

MAINTENANCE and SERVICE MANUAL

**STANDARD, TOTALLY ENCLOSED
NON-VENTILLATED (TENV), IP55**

2.5HP – SWU 22314-311

5.0HP – SWU 22314-22314



Maintenance and service manual for Standard (TENV) motors SWU 22314-311 and SWU 22314-22314

<u>Index:</u>	<u>Page:</u>
1. General	3
2. Transport and storage	3
3. Putting in Operation	4
3.1 Connecting the motor	4
3.2 Connection Diagram	4
3.3 Overload protection	4
3.4 Ambient temperture	4
4. General maintenance regulation	5
4.1 Lubrication	5
5. Recommended Motor Grease – Lithium Base	5
6. Inspection	5
7. Bearing replacement	5
8. 2.5HP Motor Spare Parts List	6
9. 2.5HP Motor Parts List Drawing	7
10. 5.0HP Motor Spare Parts List	8
11. 5.0HP Motor Parts List Drawing	9
12. How to contact AMKCO	10

Motor Maintenance and Service Manual

1. General

The Motor is a specially designed squirrel cage induction type for operation in AMKCO Vibra-Equipment.

The Standard motor is totally enclosed, non-ventilated (TENV) and dust, water or vapour proof IP55 according to IEC 34-5. Hazardous duty ratings are available.

Motor maintenance, bearing mounting, and lubrication are extremely critical due to the unusual and heavy eccentric loading of motors in AMKCO Vibra-Equipment. All instructions must be closely followed to maintain AMKCO's warranty.

When mounting, the normal applied regulations for health, working conditions, environment and fire prevention have to be regarded.

All operations have to be carried out by qualified personnel.

Changes to the motor affecting the safety and the working of the motor are prohibited and voids the warranty.

2. Transport and storage

Transport: After receiving the motor, check directly on transport damage.

Vibrator motors should be stored indoors in a dry room, which should answer the following demands:

- Clean and dry atmosphere
- Vibrating free, in order to prevent damaging the bearings
- Ambient may not exceed 40°C
- No high fluctuations of temperature in a short space of time so that condensation does not form to corrode the motor.

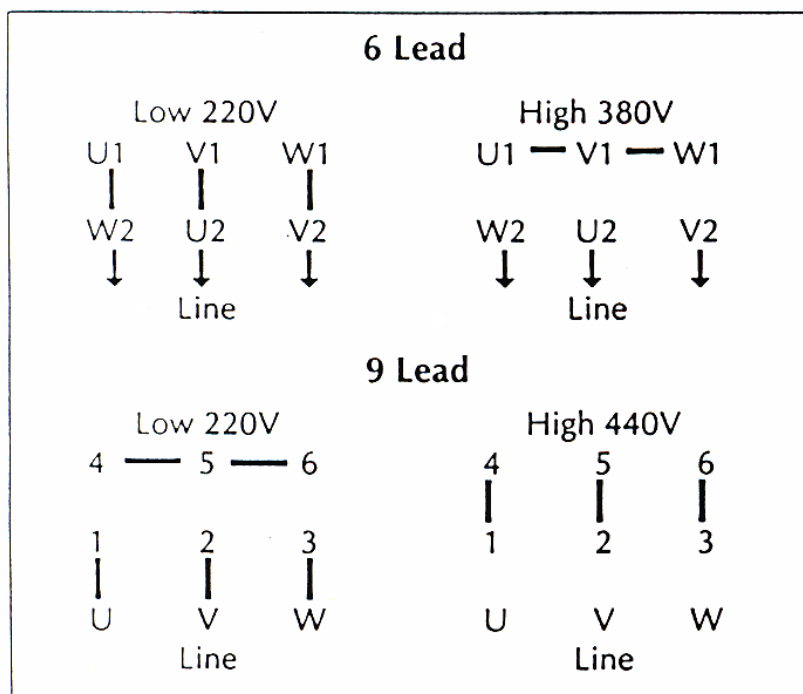
3. Putting in operation

3.1. Connecting the motor

When connecting the motor, insure the local power supply matches the motor requirements. The motor has to be earth connected. The supply cable shall be supported and routed to prevent mechanical damage.

