

Operation Manual Book

GRANDE SERIES

In order to use the product safely, please read the instruction manual. In addition, please keep the instruction manual properly.

ENGLISH

Summary

Thank you for purchasing a permanent magnet synchronous motor (PMSM) industrial HVLS giant fan (Grande Series). This operation manual explains how to use the product correctly. Please read this instruction carefully before use (**installation, wiring, operation, maintenance, inspection, etc**). In addition, please use the product after understanding the safety precautions of the product.

Safety Precautions

General notes:

- Please contact our sales consultant and inform us about the problems with your product due to damage/loss.
- This instruction manual is subject to change without prior notice due to product improvements/specification changes and to improve the convenience of the instruction manual.

Dangerous:

ATTENTION. Please note all safety information in this instruction manual. Failure to follow the instruction may result in death or serious injury. The company will not be responsible for any damage caused by the customer's failure to comply with the contents in this instruction manual.

In order to prevent electric shock

- Non-professional should not perform repairs/inspections/parts replacement.
- Do not operate with the controller case removed.
- Do not perform wiring work while the power is on.

Otherwise there is a risk of electric shock.

Please cut off the power of all equipment before checking and inspection. Even though the power off, there is residual voltage in the internal capacitor. Wait for more than one minute after confirming that all indicators are off and the main AC voltage has dropped to a safe level.

Caveat:

Safety level is measure when industrial HVLS giant fan are performed. Before switch on the power of industrial HVLS giant fan, please make sure that there are no people touching and no other objects in the relevant area inside and below the industrial HVLS giant fan.

In order to prevent electric shock

- Modification of industrial HVLS giant fans and controllers is strictly prohibited.
- Do not remove the controller case/the button operation panel/touch pad while the power is on.

To prevent fire

Please confirm whether the rated voltage of industrial HVLS giant fan is consistent with the power supply voltage before switch on the power. If the main circuit power supply voltage is used incorrectly, it will definitely cause damage to the product.

Preface

User notice

- This manual is for installation, operation and maintenance personnel to read carefully and follow strictly. The installation and maintenance of the industrial HVLS giant fan must be performed by a professional.
- Protect the product to avoid unnecessary damage during transportation or installation.

Safety rules

- Please confirm in advance whether the input voltage matches with this product. The standard power supply is **220/415VAC ±10%, 50/60Hz**.
- When operating the controller, follow the steps of static electricity protection (ESD) fixation. Otherwise, the internal circuit of the controller will be damaged by static electricity.
- The installation, operation and maintenance of this machine are limited to the following persons:

- ✓ **Designated safety officer**, person who has received the necessary training and has the necessary experience.
- This manual instructions can helps you for any situations that may cause harm to person, equipment or the environment, and must be strictly followed.
- Do not allow children to touch it when running/stopping.

Operating limits & specifications

Operating limits

- The company shall not be liable for damage caused by improper use or use of products beyond the prescribed scope.
- This product and accessories are selected and designed according to the parameters provided by users. If the parameters are changed, please inform us to confirm the feasibility.
- The product is not allowed to operate in unstable areas such as high frequency vibration areas. Please make sure that the installation location is stable.
- The product shall not be operated in harsh conditions such as freezing, corrosion, explosion and excessive concentration of dust and gas.

Specifications and model

Permanent magnet synchronous motor (PMSM) industrial HVLS giant fan specification model parameter in table below:

Table 1: Permanent Magnet Synchronous Motor (PMSM) Fan Technical Data Sheet

Model	Voltage (v)	Power (watt)	Speed (rpm)	Blade Diameter (ft)	Air Flow (CFM)	Noise (dB)	Weight (kg)
H60X	415	1500	52-50	24'-22'	425,000-460,000	≤40	137-135
H60	415	1300	65-56	20'-18'	380,000-355,000	≤40	130-128
H40	415	1000	80-70	16'-14'	320,000-285,000	≤40	111-109
H50	415	750	95-85	12'-8'	250,000-180,000	≤40	73-70

