

ALTERNATOR

APPLICATION AND STANDARDS

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

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
- ☐ **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 NAMEPLATE, MADE OF STEEL OR PLASTIC

SPACE HEATER: CAN BE EQUIPPED UPON REQUEST.

VEGA LOGO STAMPED TO THE TOP COVER OF T-BOX

COMMON DATA

Insulation	Altitude	Overspeed	Protection	Leads	Pitch	AVR	Voltage Regulation	Wareform 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°C /40°C PRIME POWER										163/27°C Standby	Effi.	125°C/40°C PRIME POWER								163/27°C Standby	Effi.
Y	380	400	415	440							400	400	416	440	460	480					480	480
YY	190	200	208	220							200	200	208	220	230	240					240	240
Δ	220	230	240	254							230	230	240	254	266	277					277	277
RATING	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%
VGU180B	18.8	15.0	18.8	15.0	18.8	15.0	15.0	12.0	23.3	16.3	84.3	21.9	17.5	23.0	18.4	23.0	18.4	23.0	18.4	23.0	20.0	85.0
VGU180C	22.5	18.0	22.5	18.0	22.5	18.0	17.5	14.0	24.4	19.5	84.3	27.5	22.0	28.8	23.0	28.8	23.0	30.0	24.0	32.6	26.0	85.2
VGU180DS	25.0	20.0	25.0	20.0	25.0	20.0	20.3	16.2	27.0	21.6	85.9	30.0	24.0	31.3	25.0	31.3	25.0	31.3	25.0	34.0	27.2	85.7
VGU180D	27.5	22.0	27.5	22.0	27.5	22.0	22.5	18.0	30.0	24.0	85.9	32.5	26.0	34.4	27.5	34.4	27.5	35.0	28.0	38.8	31.0	86.7
VGU180E	32.0	25.6	32.0	25.6	32.0	25.6	27.5	22.0	33.0	26.4	86.4	35.0	28.0	37.5	30.0	37.5	30.0	37.5	30.0	40.0	32.0	87.9
VGU180F	37.5	30.0	37.5	30.0	37.5	30.0	32.5	26.0	40.0	32.0	87.0	44.3	35.4	46.8	37.4	46.8	37.4	46.8	37.4	50.0	40.0	88.0
VGU180G	40.0	32.0	42.5	34.0	40.0	32.0	35.0	28.0	45.0	36.0	87.2	47.5	38.0	50.0	40.0	50.0	40.0	50.0	40.0	53.5	42.8	88.6

