a 4-pole **magnet rotor**. The **coil** 4' is disposed on a printed board 10. Oblique conductors 4'a,...4'a''' in the **coil** 4' are a conductor which contributes to the generated torque, conductors 4'b, 4'b' of outer circumferential direction and conductors 4'b'', 4'b''' between conductors 4'a and 4'a which contribute to the generated torque and between conductors 4'b'' and 4'b''' are conductors which do not contribute to the generated torque.

19/23 © EPODOC / EPO

PN - [JPS6038760](#) A 19850228

PR - JP19830145528 19830809

AP - JP19830145528 19830809

DT - I

CCI - [G11B27/10](#)

FI - G11B19/20&Q; G11B27/10; G11B27/10&C

FT - 5D077/AA22; 5D077/DC19; 5D077/DF05

PA - FUJITSU LTD

TI - INDEX DETECTING CIRCUIT FOR **DISK** DEVICE

AB - **PURPOSE:**To produce an accurate index signal by using a means which detects a specific part of a **rotor** or a **stator** by a **magnetic sensor** and masks the output of the **sensor** for a fixed period of time before a DC **motor** is started and a current is switched. **CONSTITUTION:**A comparator 9 delivers a waveform 3' to a monostable multivibrator 10 by the signal detected by a Hall device 3. With this input signal, the monostable multivibrator 10 delivers a waveform 4' to an AND circuit 11. The circuit 11 calculates an AND between waveforms 2' and 4' and transfers a waveform 5' to a high rank device as an index signal. In this case, the waveform 5' is not delivered from the circuit 11 since no AND condition is obtained between the position of the noise contained in the waveform 2' and the waveform 4'. Then only the waveform part obtained when a projection 6 of a **rotor** 1 with which the AND conditions can be obtained is detected and delivered as the waveform 5'. In such a way, an index signal is not delivered erroneously even though the noise produced when the direction of the current flowing to a **coil** wound round a **stator** is switched. Thus it is possible to detect an index signal accurately.

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PN - [JPH01286762](#) A 19891117
PR - JP19880115354 19880512
AP - JP19880115354 19880512
DT - I
FI - H02K29/08
FT - 5H019/AA10; 5H019/BB01; 5H019/BB02; 5H019/BB06; 5H019/BB09; 5H019/BB11;
5H019/BB19; 5H019/CC02; 5H019/DD06; 5H019/EE07
PA - TOSHIBA CORP
TI - ROTATION POSITION DETECTOR FOR **MOTOR**
AB - PURPOSE:To regulate the output timing of a pulse signal from a waveform shaping circuit with a simple configuration by altering the time constant of a CR time constant circuit and regulating the timing of the signal from the shaper.
CONSTITUTION:An axial gap type brushless **motor** is composed of a **stator** 1 and a **rotor** 6. The **stator** 1 is composed of a board 2 used also as a **stator** yoke, a bearing housing 4, and an armature **coil** 5, and the **rotor** 6 is composed of a field **magnet** 9, a frequency generating **magnet** 10 and a **disk** mount 11. A **magnet** 12 secured to the outside of the outer peripheral wall of the yoke 9 and a detection **coil** 13 of a **magnetic sensor** so secured on the board 2 as to oppose to the **magnet** 12 are provided. One end of the **coil** 13 is connected to a ground line, and the other end is connected to a waveform shaping circuit 17 through a CR time constant circuit 16. Thus, when the position detection cannot be accurately conducted, the time constant of the circuit 16 is varied to differentiate the arriving timing to the shaping circuit 17.

21/23 © EPODOC / EPO

PN - [JPS62270053](#) A 19871124
PR - JP19860112669 19860519
AP - JP19860112669 19860519
DT - I
FI - G11B17/028;
G11B17/028&611;
G11B17/028&621;
G11B19/20&D
FT - 5D038/CA05; 5D109/BA02;
5D109/BA07; 5D109/BA12;
5D109/BA17; 5D109/BA37;
5D138/RA02; 5D138/RA09;
5D138/RA15; 5D138/SA28;
5D138/TA27
PA - FUJI PHOTO FILM CO LTD
TI - SPINDLE **MOTOR**
FOR **MAGNETICSHEET**
AB - PURPOSE:To miniaturize and lighten the **motor** by using a **rotor magnet** fitted to serve also as an attraction to a rotating shaft. CONSTITUTION:
A rotating shaft 43 is freely