Parts & Installation

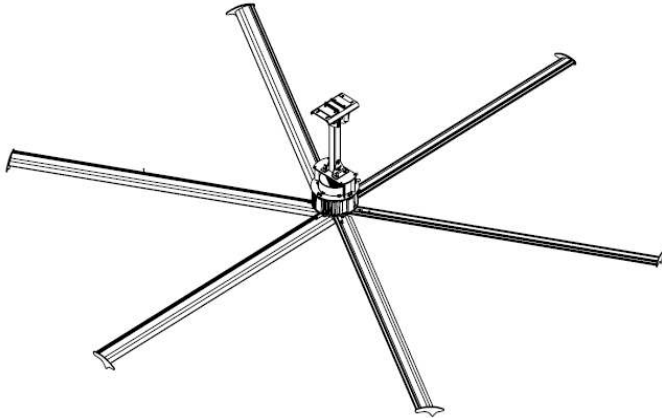


Figure 1: Permanent Magnet Synchronous Motor (Grande Series) →14ft-24ft

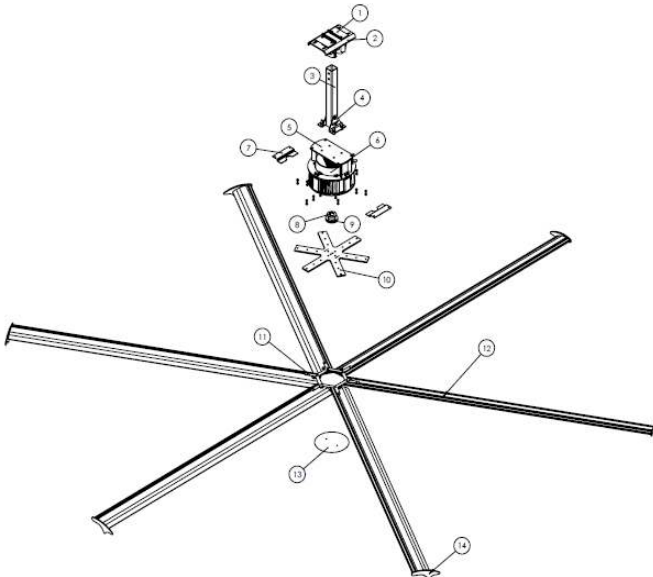


Figure 2: Exploded View of Grande Series →14ft-24ft

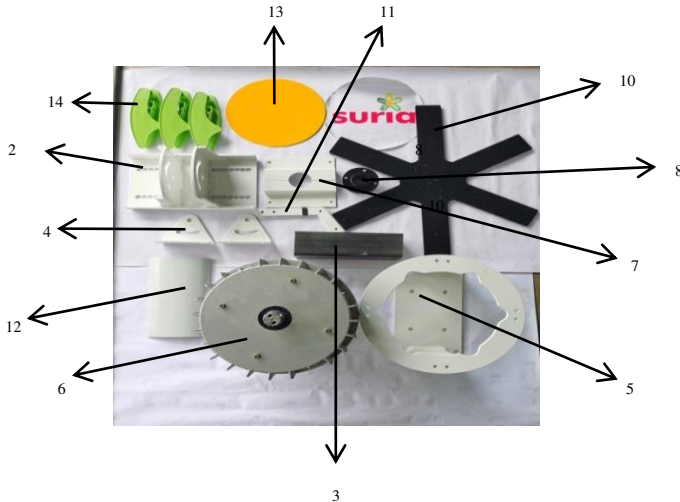


Figure 3: Parts of Grande Series (H60X, H60, H40)

Table 2: Name of components PMSM industrial HVLS giant fan (Grande Series (H60X, H60, H40))

No item	Name of part
1	I Beam bracket
2	Fasterner
3	Hollow 3"x3"
4	Lower bracket
5	Frame motor
6	Gearless motor (IME- H40, H60, H60X)
7	Safety plate
8	Shaft lock
9	Washer
10	Star plate
11	Safety blade
12	Blade (24ft, 22ft, 20ft, 18ft, 16ft, 14ft)
13	Aluminium plate
14	Winglet

