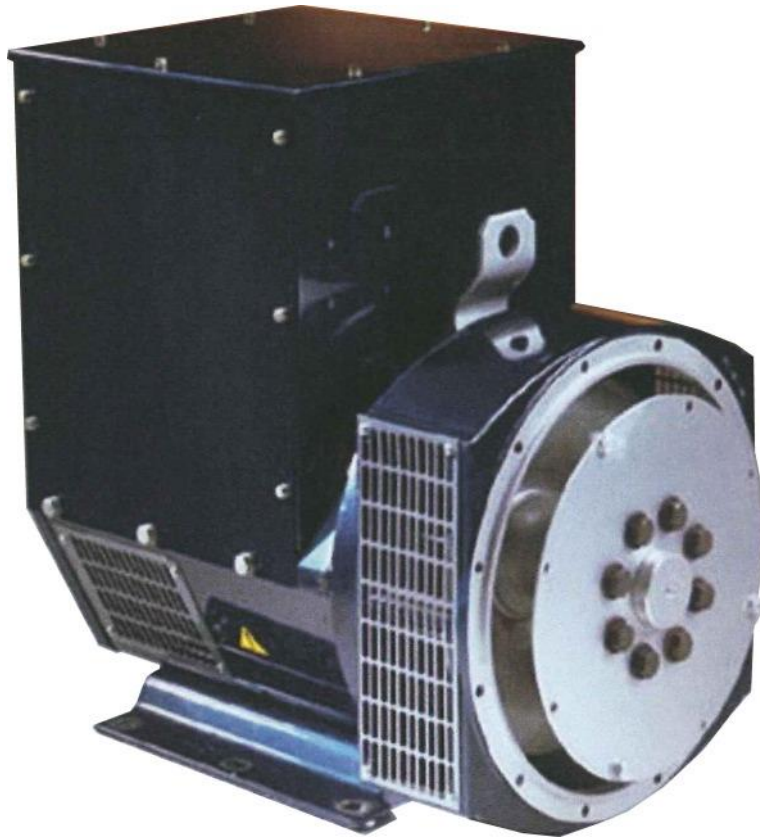




# DG 224

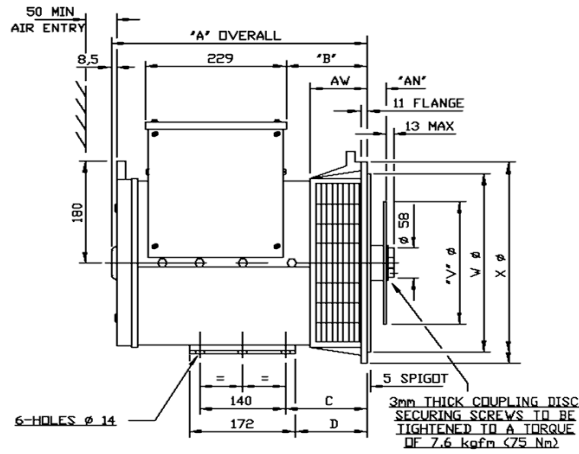


maximizing your energy  
*Try the best!*

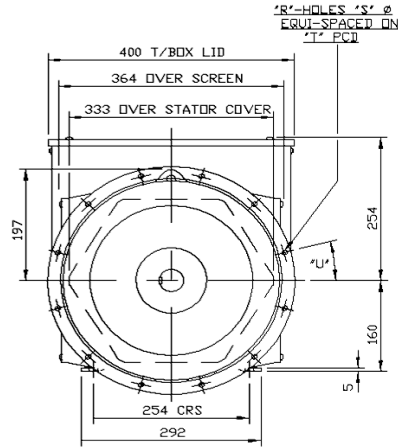
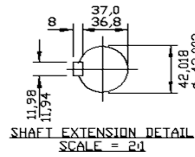
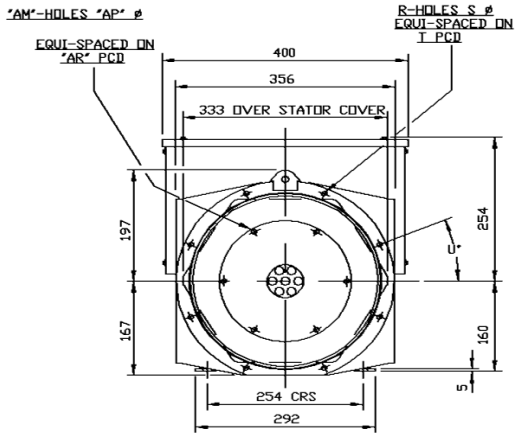
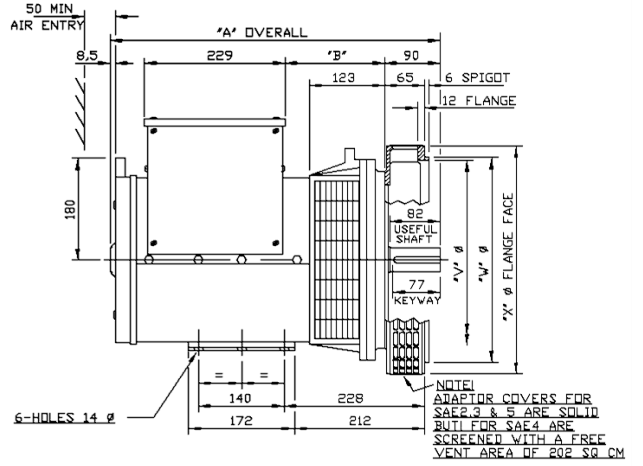
<b>DG224</b>		<b>3 Phase H insulation Industrial</b>							
Voltage		50 Hz 1500rpm				60 Hz 1800rpm			
Series Star		380	400	415	440	416	440	460	480
Parallel Star		190	200	208	220	208	220	230	240
Series Delta		220	230	240	254	240	254	266	277
<b>DG224C</b>	KVA	42.5	42.5	42.5	30	50	52.5	52.5	55
	KW	34	34	34	24	40	42	42	44
	Efficiency (%)	86.5	87.1	87.4	88.2	86.8	87.2	87.7	87.9
	Power input (KW)	39.3	39	38.9	27.2	46.1	48.2	47.9	50.1