The motor will operate satisfactorily with a 10% variation in voltage, a 5% variation in frequency, or a combined voltage and frequency variation of 10%, but not necessarily in accordance with the standards of performance established for operation at normal ratings.

3.2. Connection Diagram



3.3. Overload protection

Motor protection must be provided in the form of a magnetic starter with overcurrent protection heaters sized per motor running amperage (noted on the motor nameplate).

3.4. Ambient temperature

The motors are designed to operate at an ambient temperature not to exceed 40°C (104°F). In the event the temperature does exceed the designated rating, cooling of the ambient air is required.

4. General maintenance regulations:

4.1. Lubrication

The motor is equipped with a cylindrical roller bearing and a spherical roller bearing. Lubrication has to take place at the following schedule.

Bearing	Lubrication Interval	Amount of grease
22314	175 working hours	3 gm.
NU 311	175 working hours	1.5 gm.

NOTE: *Approx. 1.5 gm per shot*

When delivered, motor bearings are filled with Wynn's Multipurpose grease. The bearings should be lubricated with the same grease, or lithium based, mineral oil containing grease with Extreme pressure additives, NLGI class 2, suitable for heavy duty

5. Recommended Motor Grease – Lithium Base

Manufacture	Number
Optimol	Long time PD2
Wynns	Multi-Purpose NLGI No. 2
Shell Alvania	EP2

6. Inspections

Frequent inspections are necessary to determine that the mountings used to secure the motor in the Vibra-Equipment are tight.