Parts & Installation



Figure 4: Permanent Magnet Synchronous Motor (Grande Series) – H50

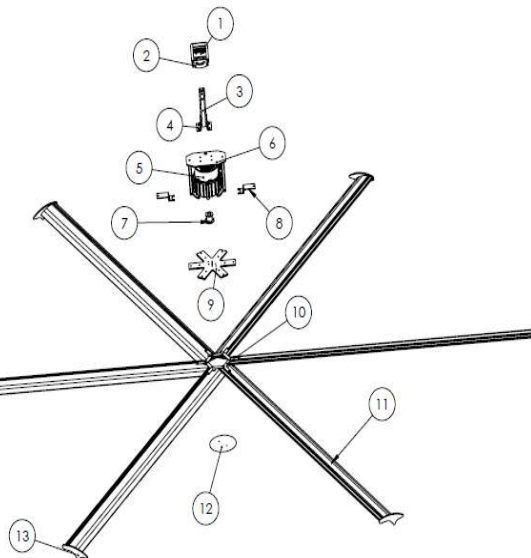


Figure 5: Exploded View of Grande Series → 8ft-12ft

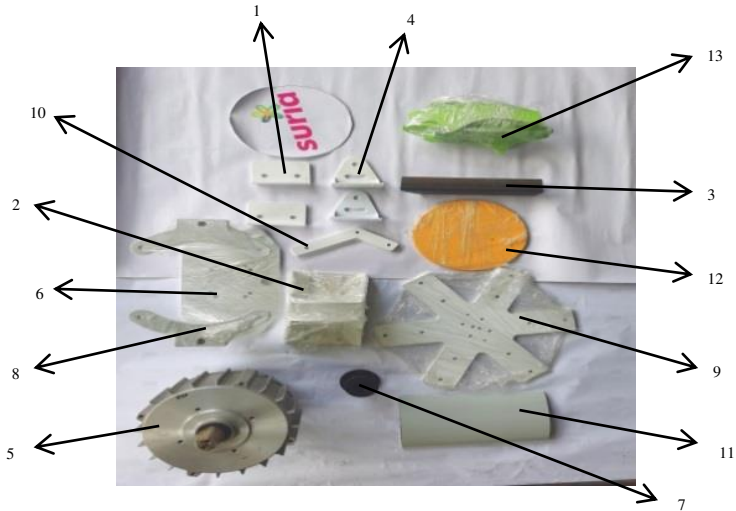


Figure 6: Parts of Grande Series (H50)

Table 3: Name of components PMSM industrial HVLS giant fan (Grande Series (H50))

No item	Name of part
1	I Beam bracket
2	Fastener
3	Hollow 2"x2"
4	Lower bracket
5	Gearless motor (IME- H50)
6	Frame motor
7	Shaft lock
8	Safety plate
9	Star plate
10	Safety blade
11	Blade (12ft, 10ft, 8ft)
12	Aluminium plate
13	Winglet

Wiring

Connection of wire motor:



Wiring system:

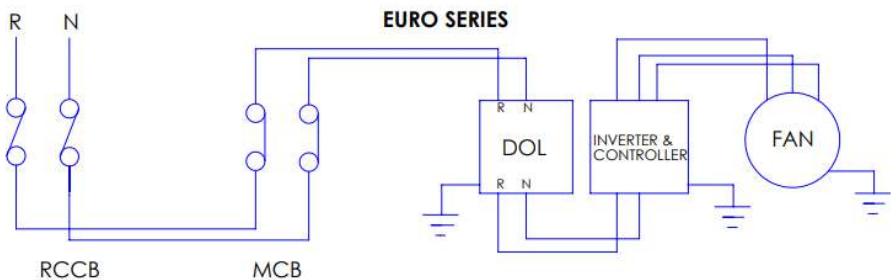


Figure 7: Single Phase Single Line Diagram (Grande Series)

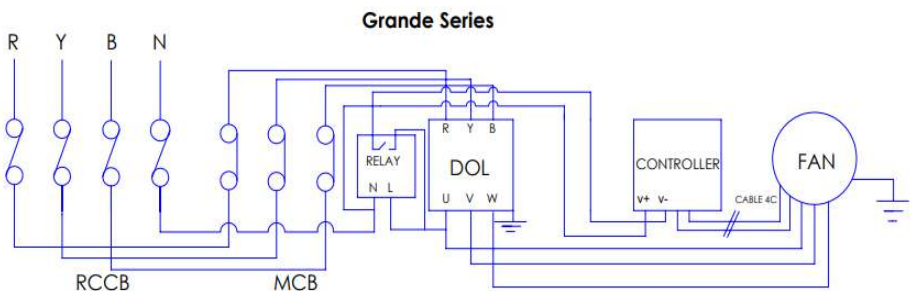



Figure 8: Three Phase Single Line Diagram (Grande Series)




Basic operation and operation

Industrial HVLS giant fan can display various data, parameters and warnings through the display screen. It can be operate by the button.