<b>DG224D</b>	KVA	50	50	50	37.5	60	62.5	62.5	65
	KW	40	40	40	30	48	50	50	52
	Efficiency (%)	87.8	88.2	88.5	89	87.8	88.2	88.6	88.8
	Power input (KW)	45.6	45.4	45.2	33.7	54.7	56.7	56.4	58.6
<b>DG224E</b>	KVA	60	60	60	45	67.5	70	70	75
	KW	48	48	48	36.0	54	56	56	60
	Efficiency (%)	88.1	88.6	88.9	89.5	88.5	88.9	89.2	89.4
	Power input (KW)	54.5	54.2	54	40.2	61	63	62.8	67.1
<b>DG224F</b>	KVA	72.5	72.5	72.5	55	83.5	87.5	87.5	93.8
	KW	58	58	58	44	67	70	70	75
	Efficiency (%)	89.6	90	90.2	90.6	89.9	90.2	90.5	90.5
	Power input (KW)	64.7	64.4	64.3	48.6	74.5	77.6	77.3	82.9
<b>DG224G</b>	KVA	85	85	85	75	93.5	97.5	100	100
	KW	68	68	68	60	75	78	80	80
	Efficiency (%)	89.9	90.2	90.4	90.8	90.4	90.6	90.8	91
	Power input (KW)	75.6	75.4	75.2	66.1	83	86.1	88.1	87.9