Slings should be replaced if they become loose on shaft,

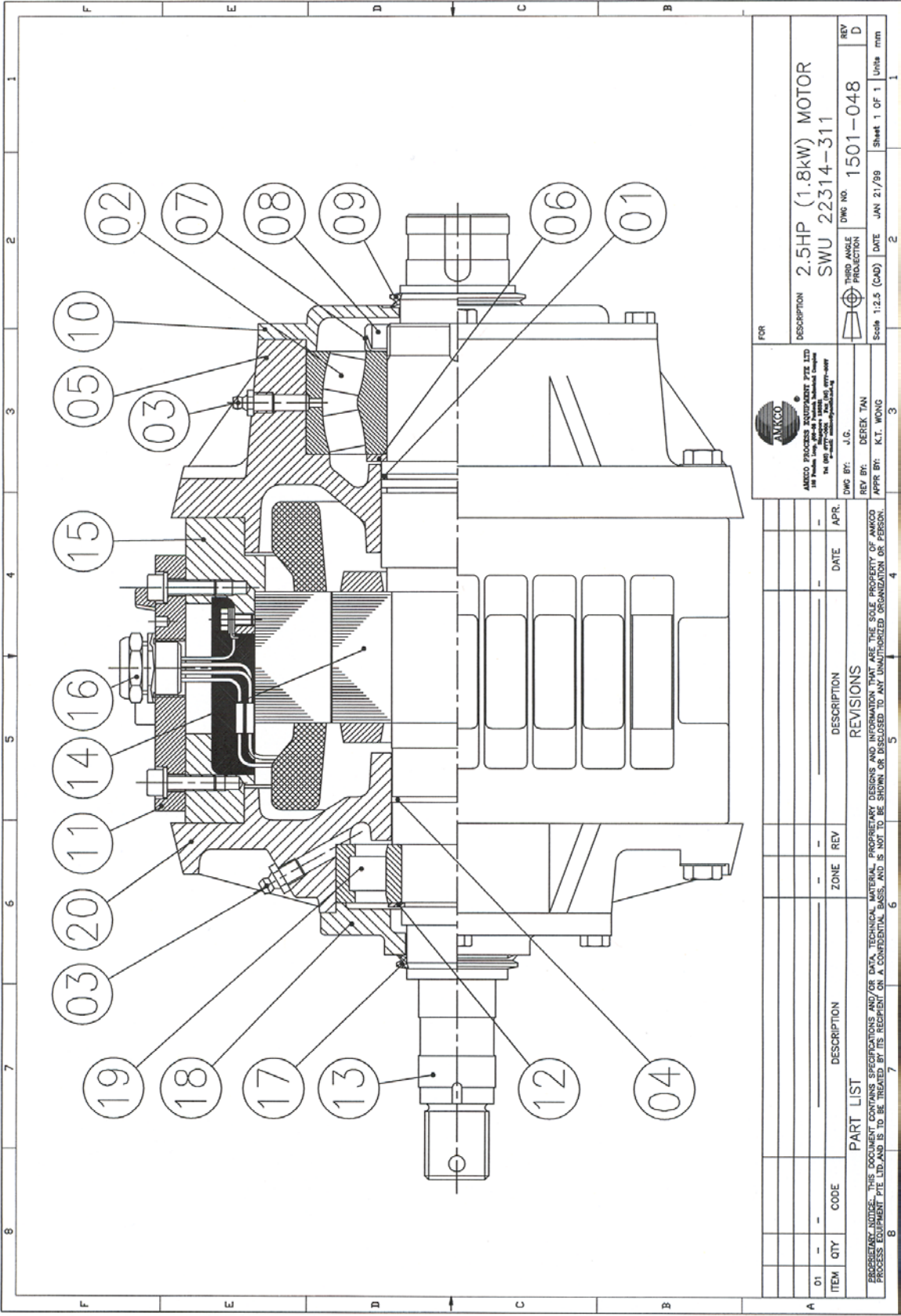
7. Bearing replacement

Bearings should only be replaced by the same type mounted (listed in Spare Parts List). Due to the high loads of the bearings, the fits in the brackets are extremely critical. Bearings are **press fits** to the brackets and **slip** on the shaft.

Please do check on the tolerance of the bearing bracket too. Check the bracket on outer race turning of the bearing. When the bracket is damaged, or the inside diameter has runout its tolerance, replace the bracket.