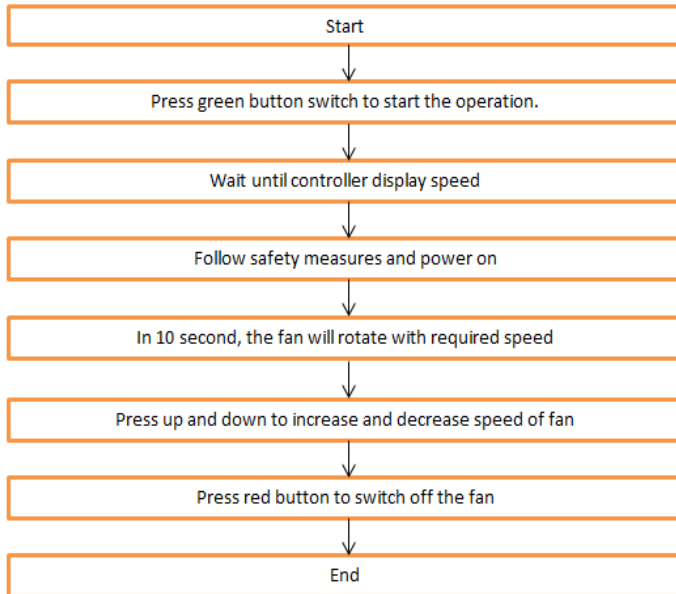
Fault diagnosis and countermeasures

No.	Code	Type of faults	Troubleshooting Method
1.	Temperature (°c) / op	The temperature of motor is too hot.	Press button “up” and “down” at the same time for a few second until the screen show percentage. 

There are different types of product according to the actual customer requirements of the product. The name and function of each section:

No	Operating part	Name	Function
1.		Start button	To run fan.
2.		Stop button	To stop fan.
3.		Speed button	Up: Increase speed of fan. Down: Reduce speed of fan.

Operating instructions:



Power on and display status confirmed

Power supply voltage confirmation: 220v

After switching on the power, the display screen normally as follows:

No.	Display Screen	Description
1.	≡ 100	Speed

Regular inspection and maintenance

Electronic equipment and other components cannot be used permanently even though in normal working conditions. If the service limit is exceeded, there will be a change in characteristics or malfunction. To prevent this type of failure, periodic inspections are required. It is recommended to check the machine every 6-12 month after installation

Table 4: Regular inspection and maintenance schedule

No	Check the object	Check the content	Solutions
1.	Overall	<ul style="list-style-type: none"> • Dirt, dust • Parts are damaged/deformed • Parts that are discoloured due to time 	<ul style="list-style-type: none"> • Replace damaged parts • Contact our after-sales service • Remove dust/dirt with dry towel.
2.	Motor	If there is abnormal vibration or sound when the product is running	<ul style="list-style-type: none"> • Turn off the fan, contact and consult our after-sales service • Inspect parts and fastening connections and tighten all screws
3.	Controller system	<ul style="list-style-type: none"> • Confirm whether the cooling fan is stained with dust/dirt. • Check the wires and internal connecting wires are discoloured, damaged or detached • Check the wire cladding is damaged, cracked, or discoloured • Check the connecting terminal is worn, damaged or loose • Check the capacitance expansion, discoloration, cracking 	<ul style="list-style-type: none"> • Clean/replace the cooling fan • Repair/replace damaged wires and connectors • Contact the company after sale if unable to replace or repair.
4.	LED Operator	<ul style="list-style-type: none"> • Check the operating parts operate correctly • Check the operating part dirty 	<ul style="list-style-type: none"> • If LED or operation keys are defective, please contact our after-sales service. • Remove dust/dirt with dry towel. Do not wipe with water.

BAHASA MELAYU

Ringkasan

Terima kasih kerana membeli kipas gergasi HVLS industri motor PMSM (Grande Series). Manual operasi ini menerangkan cara menggunakan produk dengan betul. Sila baca arahan ini dengan teliti sebelum digunakan (**pemasangan, pendawaian, operasi, penyelenggaraan, pemeriksaan, dll**). Di samping itu, sila gunakan produk setelah memahami langkah keselamatan produk.

Amaran keselamatan

Nota umum:

- Sila hubungi perunding penjualan kami dan beritahu kami mengenai masalah produk anda kerana kerosakan/kerugian.
- Manual arahan ini boleh berubah sebelumnya kerana perubahan produk/spesifikasi dan untuk meningkatkan kemudahan manual arahan.

Amaran:

PERHATIAN. Sila fahamkan semua maklumat keselamatan dalam manual arahan ini. Kegagalan mengikut arahan boleh mengakibatkan kematian atau kecederaan yang serius. Syarikat tidak akan bertanggungjawab atas kerosakan yang disebabkan oleh kegagalan pelanggan untuk mematuhi isi kandungan dalam manual arahan ini.

Untuk mengelakkan kejutan elektrik

- Bukan profesional tidak boleh melakukan pembaikan/pemeriksaan/penggantian alat ganti.
- Jangan beroperasi ketika penutup kawalan terbuka.
- Jangan melakukan kerja pendawaian semasa kuasa dihidupkan.

