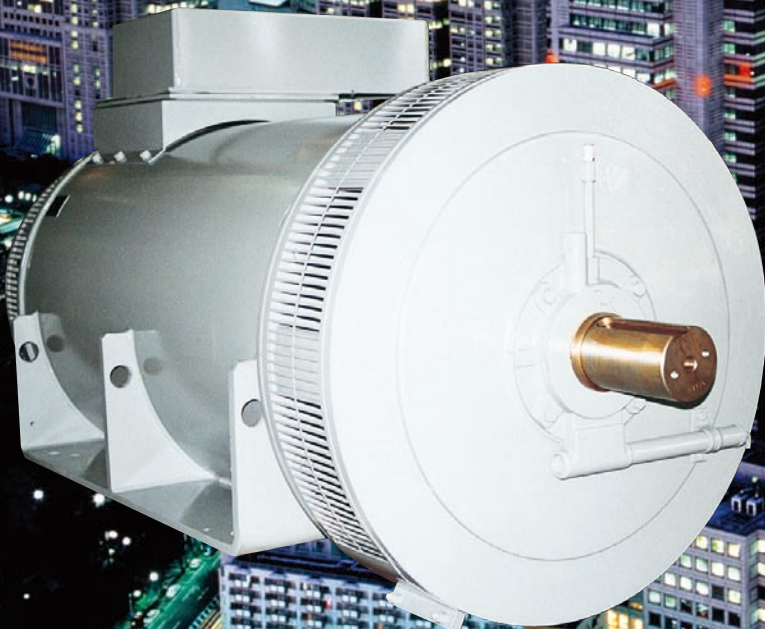


MEIDEN

MEIDEN-Alternator JG2000 series

Assured Reliability resulting from
our abundant manufacturing experience



Empower for new days

The alternator is high quality, high efficiency, compact and light weight and can supply steady electric power for all kinds of industrials.

Alternator feature

1. Compact and light weight

New alternator come to be more compact and light weight by renewing the structural design of the ex-type alternator.

2. High reliability and long operation

Original insulation design improves its performance for heat-proof and humidity-proof and enables the long operation.

The thought of high reliability design is applied to all of the parts.

3. High quality

The copper loss is reduced by adopting salient-pole rotor.

High efficient cooling fan reduces the mechanical loss.

4. Easy maintenance

It is easy to inspect the alternator using the exciter system and simple structure.

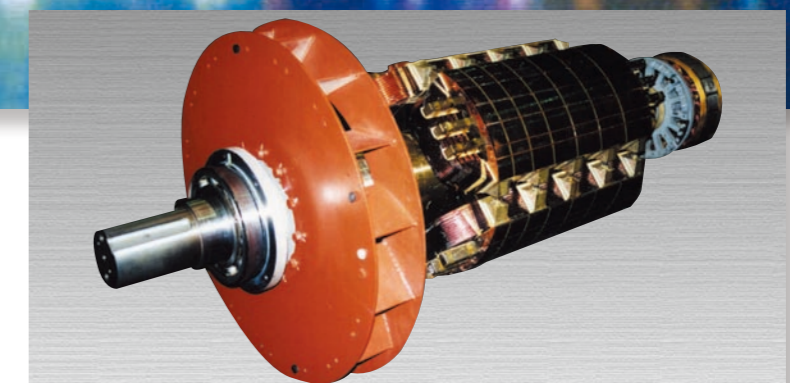
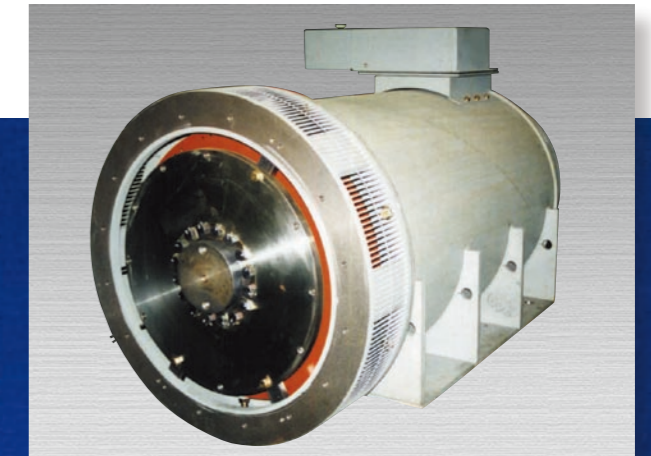
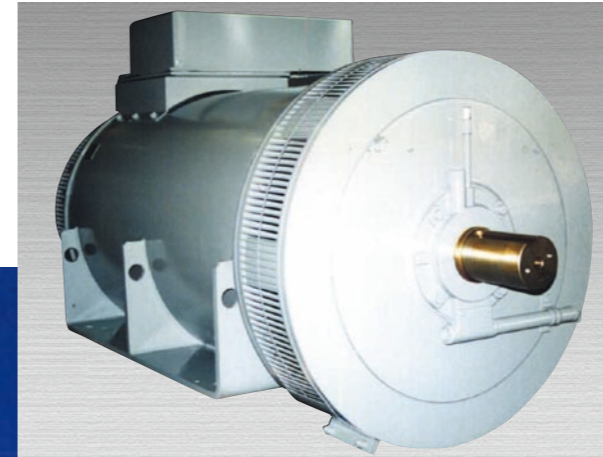
The bearing of small capacity alternators is grease-sealed type.

