



THREE-PHASE SYNCHRONOUS GENERATOR
20140601

Datasheet For 50Hz @ 1500rpm / 60Hz @ 1800rpm

EG225-60N

Frequency	Hz	50				60						
Rated capacity (kVA)	S	71.3	75	77.8	82.5	78.4	82.5	85.8	90.8	94.9	99	
Rated power (kW)	P	57	60	62.2	66	62.7	66	68.6	72.6	75.9	79.2	
Voltage (V)	U	380	400	415	440	380	400	416	440	460	480	
Short-circuit ratio	Kcc	0.409	0.455	0.511	0.64	0.287	0.305	0.321	0.346	0.372	0.405	
Reactance												
Direct axis synchronous reactance	Xd	2.921	2.775	2.674	2.522	3.855	3.662	3.52	3.329	3.185	3.052	
Direct axis transient reactance saturated	X'd	0.12	0.114	0.11	0.104	0.159	0.151	0.145	0.137	0.131	0.126	
Direct axis subtransient reactance saturated	X''d	0.112	0.106	0.102	0.096	0.147	0.14	0.134	0.127	0.122	0.117	
Quadrature axis synchronous reactance	Xq	1.334	1.268	1.222	1.152	1.761	1.673	1.608	1.521	1.455	1.394	
Quadrature axis subtransient reactance	X''q	0.184	0.174	0.168	0.159	0.242	0.23	0.221	0.209	0.2	0.192	
Negative sequence reactance saturated	X2	0.15	0.14	0.14	0.13	0.19	0.19	0.18	0.17	0.16	0.15	
Zero sequence reactance unsaturated	X0	0.005	0.005	0.005	0.004	0.007	0.006	0.006	0.006	0.005	0.005	
Time constant												
Open circuit time constant	T'd0	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	
Short-circuit transient time constant	T'd	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	
Subtransient time constant	T''d	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	
Armature time constant	Ta	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	
No load losses	W	982	1034	1075	1147	1289	1335	1374	1435	1488	1544	
Heat dissipation at full load at Class H	W	7352	7721	8113	9144	8674	8576	8807	8878	9086	9447	
Efficiency												
PF=0.8 Efficiency of	25% load	%	89.64	89.17	88.63	87.25	90.08	90.10	89.95	89.83	89.62	89.25
	50% load	%	90.86	90.65	90.34	89.44	91.54	91.78	91.79	91.91	91.90	91.74
	75% load	%	90.05	89.97	89.77	89.06	90.14	90.55	90.67	90.95	91.08	91.04
	100% load	%	88.58	88.60	88.46	87.83	87.85	88.50	88.62	89.10	89.31	89.34
	110% load	%	87.61	87.68	87.57	86.97	86.43	87.08	87.32	87.83	88.11	88.21
PF=1 Efficiency of	25% load	%	90.62	90.20	89.74	88.57	91.15	91.05	90.88	90.75	90.54	90.28
	50% load	%	92.58	92.42	92.21	91.60	93.63	93.71	93.69	93.77	93.75	93.70
	75% load	%	92.41	92.39	92.30	91.94	93.14	93.36	93.43	93.66	93.76	93.84
	100% load	%	91.65	91.73	91.71	91.49	91.92	92.25	92.35	92.72	92.90	93.12
	110% load	%	91.00	91.12	91.14	90.98	90.83	91.22	91.40	91.82	92.06	92.30
No load excitation current	io(A)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Full load excitation current	ic(A)	3	3	3	3	3	3	3	3	3	3	
Full load excitation voltage	uc(V)	23	23	23	23	23	23	23	23	23	23	
Short circuit current capacity	%	>300I _N 10s(with PMG or Auxiliary winding)										
Recovery time	Tr	1s										
Waveform : TIF		<50										
Waveform : THD		<3%										
Waveform : THF		<2%										
Winding pitch		2/3										
Steady state voltage regulation		+/- 1%										
A.V.R. model		WT-3A										