Jika tidak, terdapat risiko kejutan elektrik.

Tolong tutup semua kuasa peralatan sebelum membuat pemeriksaan. Terdapat sisa voltan pada kapasitor dalaman walaupun kuasa telah dimatikan. Sila tunggu lebih dari satu minit setelah mengesahkan bahawa semua kuasa peralatan mati dan voltan AC utama telah capai ke tahap yang selamat.

Amaran:

Tahap keselamatan diukur semasa kipas gergasi HVLS industri dilakukan. Sebelum menghidupkan kuasa kipas gergasi HVLS industri, pastikan bahawa tidak ada orang yang menyentuh, dan tidak ada objek lain di kawasan yang berkaitan di dalam dan di bawah kipas gergasi HVLS industri.

Untuk mengelakkan kejutan elektrik

- Pengubahsuaian kipas gergasi HVLS industri dan kawalan dilarang sama sekali.
- Jangan buka penutup kawalan/panel operasi butang/pad sentuh semasa kuasa dihidupkan.

Untuk mengelakkan kebakaran

Sila pastikan sama ada voltan kipas gergasi HVLS industri selaras dengan voltan bekalan kuasa sebelum menghidupkan kuasa. Sekiranya voltan bekalan kuasa litar utama digunakan dengan tidak betul, ia boleh menyebabkan kerosakan pada produk.

Notis pengguna

- Manual ini adalah untuk kakitangan pemasangan, operasi dan penyelenggaraan untuk membaca dan mengikuti dengan teliti. Pemasangan dan penyelenggaraan kipas gergasi HVLS industri mesti dilakukan oleh seorang profesional.
- Lindungi produk untuk mengelakkan kerosakan semasa pengangkutan atau pemasangan.

Peraturan keselamatan

- Sila sahkan terlebih dahulu sama ada voltan input sesuai dengan produk ini. Bekalan kuasa standard ialah **220 / 415VAC ± 10%, 50 / 60Hz**.
- Semasa mengendalikan alat kawalan, ikuti langkah-langkah penetapan perlindungan elektrik statik (ESD). Jika tidak, litar dalaman pengawal akan rosak oleh elektrik statik.
- Pemasangan, operasi dan penyelenggaraan mesin ini terhad kepada orang-orang berikut:

- ✓ **Pegawai keselamatan yang dilantik**, orang yang telah menerima latihan dan pengalaman yang diperlukan.
- Arahan manual ini dapat membantu anda dalam sebarang keadaan yang boleh menyebabkan bahaya kepada orang, peralatan/persekitaran, dan mesti dipatuhi dengan betul.
- Jangan biarkan kanak-kanak menyentuh semasa beroperasi/berhenti.

Had & spesifikasi operasi

Had operasi

- Syarikat tidak akan bertanggungjawab ke atas kerosakan yang disebabkan oleh penggunaan/penggunaan produk yang tidak betul di luar skop yang ditetapkan.
- Produk dan aksesori ini dipilih dan dirancang mengikut parameter yang disediakan oleh pengguna. Sekiranya parameter diubah, sila maklumkan kepada kami untuk mengesahkan sebarang kemungkinan.
- Produk tidak dibenarkan beroperasi di kawasan yang tidak stabil seperti kawasan getaran frekuensi tinggi. Pastikan lokasi pemasangan stabil.
- Produk tidak boleh dikendalikan dalam keadaan yang teruk seperti pembekuan, kakisan, letupan dan kepekatan habuk dan gas yang berlebihan.

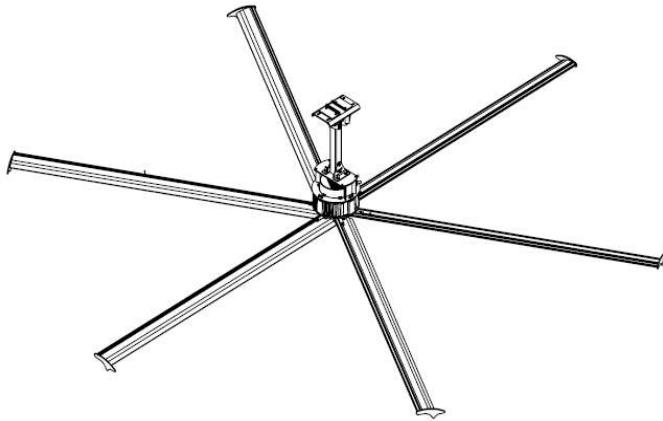
Spesifikasi dan model

Jadual di bawah menunjukkan spesifikasi parameter model kipas gergasi HVLS perindustrian (PMSM).