5. Low noise level

The cooling fan to improve the air flow inside the alternator makes it low noise level.

6. Quick delivery

The alternator that manufactures under the standardized-design and many common parts is delivered quickly.



New alternator was developed uniting of the performance and experience based on keeping on producing alternators over 100years and the advanced technology

The new alternators, the JG2000 Series, have been developed through the union of our sound techniques based on accumulated manufacturing experiences from the over 100 years history and advanced computer-based analytical technologies such as electromagnetic field analysis, ventilation analysis, and various applied analysis.

Alternator Structure

1. Coupling with Prime mover

Double bearing : A part for coupling with prime mover is installed on both ends of the rotor.

Single bearing : There is a laminate or a thick circular disk that is one part of the alternator for coupling with prime mover.

2. Stator core

The stator core is made of silicon steel laminate. The stator slots that skews are given produce an improvement of the voltage waves.

3. Stator winding

Vacuum impregnation is given to the stator to which insulation coils are inserted.

The quality isn't varied and the insulation, the heat-proof and the humidity-proof are high performance.

The overstress on three-phase short-circuit is considered.

4. Rotor

The rotor is made up of a shaft, a field core, a field winding, a rotary rectifier and cooling fan etc.

Centrifugal force and torsion vibration are considered by fixing a field winding and field core on the rotor tightly.

5. Field core

Salient-pole type is adopted in the field core. The field core with damper winding has high tolerance for the noise of radio frequency wave.

6. Field winding

Concentrated winding is used in the field winding and the design makes it more efficient.

7. Cooling fan

The cooling fan position setting up on the opposite end of coupling side is considered for the heat and oilmist from the prime mover.

8. Exciter

The exciter field core and exciter field winding are set up on the bracket on the opposite end of coupling side.

The exciter armature winding and exciter armature core are set up on the rotor on the same side.