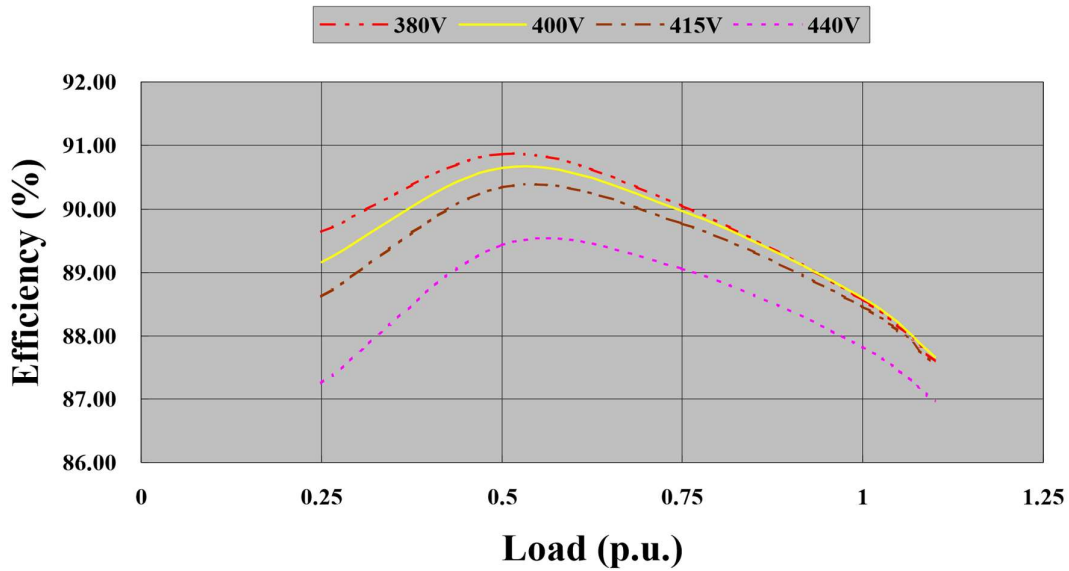
Duty		Continuous									
Number of poles		4									
Class of insulation		H									
Altitude		≤1000m									
Rated power factor		0.8									
Excitation		Brushless									
Stator winding		12ends									
Rotor		With damping cage									
Overload	%	110% rated load for 2 hour per 24 hour									
Stator winding resistance (20°C)	ohm	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739	0.0739
Rotor winding resistance (20°C)	ohm	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339	0.339
Exciter resistance (20°C)	ohm	7.118	7.118	7.118	7.118	7.118	7.118	7.118	7.118	7.118	7.118
Cooling air requirement	m ³ /min	22.3	22.3	22.3	22.3	26.8	26.8	26.8	26.8	26.8	26.8
Energy storage constant (H)	sec.	0.162	0.154	0.149	0.140	0.213	0.202	0.194	0.184	0.176	0.168
Method of cooling		IC 01									
Ambient temperature		40°C									
Sense of rotation		Clockwise-DE									
Type of construction		Single / Double bearing									
Degree of protection / enclosure		IP21 or IP23									
Maximum overspeed		2250 rpm 2minutes									