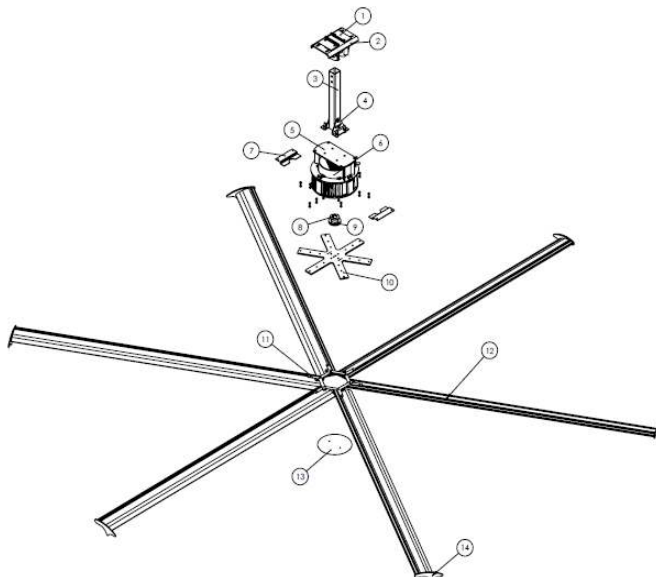
Jadual 1: Lembaran Data Teknikal Kipas PMSM

Model	Voltan (v)	Kuasa (watt)	Kelajuan (rpm)	Diameter Bilah (ft)	Aliran Udara (CFM)	Bunyi (dB)	Berat (kg)
H60X	415	1500	52-50	24'-22'	425,000-460,000	≤40	137-135
H60	415	1300	65-56	20'-18'	380,000-355,000	≤40	130-128
H40	415	1000	80-70	16'-14'	320,000-285,000	≤40	111-109
H50	415	750	95-85	12'-8'	250,000-180,000	≤40	73-70

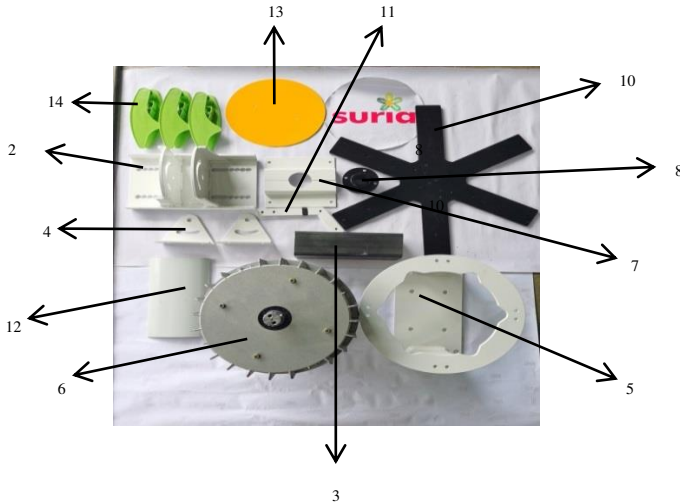
Bahagian & Pemasangan



Rajah 1: Kipas Gergasi PMSM (Grande Series) →14ft-24ft



Rajah 2: Pecahan Bahagian Grande Series →14ft-24ft

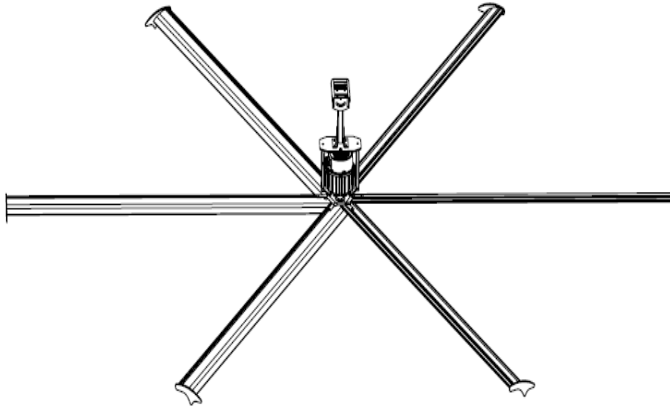


Rajah 3: Bahagian komponen Grande Series (H60X, H60, H40)