9. Frame

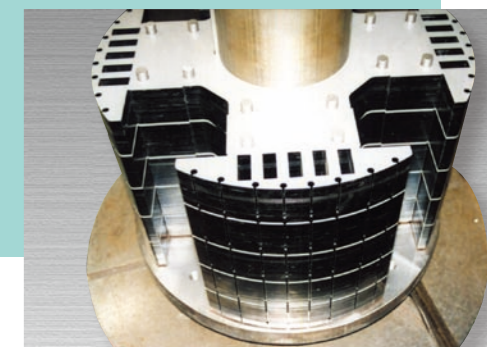
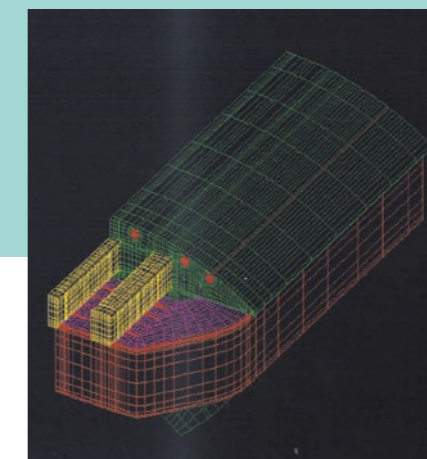
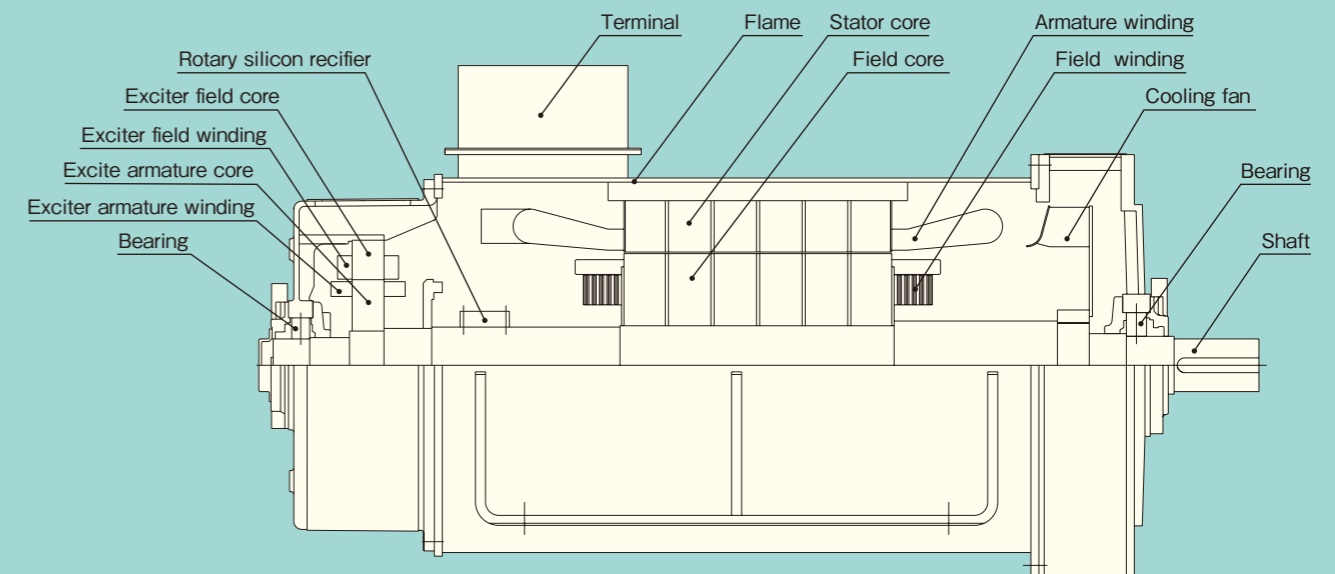
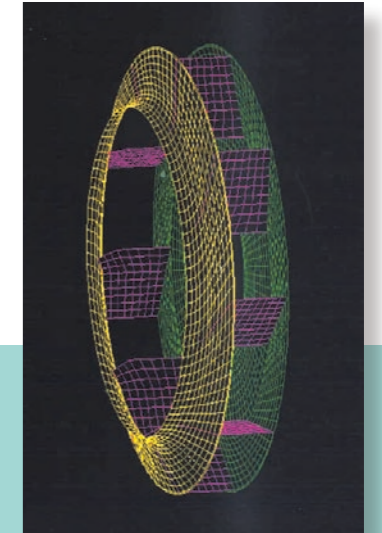
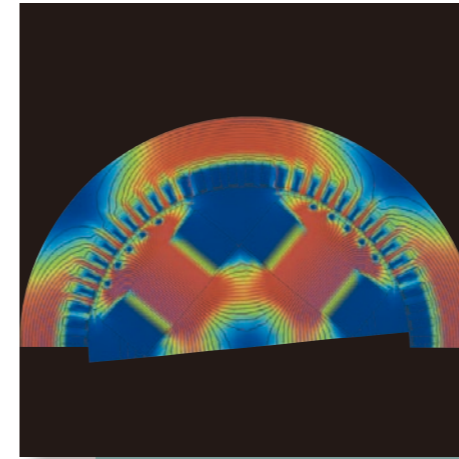
The Frame has high strength for the vibration and the impact from the outside.

The Frame is made up of steel plate and cast steel.

10. Bearing

The bearing is sealed-grease type or followup-grease type.

Sleeve bearing is used depending on the capacity and the prime mover.