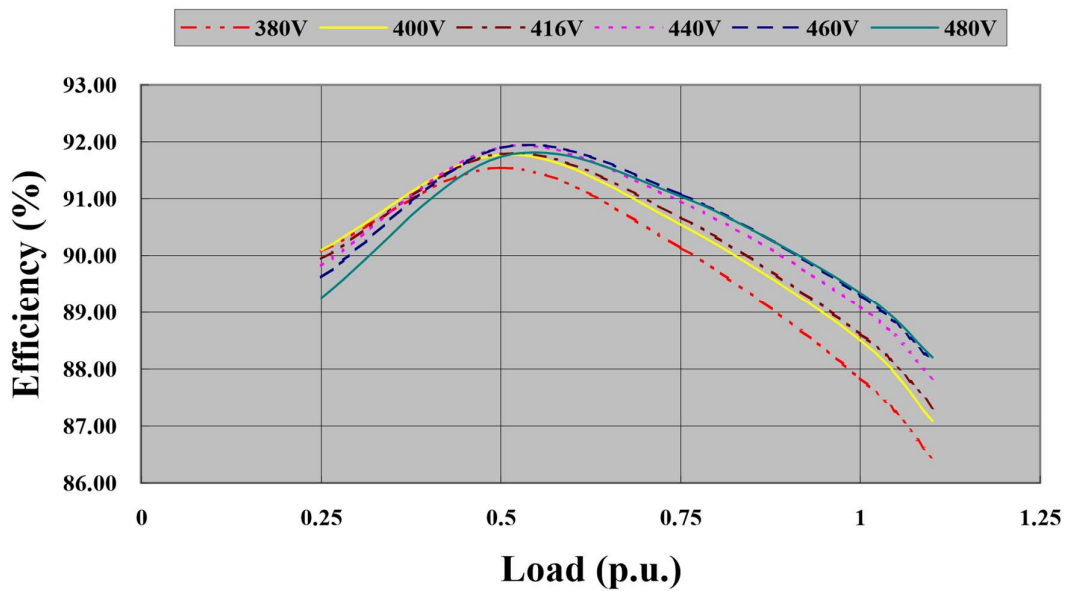
THREE-PHASE SYNCHRONOUS

THREE PHASE EFFICIENCY CRUVES 20121201

EG225-60N - 50Hz at 1500rpm PF 0.8



EG225-60N - 60Hz at 1800rpm PF 0.8



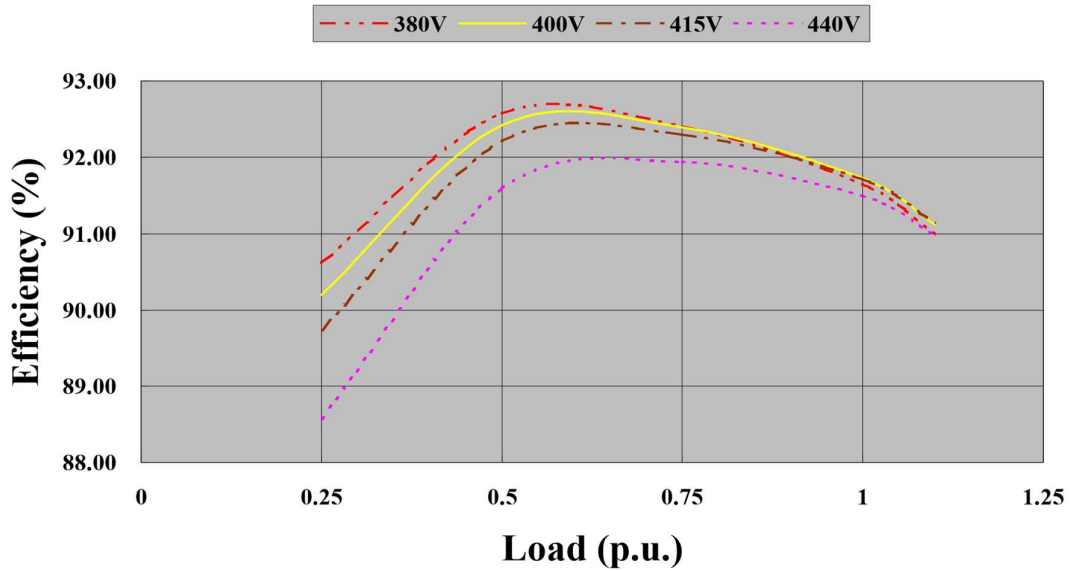
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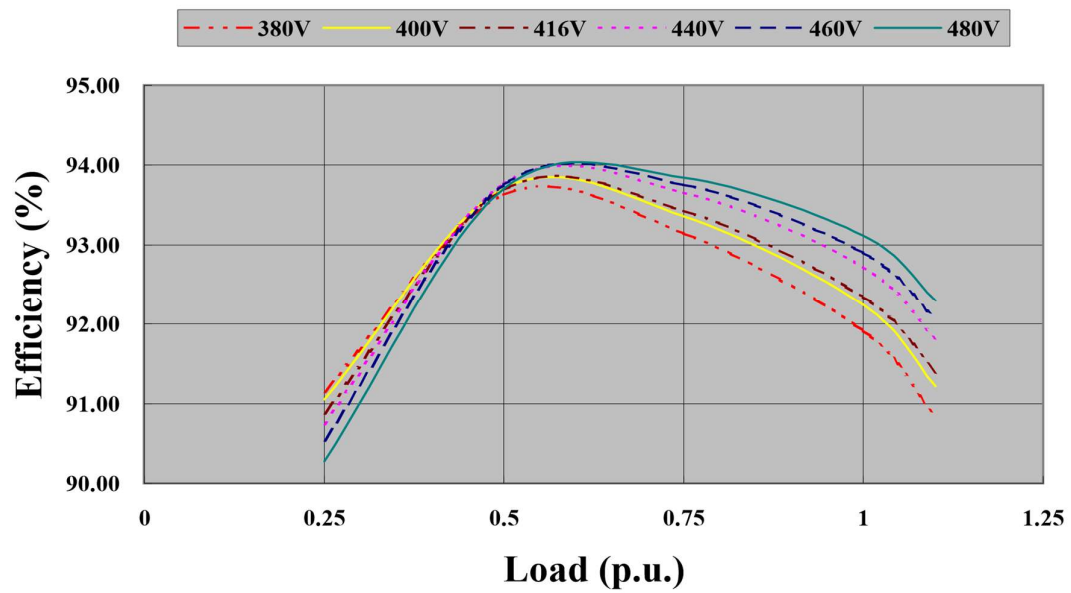
THREE-PHASE SYNCHRONOUS

