

ALTERNATOR

APPLICATION AND STANDARDS

SUPER RELIABLE MACHINE, MAINLY LAND-USED AS PRIME OR STANDBY POWER

VGU270 *Range*

_ Rev.B _

COMPLY WITH STANDARDS OF IEC60034, NEMA MG1-22, IS08528, CSA C22.2-100, VDE 0530, GB755

SPECIAL FEATURES

- ☐ **OVERLOAD** : 15% OVERLOAD FOR 1 HOUR EVERY 12 HOURS
- ☐ **WINDING PROTECTION** : VPI(VACUUM PRESSURE IMPREGNATION)+ EPOXY RESIN+ ANTI-HARSH PAINTING
- ☐ **SUPER SILENCE** : FAN, MADE OF STEEL, ROTATING EVENLY
- ☐ **VIBERATION** : MOST RIGID DYNAMIC-BALANCED ROTOR AND STRONGER BODY AND FEET
- ☐ **EXCITATION** : THE AUXILIARY WINDING AND PMG IS OPTIONAL
- ☐ **THERMAL OVERLOAD** : WINDING AND BEARING DETECTOR CAN BE EQUIPPED UPON CUSTOMER REQUEST
- ☐ **BEARING** : BIGGER SIZE AND SEAL FOR LIFE
- ☐ **TERMINAL BOX**: THREE OPTIONS: HIGH, LOW AND NONE (2mm-CABLE EXTENTION)
- ☐ **DIODE**: ACCESS FROM NON-DRIVE END FOR EASY-MAINTENANCE
- ☐ **AVR**: AS440 STANDARD, CAN BE UPGRADED TO R438 FOR 3-TIME SHORT CIRCUIT CAPABILITY

GENERAL FEATURES

WIRE WOUND AND CLASS H THERMAL INSULATION

IP23, STANDARD EQUIPPED, AND IP44, IP54 UPON CUSTOMER

REQUEST ROUND-SHAPE MACHINE BODY FOR BETTER

CENTERLIZATION

SPACE HEATER: CAN BE EQUIPPED UPON REQUEST.

NAMEPLATE, MADE OF STEEL OR PLASTIC

VEGA LOGO STAMPED TO THE TOP COVER OF T-BOX



COMMON DATA

Insulation	Altitude	Overspeed	Protection	Leads	Pitch	AVR	Voltage Regulation	Waveform Distortion	TIF	THF
H/H	<=1000m	2250rpm	IP23	12	2/3	AS440	±1	<1,5% No load	<50	<2%