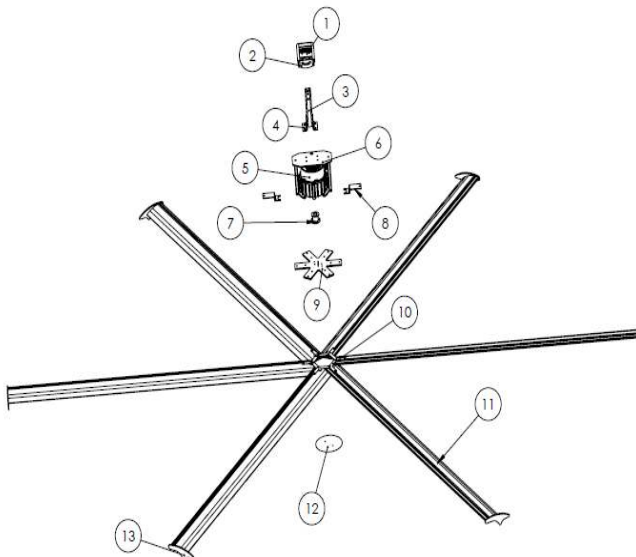
Jadual 2: Nama komponen Kipas Gergasi PMSM (Grande Series (H60X, H60, H40))

No item	Name Komponen
1	I Beam bracket
2	Fastener
3	Hollow 3"x3"
4	Lower bracket
5	Frame motor
6	Gearless motor (IME- H40, H60, H60X)
7	Safety plate
8	Shaft lock
9	Washer
10	Star plate
11	Safety blade
12	Blade (24ft, 22ft, 20ft, 18ft, 16ft, 14ft)
13	Aluminium plate
14	Winglet

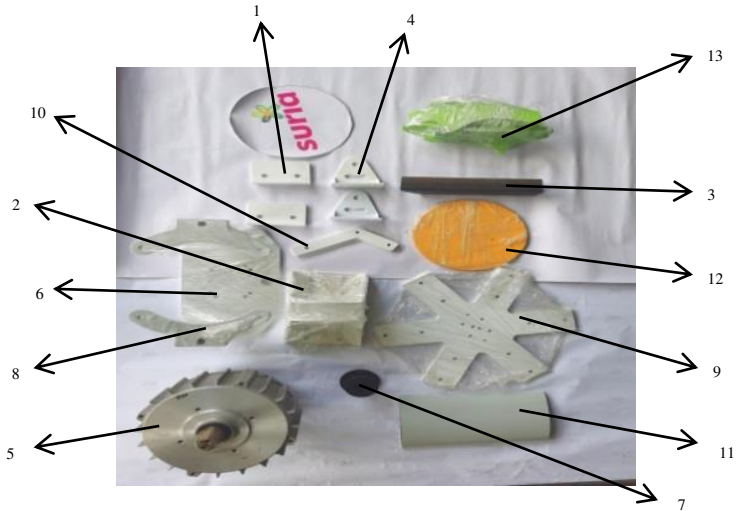
Bahagian & Pemasangan



Rajah 4: Kipas Gergasi PMSM (Grande Series) – H50



Rajah 5: Pecahan Bahagian Grande Series → 8ft-12f



Rajah 6: Bahagian komponen Grande Series (H50)

Jadual 3: Nama Komponen Kipas Gergasi PMSM (Grande Series (H50))

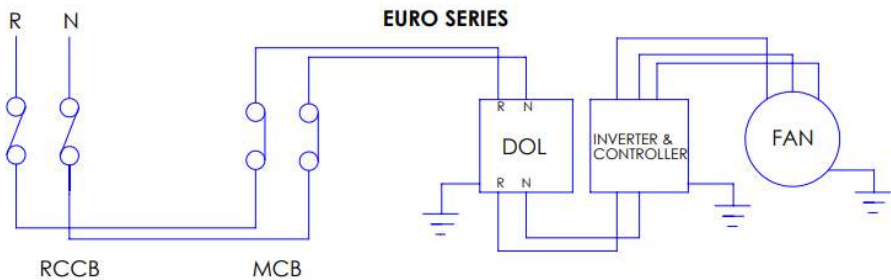
No item	Nama Komponen
1	I Beam bracket
2	Fastener
3	Hollow 2"x2"
4	Lower bracket
5	Gearless motor (IME- H50)
6	Frame motor
7	Shaft lock
8	Safety plate
9	Star plate
10	Safety blade
11	Blade (12ft, 10ft, 8ft)
12	Aluminium plate
13	Winglet