Standard Specifications and Outputs

Standard Specifications:

Item	Standard specifications	Remarks
Applicable standard	IEC 60034, JEC-2130, JEC-2131, JEM-1354	Also applicable to ANSI, IEEE and other standard.
Type	Rotary field salient pole type with damper windings	
Kind of prime mover	Diesel Engine, GAS Engine, GAS Turbine	
Protection system	IP20 (guarded type)	IP22 (drip-proof guarded type) is also available.
Cooling system	IC01 (free ventilation type)	
Rated output	Specified in the output table	
No. of poles	4 poles	
Rated voltage	200/220V,400/440V,3300V,6600V	210V, 415V, etc., are also available.
Frequency	50Hz,60Hz	
Power factor	0.8 (lagging)	
Nos. of phases and wires	3-phase 3-wire	A 3-phase 4-wire is also available.
Type of rating	Prime	Standby is also available.
Thermal class	155 (F)	
Excitation system	Brushless excitation system	PMG excitation is also available.
Bearing system	Grease sealed type, or grease supply type	

Output Table

The standard output range (Prime basis) is indicated in orange. Please consult us for the machines deviating from the range specified below. These machines can also be manufactured.

Output (kVA)	200/220 (V)		400/440 (V)		3300 (V)		6600 (V)	
	1500 (min ⁻¹)	1800 (min ⁻¹)	1500 (min ⁻¹)	1800 (min ⁻¹)	1500 (min ⁻¹)	1800 (min ⁻¹)	1500 (min ⁻¹)	1800 (min ⁻¹)
150								
200								
250								
300								
400								
500								
625								
750								
875								
1000								
1250								
1500								
2000								
2500								
3000								
3500								
4000								
4500								
5000								

Standard Dimension Tables

Standard Dimension Table of Diesel Engine Driven Alternators

Standard Dimension Table of Prime Rating (3300V, 6600V)

Output (kVA)		Dimensions (mm)								Mass (kg)	Outline drawing	
50 (Hz)	60 (Hz)	L	A	B	D	M	I	C	IE			
-	250									208M	970	Fig.1
250	300	1435	615	680	625	670	745	224	90	280L	970	
300	400									280LL	1050	
400	500	1555	675	740	725	720	800	250	115	315S	1280	
500	625									315M	1380	
625	750	1550	652	758						355S	1710	
750	875	1720	737	843	805	805	900	300	105	355M	1870	
875	1000									355X	2060	
1000	1250	1795	770	885	910	845	990	350	105	400M	2370	
1250	1500									400L	2590	
1500	2000	2010	860	1010	975	950	1090	400	90	450S	3410	
2000	-									405M	3780	

Standard Dimension Table of Prime Rating (200/220V, 400/440V)

