THREE-PHASE SYNCHRONOUS GENERATOR 20141201

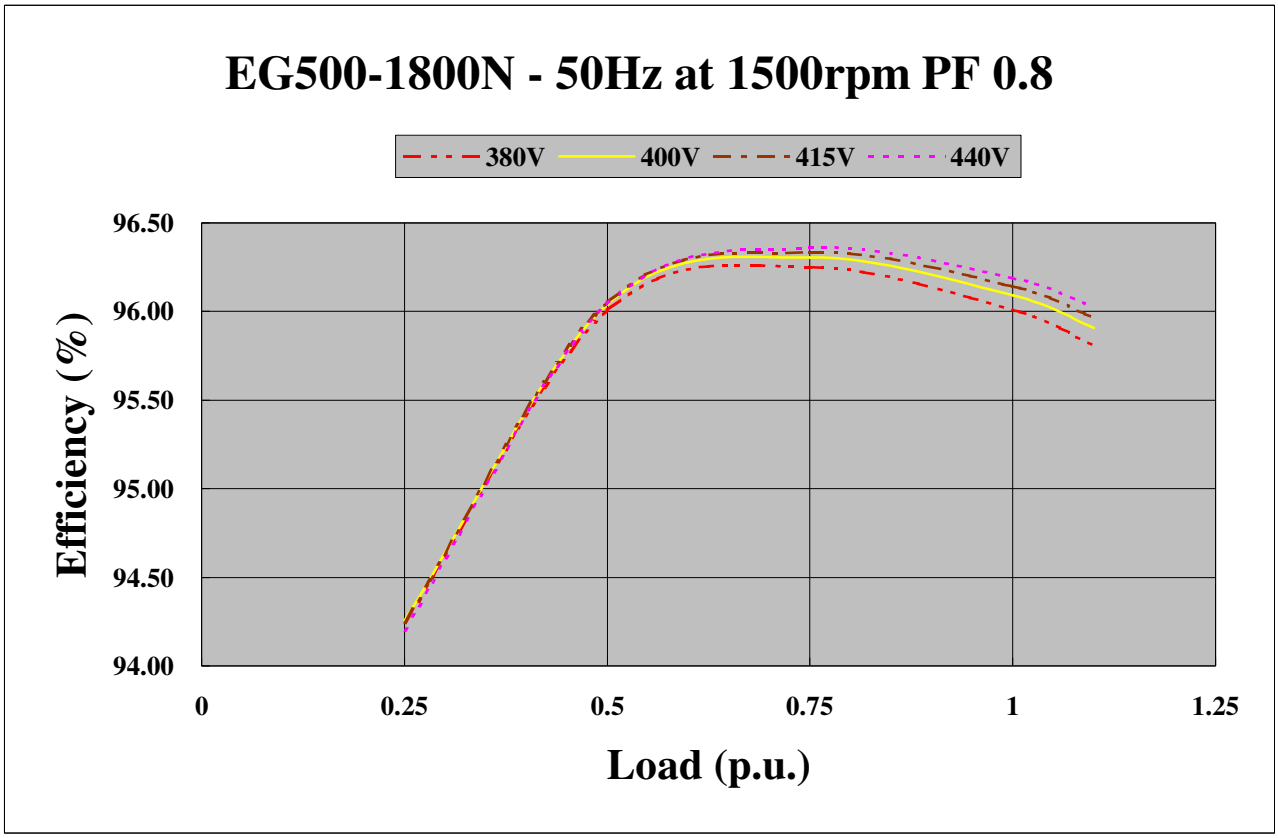
Datasheet For 50Hz @ 1500rpm / 60Hz @ 1800rpm