Pendawaian

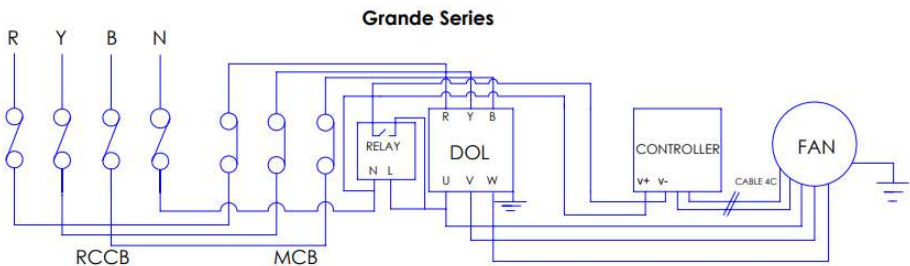
Sambungan motor wayar



Sistem Pendawaian:



Rajah 7: Garis Tunggal Satu Fasa (Grande Series)



Rajah 8: Garis Tunggal Tiga Fasa (Grande Series)

Operasi dan operasi asas

Kipas gergasi HVLS industri dapat memaparkan pelbagai data, parameter dan amaran melalui skrin paparan. Ia boleh dikendalikan dengan menggunakan butang.

Diagnosis kesalahan dan tindakbalas

No.	Kod	Jenis Kesalahan	Kaedah Penyelesaian Masalah
1.	Temperature (°c) / op	Suhu motor terlalu panas	<p>Tekan butang "atas" dan "bawah" pada masa yang sama selama beberapa saat sehingga skrin menunjukkan peratusan.</p> 

Terdapat pelbagai jenis produk mengikut kehendak pelanggan. Nama dan fungsi setiap bahagian:

No	Bahagian Operasi	Nama	Fungsi
1.		Butang mula	Untuk menggerakkan kipas gergasi.
2.		Butang berhenti	Untuk memberhentikan kipas gergasi.
3.		Butang Kelajuan	atas : meningkatkan kelajuan kipas. bawah : mengurangkan kelajuan kipas.

Arahan Operasi:



Status hidup dan paparan disahkan

Pengesahan voltan bekalan kuasa: 220v/415v

Setelah kuasa dihidupkan, skrin paparan biasanya seperti berikut:

No.	Skrin paparan	Penerangan
1.	≡ 100	Kelajuan

Pemeriksaan dan penyelenggaraan berkala

Peralatan elektronik dan komponen lain tidak dapat digunakan secara tetap walaupun dalam keadaan kerja biasa. Sekiranya had perkhidmatan terlampau, akan berlaku perubahan pada ciri atau kerosakan. Untuk mengelakkan kegagalan seperti ini, pemeriksaan berkala diperlukan. Sebaiknya periksa produk setiap 6-12 bulan selepas pemasangan.

Jadual 4: Jadual pemeriksaan dan penyelenggaraan berkala

No	Pemeriksaan objek	Periksa kandungan	Penyelesaian
1.	Keseluruhan	<ul style="list-style-type: none"> • Kotoran, habuk. • Bahagian rosak / cacat. • Bahagian yang berubah warna kerana masa. 	<ul style="list-style-type: none"> • Ganti bahagian yang rosak. • Hubungi perkhidmatan selepas jualan kami. • Buang habuk / kotoran dengan tuala kering.
2.	Motor	Sekiranya terdapat getaran atau bunyi yang tidak normal semasa produk sedang berjalan.	<ul style="list-style-type: none"> • Matikan kipas, hubungi dan dapatkan khidmat selepas penjualan. • Periksa bahagian dan sambungan pengikat dan ketatkan semua skru.
3.	Sistem Kawalan	<ul style="list-style-type: none"> • Pastikan sama ada kipas diwarnai dengan habuk / kotoran. • Periksa wayar dan wayar penyambung dalaman jika berubah warna, rosak atau terputus. • Periksa pelindung wayar rosak, retak, atau berubah warna. • Periksa terminal penyambung usang, rosak atau longgar. • Periksa pengembangan kapasitans, perubahan warna, retak. 	<ul style="list-style-type: none"> • Bersihkan / ganti kipas penyejuk. • Membaiki / mengganti wayar dan penyambung yang rosak. • Hubungi syarikat selepas jualan jika tidak dapat mengganti atau membaiki.
4.	Operator LED	<ul style="list-style-type: none"> • Periksa bahagian operasi beroperasi dengan betul. • Periksa bahagian operasi yang kotor. 	<ul style="list-style-type: none"> • Sekiranya LED atau kunci operasi rosak, sila hubungi perkhidmatan selepas jualan kami. • Buang habuk / kotoran dengan tuala kering. Jangan lap dengan air.



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