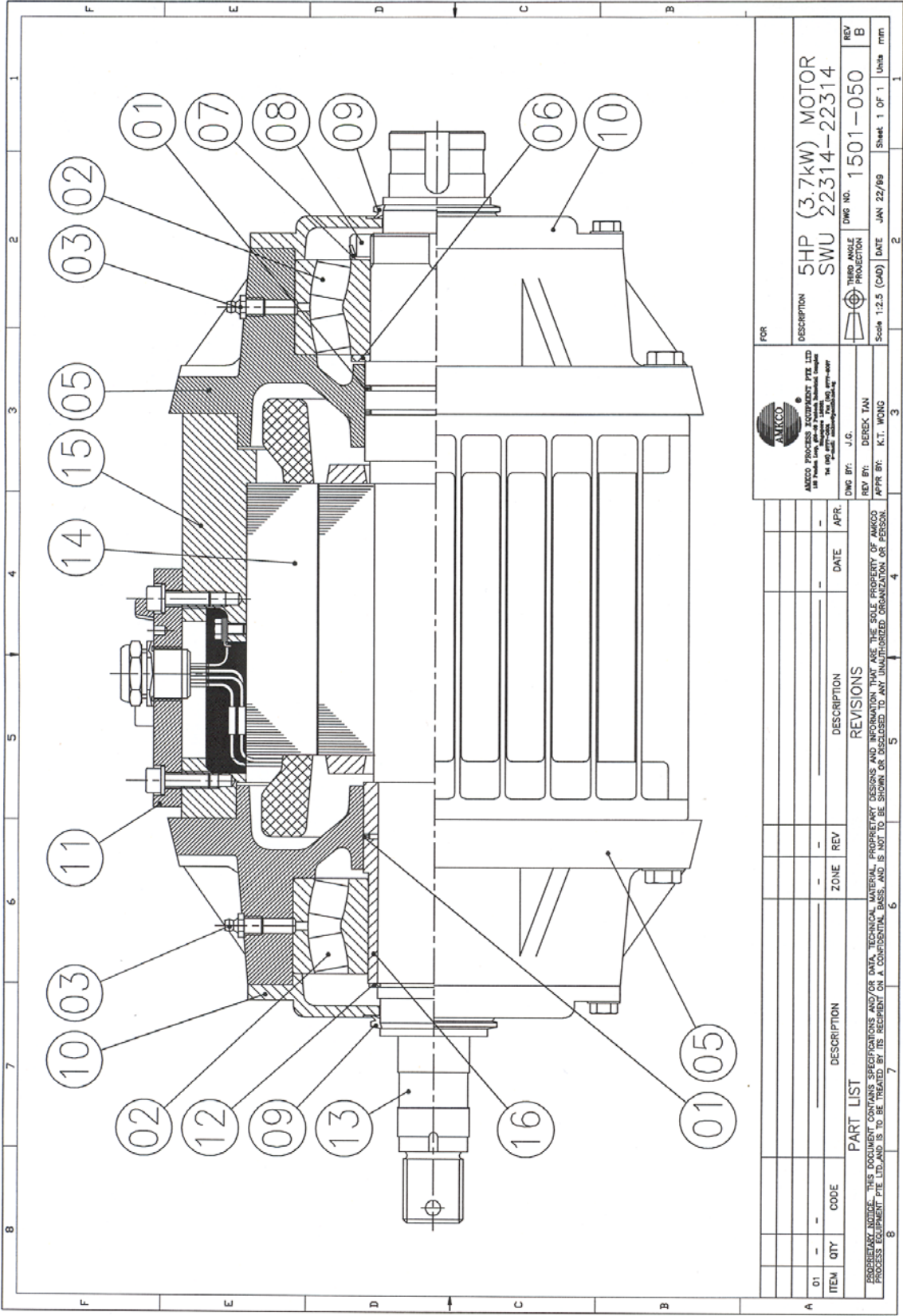
8. 2.5HP Motor Spare Parts List

Item	Quantity	Description	2.5HP Part Number
01	6	Fey-Rings	FK 3-AS 76
02	1	Bearing	22314 EF 800
03	2	Lubrication Nipple	NPT 1/8"
04	3	Fey-Rings	FK 3-AS 65
05	1	Bearing Bracket	Model 263
06	1	Ring	70 x 90 x 3.5
07	1	Lock-Washer	MB 14
08	1	Nut	KM 14
09	1	V-Ring	V-55A (NBR)
10	1	Bearing Cap	Model 262
11	1	Gland Plate	-
12	1	Circlip	55 DIN 471
13	1	Shaft	SH 22314-311
14	1	Rotor	RO 22314-311
15	1	Stator	Model 602
16	1	Cable Gland	-
17	1	V-Ring	V-50A (NBE)
18	1	Bearing Cap	Model 258
19	1	Bearing	NU 311 MAC3
20	1	Bearing Bracket	Model 256



10. 5.0HP Motor Spare Parts List

Item	Quantity	Description	5.0HP Part Number
01	9	Fey-Rings	FK 3-AS 76
02	1	Bearing	22314 EF 800
03	2	Lubrication Nipple	NPT 1/8"
04	-	-	-
05	1	Bearing Bracket	Model 263
06	1	Ring	70 x 90 x 3.5
07	1	Lock-Washer	MB 14
08	1	Nut	KM 14
09	2	V-Ring	V-55A (NBR)
10	2	Bearing Cap	Model 262
11	1	Gland Plate	-
12	1	Circlip	55 DIN 471
13	1	Shaft	SH 22314-311
14	1	Rotor	RO 22314-311
15	1	Stator	Model 603
16	1	Bush	-



12. How to contact AMKCO

Should you require additional information or assistance, please contact our nearest AMKCO Representative or contact us directly at:

AMKCO Process Equipment Pte Ltd
192 Pandan Loop #06-08
Pantech Industrial Complex, Singapore 128381

Tel: (65) 6777-0601 Fax: (65) 6777-8067 e-mail: amkco@pacific.net.sg