THREE PHASE EFFICIENCY CRUVES 20121201

EG225-60N - 50Hz at 1500rpm PF 1



EG225-60N - 60Hz at 1800rpm PF 1



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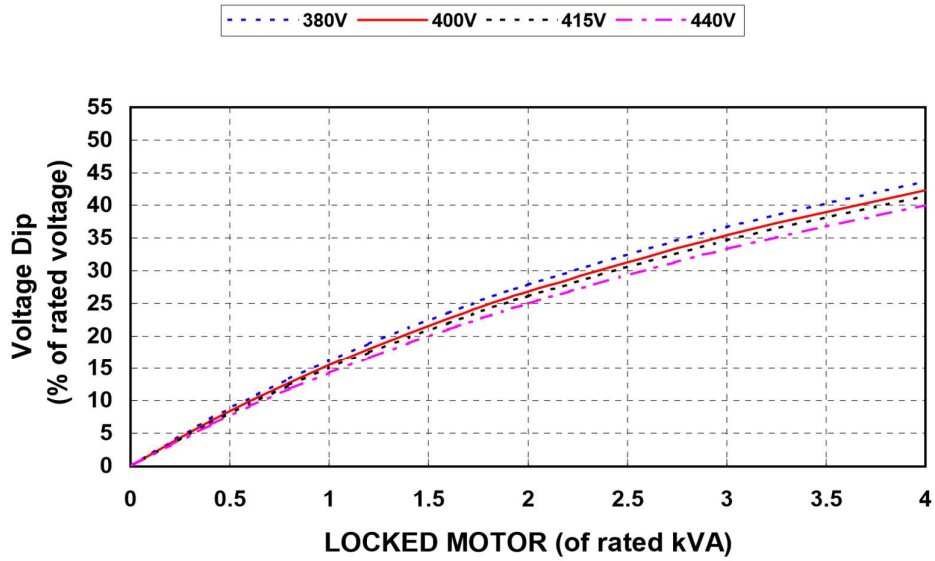