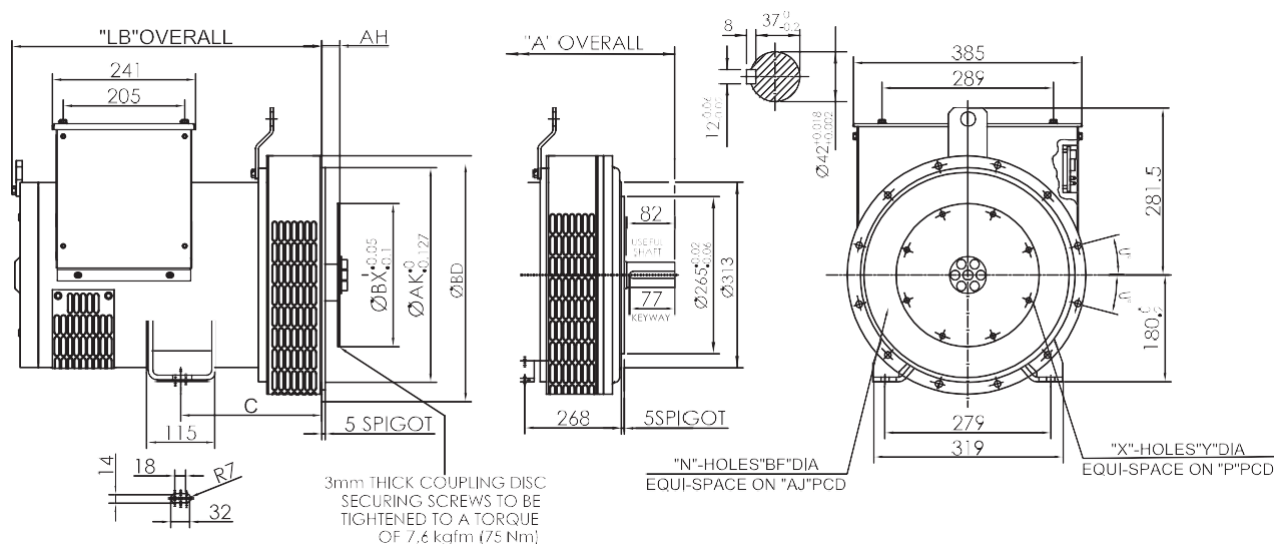
Vega Power International PTE.LTD

REACTANCE-TIME CONSTANT(s) H CLASS
VGU180 B/C/DS/D/E/F

60Hz @ 480V		VGU180B	VGU180C	VGU180DS	VGU180D	VGU180E	VGU180F			
Xd	Direct axis synchro. reactance unsaturated	1.881	1.881	1.751	1.751	1.561	2.000			
X'd	Direct axis transient reactance saturated	0.190	0.190	0.171	0.171	0.161	0.152			
X''d	Direct axis sub transient reactance saturate	0.120	0.120	0.120	0.120	0.102	0.083			
Xq	Quadra. Axis synchro. reactance unsaturate	0.931	0.931	0.882	0.882	0.773	0.967			
X''q	Quadra. Axis sub transient reactance satura	0.211	0.211	0.200	0.200	0.171	0.169			
X2	Negative sequence reactance unsaturated	0.171	0.171	0.162	0.162	0.152	0.124			
Xo	Zero sequence reactance unsaturated	0.082	0.082	0.075	0.075	0.068	0.030			
T'd	Short-Circuit transient time constant	0.02s	0.02s	0.02s	0.02s	0.020	0.24s			
T''d	Sub transient time constant	0.005s	0.005s	0.005s	0.005s	0.006s	0.015s			
T'do	Open circuit time constant	0.4s	0.4s	0.4s	0.4s	0.5s	0.57s			
Ta	Armature time constant	0.006s	0.006s	0.006s	0.006s	0.007s	0.01s			
Kcc	Short circuit ratio	0.532	0.532	0.571	0.571	0.641	0.500			

OUTLINE DRAWING

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


DATA TABLE - DOUBLE BEARING

Dimension (mm)	Double BRG	Weight		Packing
Model	A	Net(kg)	Gross(kg)	L x W x H (mm)
VGU180B	551.5	118	146	1120x680x700
VGU180C	551.5	126	154	1120x680x700
VGU180DS	641.5	141	169	1120x680x700
VGU180D	641.5	144	172	1120x680x700
VGU180E	641.5	170	198	1120x680x700
VGU180F	701.5	183	218	1120x680x700

SAE AVAILABILITY

SAE	6.5	7.5	8	10	11.5
5	x	x			
4		x	x	x	
3				x	x
2					

DATA TABLE - SINGLE BEARING

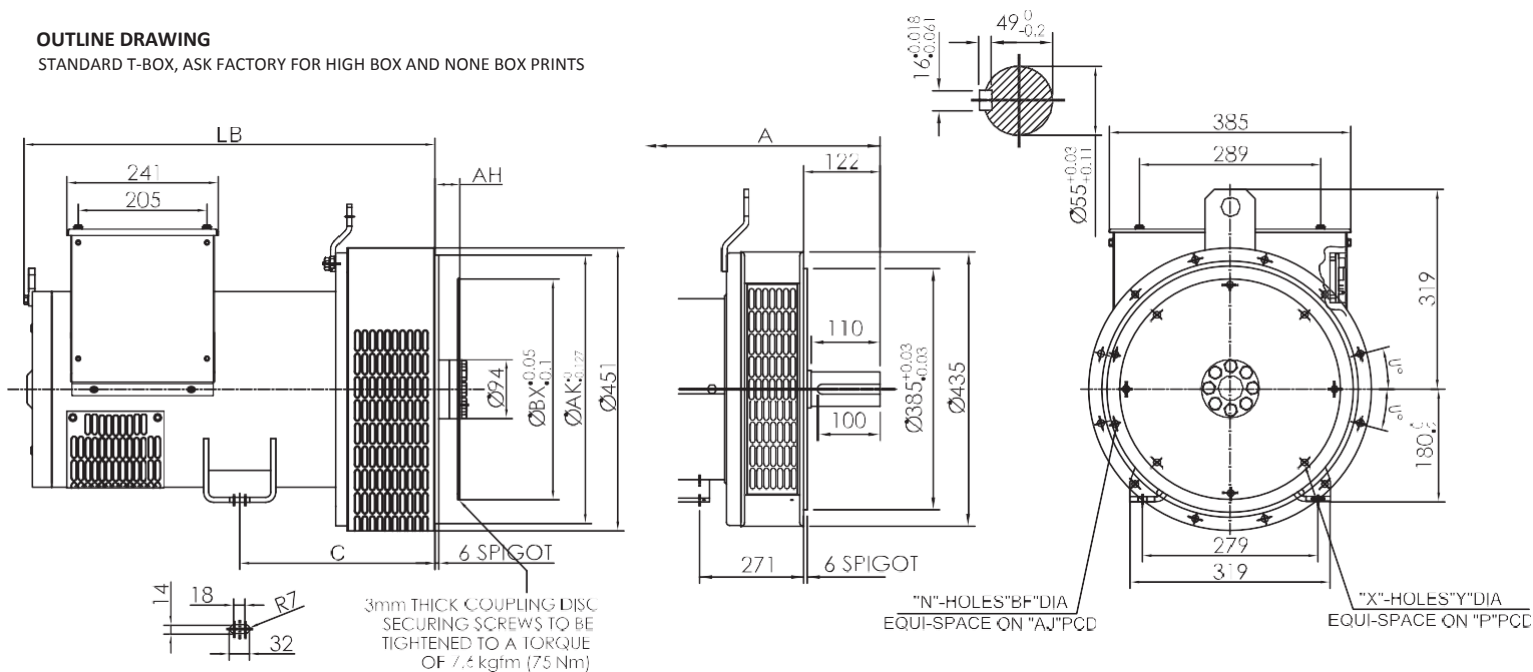
Dimension (mm)	SAE 2	SAE 3	SAE 4/5	Weight		Packing
Model	LB	LB	LB	Net(kg)	Gross(kg)	L x W x H (mm)
VGU180B	470.5	443.5	431.5	115	143	1120x680x700
VGU180C	470.5	443.5	431.5	123	151	1120x680x700
VGU180DS	560.5	533.5	521.5	138	166	1120x680x700
VGU180D	560.5	533.5	521.5	145	173	1120x680x700
VGU180E	560.5	533.5	521.5	167	195	1120x680x700
VGU180F	620.5	593.5	581.5	185	215	1120x680x700