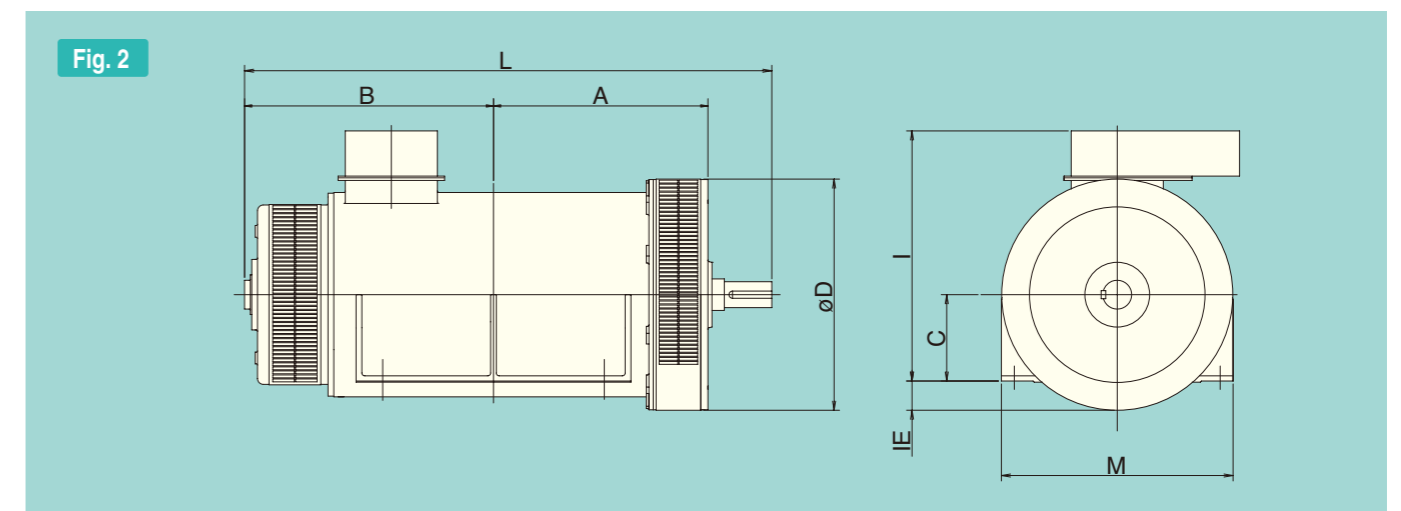
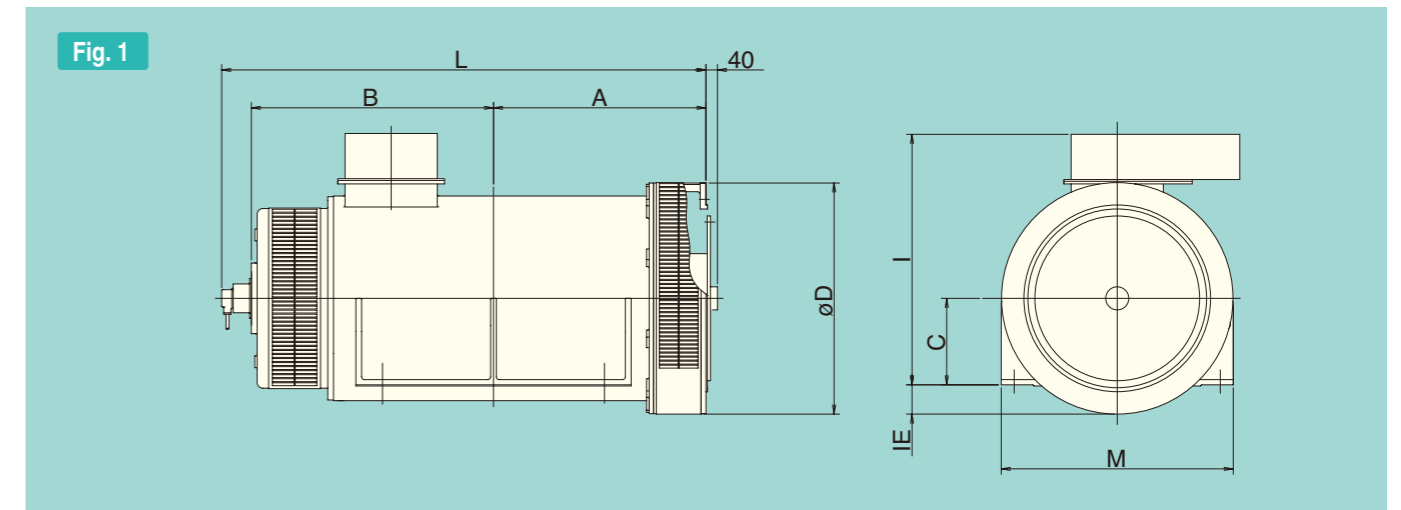
Output (kVA)		Dimensions (mm)								Mass (kg)	Outline drawing	
50 (Hz)	60 (Hz)	L	A	B	D	M	I	C	IE			
-	150									280S	710	Fig.1
150	200	1185	490	555						280S	710	
200	250				625	670	745	224	90	280M	760	
250	300	1255	525	590						280L	890	
300	400	1335	565	630						280LL	990	
400	500	1435	615	680	725	720	800	250	115	315S	1200	
500	625									315M	1350	
625	750	1530	642	748						355S	1740	
750	875	1610	682	788	805	805	900	300	105	355M	1860	
875	1000	1640	697	803						355X	2010	
1000	-	1615	670	805	910	845	990	350	105	400M	2310	

Standard Dimension Table of Gas Turbine Driven Alternators

Standard Dimension Table of Prime Rating (3300V, 6600V)