<b>DG224</b>		<b>3 Phase F insulation marine</b>							
Voltage		50 Hz 1500rpm				60 Hz 1800rpm			
Series Star		380	400	415	440	416	440	460	480
Parallel Star		190	200	208	220	208	220	230	240
Series Delta		220	230	240	254	240	254	266	277
<b>DG224C</b>	KVA	37.5	37.5	37.5	35	43.5	43.8	43.8	43.8
	KW	30	30	30	28	35	35	35	35
	Efficiency (%)	87.1	87.6	87.8	88.5	87.6	88	88.4	88.6
	Power input (KW)	34.4	34.2	34.2	31.6	40	39.8	39.6	39.5
<b>DG224D</b>	KVA	43.8	43.8	43.8	40	50	52.5	56.3	56.3
	KW	35	35	35	32	40	42	45	45
	Efficiency (%)	88.2	88.6	88.9	89.2	88.6	88.8	89.1	89.3
	Power input (KW)	39.7	39.5	39.4	35.9	45.1	47.3	50.5	50.4
<b>DG224E</b>	KVA	50	50	50	50	62.5	62.5	62.5	62.5
	KW	40	40	40	48	50	50	50	50
	Efficiency (%)	88.9	89.2	89.5	89.8	88.9	89.3	89.8	89.9
	Power input (KW)	45	44.8	44.7	44.5	56.2	56	55.7	55.6
<b>DG224F</b>	KVA	62.5	62.5	62.5	62.5	75	75	75	81.3
	KW	50	50	50	50	60	60	60	65
	Efficiency (%)	90	90.2	90.5	90.7	90.2	90.8	91	91
	Power input (KW)	55.6	55.4	55.2	55.1	66.5	66.1	65.9	71.4
<b>DG224G</b>	KVA	75	75	75	65	87.5	87.5	93.8	93.8
	KW	60	60	60	52	70	70	75	75
	Efficiency (%)	90.4	90.6	90.8	91.1	90.6	91	91	91.2
	Power input (KW)	66.4	66.2	66.1	57.1	77.3	76.9	82.4	82.2

SINGLE BEARING



DOUBLE BEARING



SINGLE BEARING DIMENSIONS					
	Code	A	B	C	C of G
SAE1	DG224C	724.3	661.3	224.3	323
	DG224D	724.3	661.3	224.3	333
	DG224E	814.3	751.3	314.3	348
	DG224F	814.3	751.3	314.3	358
	DG224G	859.3	796.3	359.3	373
SAE2&3	DG224C	710	647	210	311
	DG224D	710	647	210	321
	DG224E	800	737	300	336
	DG224F	800	737	300	346
	DG224G	845	782	345	361

DOUBLE BEARING DIMENSIONS					
	Code	A	B	C	C of G
	DG224C	792	729	170	368
	DG224D	792	729	170	378
	DG224E	882	819	260	393
	DG224F	882	819	260	403
	DG224G	972	864	305	418

FLANGE ADAPTOR						
S.A.E.No.	D	R	S	T	W	X
1	191.3	12	12.7	530.2	511.1	553
2	177	12	11	466.7	447.6	490
3	177	12	11	428.6	409.5	451
4	177	12	11	381.0	361.9	453

FLANGE ADAPTOR						
S.A.E.No.	D	R	S	T	W	X
1	191.3	12	12.7	530.2	511.1	553
2	177	12	11	466.7	447.6	490
3	177	12	11	428.6	409.5	451
4	177	12	11	381.0	361.9	403

DISC COUPLING					
S.A.E.No.	AN	AR	AS	AT	V
8	61.9	6	10.3	244.4	263.4
10	53.98	8	10.3	295.3	314.2
11.5	39.68	8	10.3	333.3	352.3
14	25.40	8	13.5	438.2	466.6

SINGLE BEARING SHIPPING DETAILS			
Code	Net weight Kg	Gross weight Kg	Packing
DG224C	235	255	108x66x94
DG224D	250	270	108x66x94
DG224E	270	290	108x66x94
DG224F	310	330	108x66x94
DG224G	350	370	108x66x94