Flange(mm)								Disc(mm)					
SAE#	BD	AK	AJ	BF	N	U ^ø	C	SAE#	BX	P	X	Y	AH
SAE 5	356	314.32	333.38	11	8	22.5	238	11.5	352.42	333.38	8	11	39.6
SAE 4	402	361.95	381.00	11	12	15	238	10	314.32	295.28	8	11	53.8
SAE 3	451	409.58	428.62	11	12	15	250	8	263.52	244.48	6	11	62
								7.5	241.30	222.25	8	9	30.2
								6.5	215.90	200.02	6	9	30.2

60Hz @ 480V		VGU180G	VGU180C	VGU180DS	VGU180D	VGU180E	VGU180F		
Xd	Direct axis synchro. reactance unsaturated	1.881	1.751	1.751	1.561	2.000	2.000		
X'd	Direct axis transient reactance saturated	0.190	0.171	0.171	0.161	0.152	0.152		
X''d	Direct axis sub transient reactance saturated	0.120	0.120	0.120	0.102	0.083	0.083		
Xq	Quadra. Axis synchro. reactance unsaturated	0.931	0.882	0.882	0.773	0.967	0.967		
X''q	Quadra. Axis sub transient reactance saturated	0.211	0.200	0.200	0.171	0.169	0.169		
X2	Negative sequence reactance unsaturated	0.171	0.162	0.162	0.152	0.124	0.124		
Xo	Zero sequence reactance unsaturated	0.082	0.075	0.075	0.068	0.030	0.030		
T'd	Short-Circuit transient time constant	0.02s	0.02s	0.02s	0.020	0.24s	0.24s		
T''d	Sub transient time constant	0.005s	0.005s	0.005s	0.006s	0.015s	0.015s		
T'do	Open circuit time constant	0.4s	0.4s	0.4s	0.5s	0.57s	0.57s		
Ta	Armature time constant	0.006s	0.006s	0.006s	0.007s	0.01s	0.01s		
Kcc	Short circuit ratio	0.532	0.571	0.571	0.641	0.500	0.500		

OUTLINE DRAWING

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



DATA TABLE - DOUBLE BEARING

Dimension(mm)	Double BRG	Weight		Packing
Model	A	Net(kg)	Gross(kg)	L x W x H (mm)
VGU180G	736.5	215	244	1120x800x750

SAE AVAILABILITY

SAE	6.5	7.5	8	10	11.5	
5						
4		x	x			
3			x	x	x	
2					x	

DATA TABLE - SINGLE BEARING

Dimension(mm)	SAE 2	SAE 3		Weight		Packing
Model	LB	LB		Net(kg)	Gross(kg)	L x W x H (mm)
VGU180G	668.8	654.5		210	236	1120x800x750

Flange(mm)								Disc(mm)						
SAE#	BD	AK	AJ	BF	N	U ^g	C		SAE#	BX	P	X	Y	AH
SAE 5	356	314.32	333.38	11	8	22.5	311		11.5	352.42	333.38	8	11	39.6
SAE 4	402	361.95	381.00	11	12	15	311		10	314.32	295.28	8	11	53.8
SAE 3	451	409.58	428.62	11	12	15	311		8	263.52	244.48	6	11	62.0
SAE 2	489	447.68	466.72	11	12	15	325		7.5	241.30	222.25	8	9	30.2
									6.5	215.90	200.02	6	9	30.2