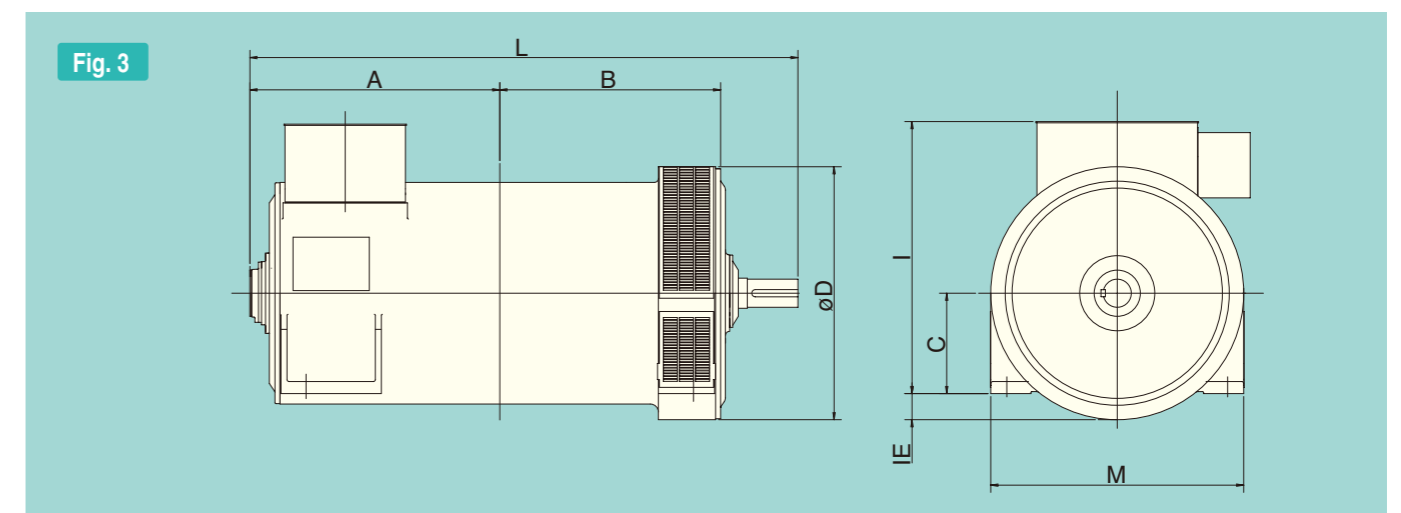
Output (kVA)		Dimensions (mm)								Mass (kg)	Outline drawing	
50 (Hz)	60 (Hz)	L	A	B	D	M	I	C	IE			
-	250	1505	625	705	625	670	745	224	90	280M	950	Fig.2
250	300									280L	950	
300	400									280LL	1030	
400	500	1625	685	765	725	720	800	250	115	315S	1240	
500	625									315M	1340	
625	750	1835	745	865	805	805	900	300	105	355S	1650	
750	875									355M	1810	
875	1000									355X	2000	
1000	1250	1975	780	910	910	845	940	350	105	400M	2330	
1250	1500									400L	2540	
1500	2000	2225	870	1030	975	950	1085	400	90	450S	3400	
2000	2500									450M	3770	
2500	3000	2285	870	1030	1115	1100	1185	450	110	500S	4610	
3000	3500									500M	4920	
3500	4000	2410	950	1080	1260	1260	1355	500	135	560SS	6600	Fig.3
4000	4500									560S	7150	
4500	5000	2650	1055	1210	1260	1260	1355	500	135	560M	7900	
5000	-									560L	8500	