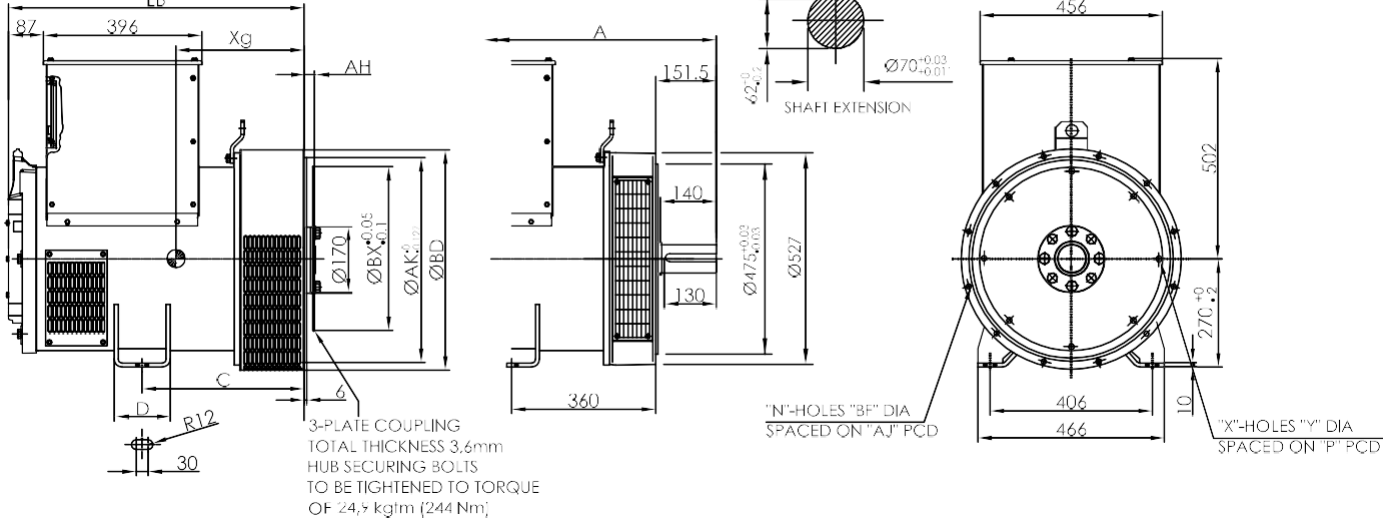
RATING TABLE

H CLASS	50Hz/1500RPM/PF 0.8											60Hz/1800RPM/PF 0.8										
TEMP.	125/40°C PRIME POWER										163 /27°C Standby	Effi.	125/40°C PRIME POWER								163/27°C Standby	Effi.
Y	380	400	415	440	400	400	416	440	460	480	480	480	416	440	460	480	480	480	480	480	480	480
YY	190	200	208	220	200	200	208	220	230	240	240	240	208	220	230	240	240	240	240	240	240	240
△	220	230	240	254	230	230	240	254	266	277	277	277	240	254	266	277	277	277	277	277	277	277
RATING	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%
VGU270B	100	80.0	100	80.0	100	80.0	N/A	N/A	112	89.6	90.4	112	89.6	118	94.4	118	94.4	126	101	139	111	89.2
VGU270CS	113	90.0	113	90.0	113	90.0	N/A	N/A	124	98.8	91.0	124	98.8	130	104	130	104	138	110	151	120	91.0
VGU270C	125	100	125	100	125	100	N/A	N/A	135	108	91.0	134	107	141	113	141	113	150	120	162	130	90.9
VGU270D	140	112	140	112	140	112	N/A	N/A	152	122	92.1	162	130	162	130	168	134	180	144	195	156	91.2
VGU270ES	150	120	150	120	150	120	N/A	N/A	161	129	92.3	171	137	175	140	175	140	189	151	204	163	91.5
VGU270E	163	130	163	130	163	130	N/A	N/A	178	142	92.3	184	147	193	154	193	154	209	167	220	176	91.4
VGU270F	180	144	180	144	180	144	N/A	N/A	194	155	92.5	205	164	219	175	219	175	231	185	250	200	92.1
VGU270GS	188	150	188	150	188	150	N/A	N/A	206	165	93.3	208	166	221	177	221	177	235	188	260	208	92.5
VGU270G	200	160	200	160	200	160	N/A	N/A	224	179	93.4	240	192	246	197	246	197	258	206	282	226	92.4
VGU270H	230	184	230	184	230	184	N/A	N/A	262	210	92.7	270	216	282	226	295	236	302	242	327	262	92.5
VGU270J	250	200	250	200	250	200	N/A	N/A	275	220	92.7	294	235	300	240	315	252	315	252	345	276	93.2