THREE PHASE SYNCHRONOUS GENERATOR

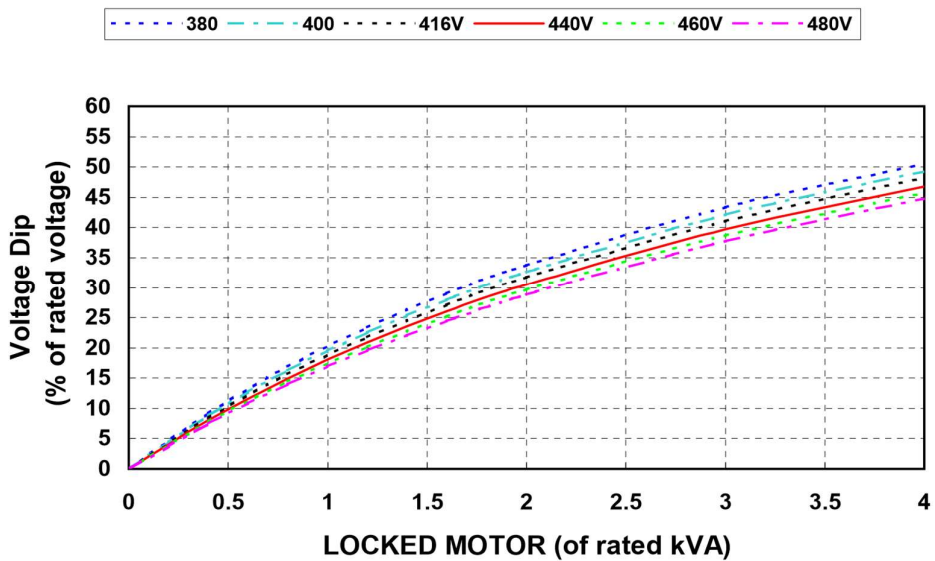
EG225-60N

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LOCKED ROTOR MOTOR STRATING CURVES AT 50Hz



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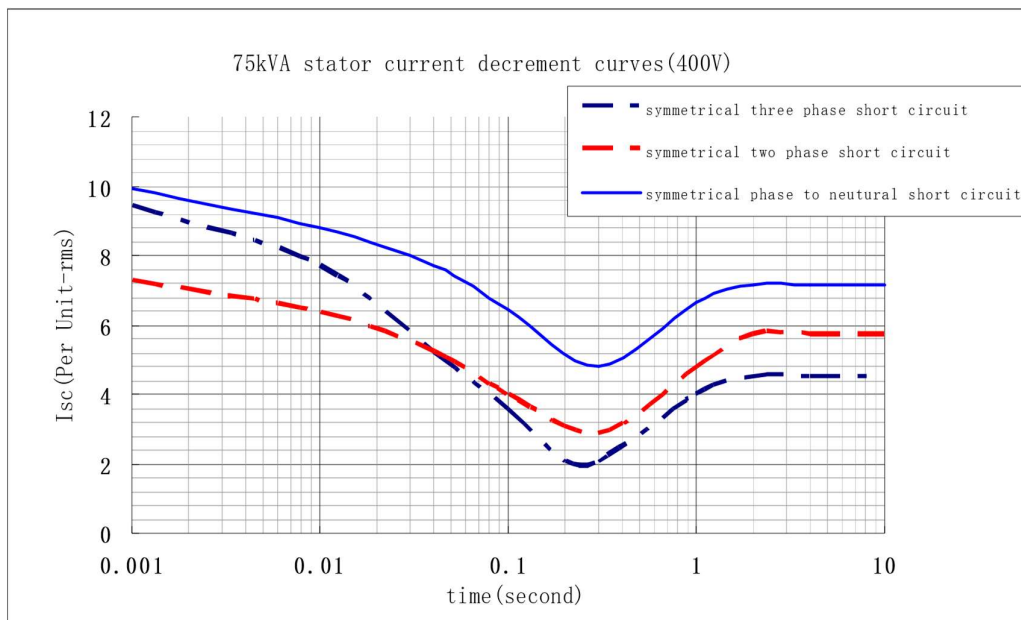


THREE-PHASE SYNCHRONOUS GENERATOR

STATOR CURRENT DECREMENT CURVES

EG225-60N

20140601



with PMG or Auxiliary winding