Standard Dimension Diagrams of Alternators



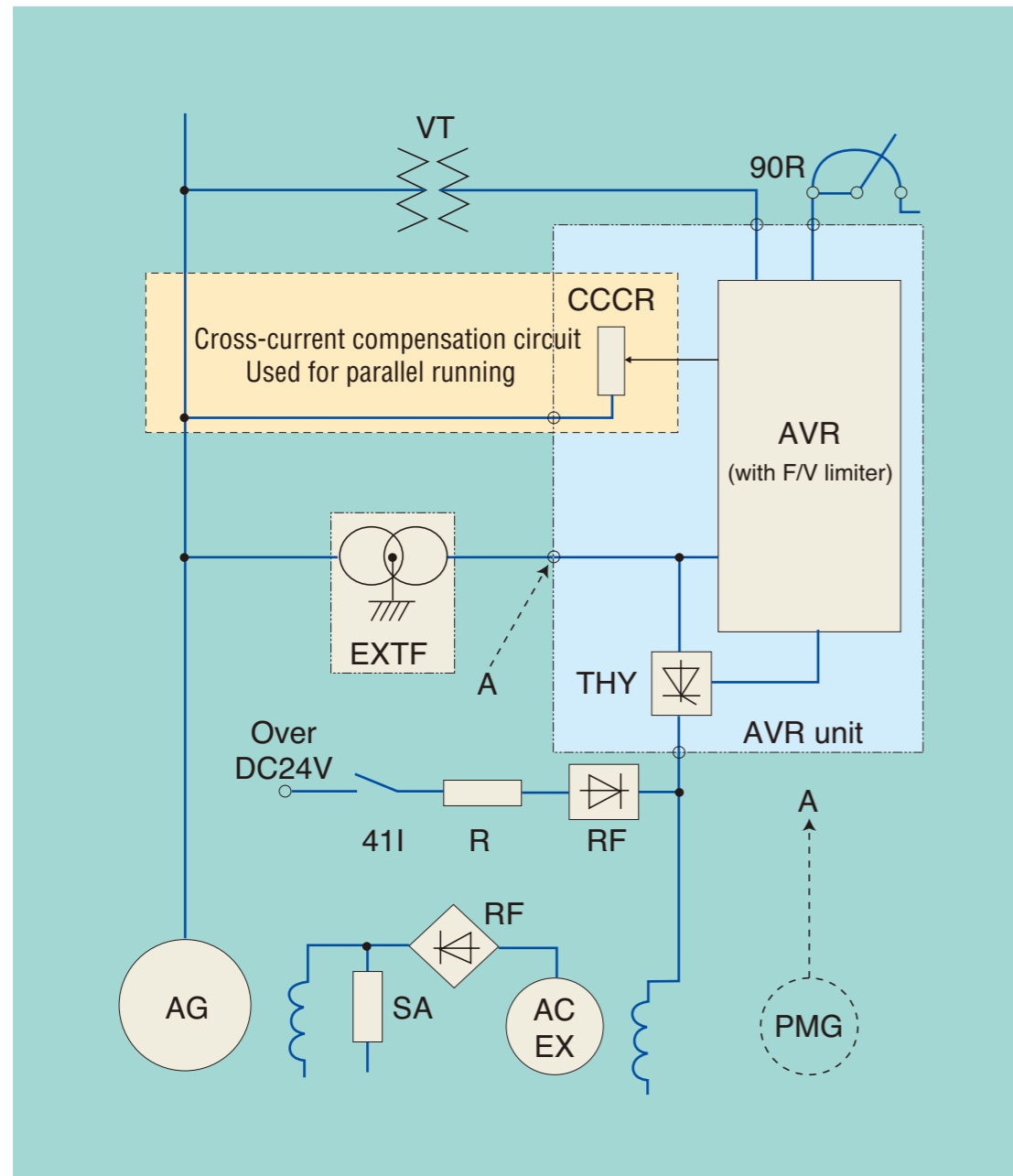
Standard Dimension Table of Prime Rating (200/220V, 400/440V)

Output (kVA)		Dimensions (mm)								Mass (kg)	Outline drawing	
50 (Hz)	60 (Hz)	L	A	B	D	M	I	C	IE			
-	150	1245	500	580	625	670	745	224	90	280S	710	Fig.2
150	200									280S	710	
200	260									280M	740	
250	300	1315	535	615	625	670	745	224	90	280L	900	
300	400									280LL	990	
400	500	1505	625	705	725	720	800	250	115	315S	1160	
500	625									315M	1310	
625	750	1725	690	810	805	805	900	300	105	355S	1730	
750	875									355M	1830	
875	1000									355X	2000	
1000	-	1795	690	820	910	845	985	350	105	400M	2290	



Excitation System

Single-Line Connection Diagram (Example)



Symbol	Device name	Symbol	Device name
AG	AC generator (alternator)	R	Resistor
ACEX	AC exciter	RF	Rectifier (diode)
AVR	Automatic voltage regulator	THY	Thyristor
CCCR	Cross-current compensation resistor	VT	Voltage transformer
EXTF	Excitation transformer	41I	Initial excitation contactor
PMG	Permanent magnet generator	90R	Voltage setter for AVR
SA	Surge absorber		



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