DOUBLE BEARING SHIPPING DETAILS			
Code	Net weight Kg	Gross weight Kg	Packing
DG224C	235	255	108x66x94
DG224D	250	270	108x66x94
DG224E	270	290	108x66x94
DG224F	310	330	108x66x94
DG224G	350	370	108x66x94

## MAIN CHARACTERISTIC DESCRIPTION

### GENERAL

Alternator full range covers ratings from 5kVA to 1386kVA, so meeting the most part of needs for industrial, marine, commercial, construction, mining and telecommunications, both for prime or standby power generation.

### ALTERNATOR CONSTRUCTURE

Ac generators are self-excited, self-regulated, and supplied with regulator and inbuilt booster.

### COMPLIANCE WITH STANDARDS

The generators are designed in compliance with IEC60034-1/60034-2, BS4990 & 5000, VDE0530, NEMA MG1-2006, CSA C/UL.

Certificate ISO 2000, CE conform to the requirements of IEC60034, certificate no. No. 01157 by NQA Certification Co., Ltd.

### MECHANICAL FEATURES

The generators are available in either single-bearing or double-bearing.

Single-bearing construction has international general SAE flange adaptors and SAE disc couplings. It ensures the alignment during the assembly operation of generator to the engine.

Double-bearing construction has IMB34 standard forms. It has all SAE adaptors for option. Special constructions on request.

Double bearing alternators are balanced with 1/2 key.

All alternators can operate in both directions: clockwise and counterclockwise.

### ELECTRICAL FEATURES

#### OVERLOADS & SHORT CIRCUIT CURRENT

Followings overloads are allowed:

10% for 1 hour

14% for 15 minutes

25% for 5 minutes

50% for 2 minutes

With the addition of an optional Permanent Magnet, alternators can sustain 300% short circuit current for 10 seconds.

### UNBALANCED LOAD

The alternators permit an unbalanced load of 25% rated current. The deviation of line voltage is less than 5%.

### INSULATION

The insulation system is class 'H'

Vacuum pressure Impregnation

Windings and Electrical Performance

Generator stator is wound to 2/3 pitch. This eliminates triplen (3<sup>rd</sup>, 9<sup>th</sup>, 15<sup>th</sup>...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads.

### TELEPHONE INTERFERENCE

TIF (as defined by BS4999 Part 40) is better than 2%. TIF (as defined by ASAC50.12) is better than 50.

### RADIO INTERFERENCE

The alternators are supplied with interference suppression grade N to VDE 0875.

### DAMPER WINDING

This arrangement provides the alternator with excellent damping against torsional vibrations that occurs during changes in load and when running in parallel.

### ACCESSORIES & OPTION

Droop kit for sharing of reactive current during parallel operation

- Remote voltage potentiometer
- PT100 thermal protection embedded in stator windings
- Anti condensation heaters
- IP23 protection
- Special treatment for damp-saline or corrosive environment
- Permanent Magnet
- Control panel with LCD digital meter

### GENERAL NOTES

All ratings are base in 40C° ambient temperature at 1000m altitude.

Site altitude exceeds 1000m above the sea level, (ambient temperature 40C°)

1000 mt. A.s.l.= 100%; 1500 mt. A.s.l.= 97%; 2000 mt. A.s.l.= 94%; 2500 mt. A.s.l.= 91%;

3000 mt. A.s.l.= 87%; 3500 mt. A.s.l.= 82%

Power factor cos.  $\Phi < 0.8$

Cos.  $\Phi 0.8 \sim 1 = 100\%$ ; Cos.  $\Phi 0.7 = 96\%$ ; Cos.  $\Phi 0.6 = 92\%$ ; Cos.  $\Phi 0.5 = 91\%$ ; Cos.  $\Phi 0.4 = 90\%$