rotatably supported through bearings 44 and 45 by a housing 46, a **disk-shaped rotor magnet** 48 is fixed through a boss 47 onto the upper part of the rotating shaft 43, and a **stator coil** 49 to face with the **magnet** 48 is arranged in the housing 46 on the lower side of the shaft. On the **magnet** 48, a metallic ring 50 is provided and a **sensor** core 14 of a **magnetic** sheet 13 mounted on the ring 50 is attracted to the **magnet** 48. On the other hand, a **disk-shaped FG magnet** 52 is fixed through a boss 51 to the lower part of the rotating shaft 43, and an FG substrate 53 facing the **magnet** 52 is provided in the housing 46 in the upper direction. Thus, a small and light spindle **motor** can be constituted.

22/23 © EPODOC / EPO

PN - [CZ20013721](#) A3 20030618

PNFP - CZ291897 B6 20030618

PR - CZ20010003721 20011016

AP - CZ20010003721 20011016

DT - I

PA - (A3 B6)
KONFRST VACLAV ING [CZ]

TI - (A3)
Low-speed **disk-type** electric **motor**

- (B6)
Low-speed **disk** electric **motor**

AB - (B6)
In the present invention there is disclosed an electric **motor** having a **rotor** being formed of **rotor** disks (10) with a fixing ring (7). A permanent **magnet** (2) support (1) is attached to said fixing ring (7). The **rotor** is coupled with a fixing hub (14) through the mediation of ball bearings (13) the bearing bushes (12) of which are coupled with **rotor** disks (10). A **stator disk** (11) with an armature (8) is attached to said fixing hub (14). Inside the armature (8) there is provided a ring (3) of **magnetic** screening with coils (4) fastened thereon. Position of each **coil** (4) relative to the permanent **magnet** (2) is monitored by a position **sensor** (5). The permanent **magnets** (2) are sources of **magnetic** flow. The main portion of the **magnetic** flow (15) closes through the **magnetic** screening ring (3) and generates **magnetic** induction within an air gap. After energizing a desired force is generated in a section of windings of coils (4), which are within the air gap. In a section of **coil** (4) windings that are on inner

side of the **magnetic** screening ring (3) the scattered **magnetic** field generates a loss force of opposite direction. The **rotor** resulting force is then generated by **rotor** reaction to the action of the **stator** forces.

- The **rotor** is made up of **rotor** discs (10) with a retaining ring (7). The mounting (1) of the permanent **magnets** (2) is connected to the retaining ring (7). The **rotor** is connected to the retaining hub (14) by means of ball bearings (13), whose bearing housings (12) are connected with the **rotor** discs (10). A **stator** disc (11), on which there is a frame (8), is attached to the retaining hub (14). Inside the frame (8) there is a **magnetic** insulation **coil** (3) with coils attached (4). The position of each **coil** (4) in relation to the permanent **magnet** (2) is monitored by a position **sensor** (5). The source of **magnetism** is the permanent **magnets** (2). The main part of the **magnetic** field (15) closes over the **magnetic** insulation **coil** (3) and forms **magnetic** induction in the air space. After connection of current the required strength is reached in the parts of the coils (4) in the air spaces. The diffused **magnetic** fields create loss force in the opposite direction in the parts of the coils (4) on the inner side of the **magnetic** insulation **coil** (3). The reaction of the **rotor** to the action of **stator** forces is the resulting strength of the **rotor**.<IMAGE>

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PN - [CN1889341](#) A 20070103

PR - CN2006154449 20060717

AP - CN2006154449 20060717

DT - I

PA - CHEN SHUNJIANG [CN]

TI - Brushless DC electric machine

AB - This invention discloses a **rotor** and a **stator** of a **motor** characterizing in including a light conduction **disk**, a light **sensor** and a control circuit, in which, said **rotor** is composed of more than two arrayed fan **magnets** and the poles of the adjacent fan **magnets** are opposite, said **stator** is composed of a soft **magnet** and a **stator coil** and the **stator coil** is wound on the **stator** core and connected to the output of the control circuit, the light conduction **disk** is fixed on the main shaft of the **rotor** and opened with light conduction through holes in it, either end of which is set with the light sensing device and its output is connected with the control circuit, which avoids generation of sparks when the **motor** is rotating.