60Hz @ 480V		VGU270B	VGU270CS	VGU270C	VGU270D	VGU270ES	VGU270E	VGU270	VGU270GS	VGU270G	VGU270H	VGU270J
Xd	Direct axis synchro..	2.31	2.1	2.1	2.24	2.15	2.15	2.07	2.03	2.03	2.21	2.53
X'd	Direct axis transient..	0.199	0.18	0.18	0.2	0.18	0.18	0.19	0.18	0.18	0.14	0.12
X" d	Direct axis sub...	0.13	0.12	0.12	0.13	0.12	0.12	0.12	0.11	0.11	0.09	0.08
Xq	Quadra. Axis synchro...	1.31	1.26	1.26	1.42	1.3	1.3	1.26	1.24	1.24	1.11	1.15
X" q	Quadra. Axis sub...	0.19	0.18	0.18	0.18	0.17	0.17	0.16	0.16	0.16	0.116	0.141
X2	Negative sequence...	0.16	0.15	0.15	0.16	0.14	0.14	0.13	0.13	0.13	0.101	0.106
Xo	Zero sequence...	0.1	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.06	0.04
T'd	Short-Circuit...	0.027s	0.03s	0.03s	0.032s	0.034s	0.034s	0.038s	0.041s	0.041s	0.044s	0.048s
T" d	Sub transient time...	0.001s	0.01s	0.01s	0.01s	0.011s	0.011s	0.012s	0.012s	0.012s	0.014s	0.02s
T'do	Open circuit time...	0.78s	0.82s	0.82s	0.83s	0.89s	0.89s	0.96s	1.11s	1.11s	1.2s	1.25s
Ta	Armature time...	0.007s	0.0073s	0.0073s	0.0017s	0.009s	0.009s	0.01s	0.012s	0.012s	0.025s	0.02s
Kcc	Short circuit ratio	0.433	0.476	0.476	0.446	0.465	0.465	0.483	0.493	0.493	0.452	0.395

OUTLINE DRAWING

STANDARD T-BOX, ASK FACTORY FOR HIGH BOX AND NONE BOX PRINTS



DATA TABLE - DOUBLE BEARING

Dimension mm.	Double BRG	Weight		Packing
		Net(kg)	Gross(kg)	L x W x H (mm)
Model	A			
VGU270B	845	397	432	1100×680×980
VGU270CS	845	422	457	1100×680×980
VGU270C	845	433	468	1100×680×980
VGU270D	965	478	513	1100×680×980
VGU270ES	965	503	538	1100×680×980
VGU270E	965	523	558	1100×680×980
VGU270F	1010	573	608	1100×680×980
VGU270GS	1010	573	608	1100×680×980
VGU270G	1050	620	655	1100×680×980
VGU270H	1177	684	718	1300×680×980
VGU270J	1177	711	745	1300×680×980

SAE AVAILABILITY

SAE	10	11.5	14			
3	x	x				
2	x	x				
1		x	x			

DATA TABLE- SINGLE BEARING

Dimension mm.	SAE 1			SAE 2/3			D	Weight		Packing
	LB	Xg	C	LB	Xg	C		Net(kg)	Gross(kg)	
Model										
VGU270B	753	365	419.3	739	353	405	140	369	404	1100×680×980
VGU270CS	753	375	419.3	739	363	405	140	394	429	1100×680×981
VGU270C	753	375	419.3	739	363	405	140	405	440	1100×680×982
VGU270D	868	390	419.3	854	378	405	240	450	485	1100×680×983
VGU270ES	868	415	419.3	854	403	405	240	475	510	1100×680×984
VGU270E	868	415	419.3	854	403	405	240	495	530	1100×680×985
VGU270F	918	435	419.3	904	423	405	240	545	580	1100×680×986
VGU270GS	918	435	419.3	904	423	405	240	545	580	1100×680×987
VGU270G	958	455	419.3	944	423	405	240	592	627	1100×680×988
VGU270H	1003	440	405	1003	440	405	240	656	690	1100×680×987
VGU270J	1003	440	405	1003	440	405	240	683	717	1100×680×988

Flange mm						Disc(mm)					
SAE#	BD	AK	AJ	BF	N	SAE#	BX	P	X	Y	AH
SAE	530	409.58	428.62	11	12	14	466.72	438.15	8	13.5	25.4
SÆ	530	447.68	466.72	11	12	11.5	352.42	333.38	8	11	39.6
SÆ	553	511.18	530.22	14	12	10	314.32	295.28	8	11	53.8