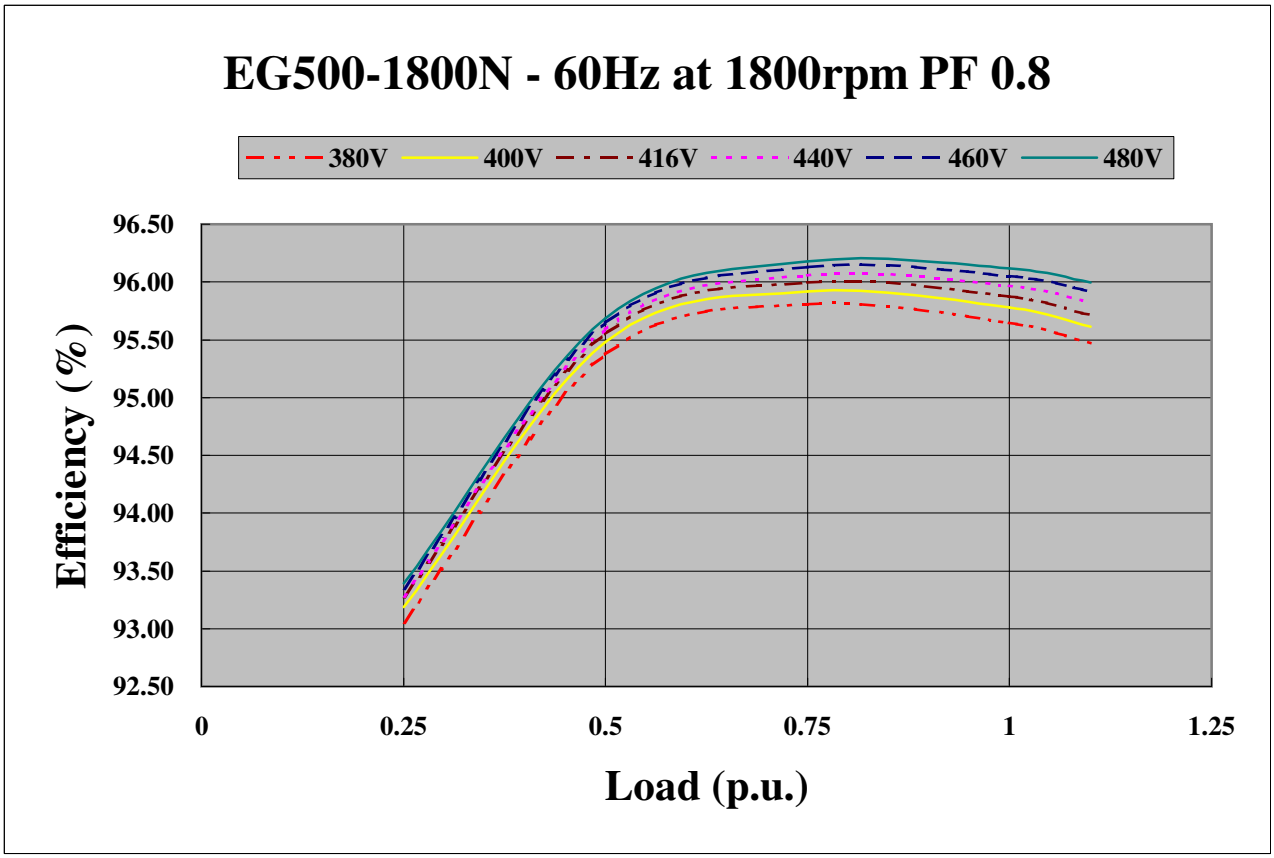
EG500-1800N

Frequency	Hz	50				60					
Rated capacity (kVA)	S	2138	2250	2334	2475	2244	2363	2457	2599	2717	2835
Rated power (kW)	P	1710	1800	1867	1980	1795	1890	1966	2079	2174	2268
Voltage (V)	U	380	400	415	440	380	400	416	440	460	480
Short-circuit ratio	Kcc	0.338	0.368	0.396	0.453	0.257	0.273	0.285	0.305	0.326	0.35
Reactance											
Direct axis synchronous reactance	Xd	3.375	3.206	3.09	2.914	4.252	4.039	3.884	3.672	3.512	3.366
Direct axis transient reactance saturated	X'd	0.128	0.122	0.117	0.11	0.161	0.153	0.147	0.139	0.133	0.128
Direct axis subtransient reactance saturated	X"d	0.1	0.095	0.091	0.086	0.125	0.119	0.115	0.108	0.104	0.099
Quadrature axis synchronous reactance	Xq	1.476	1.402	1.352	1.275	1.86	1.767	1.699	1.606	1.536	1.472
Quadrature axis subtransient reactance	X"q	0.129	0.123	0.118	0.111	0.163	0.154	0.149	0.14	0.134	0.129
Negative sequence reactance saturated	X2	0.11	0.11	0.1	0.1	0.14	0.14	0.13	0.12	0.12	0.11
Zero sequence reactance unsaturated	X0	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.005	0.005	0.005
Time constant											
Open circuit time constant	T'd0	3.737	3.737	3.737	3.737	3.737	3.737	3.737	3.737	3.737	3.737
Short-circuit transient time constant	T'd	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142
Subtransient time constant	T"d	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Armature time constant	Ta	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
No load losses	W	22009	22888	23577	24782	31194	31974	32628	33656	34556	35497
Heat dissipation at full load at Class H	W	71079	73203	74945	78422	81658	83247	84614	87329	89335	91541
Efficiency											
PF=0.8 Efficiency of 25% load	%	94.24	94.26	94.25	94.20	93.05	93.18	93.28	93.28	93.35	93.39
50% load	%	96.01	96.04	96.05	96.05	95.38	95.48	95.55	95.59	95.65	95.69
75% load	%	96.25	96.31	96.34	96.36	95.81	95.92	96.00	96.06	96.13	96.18
100% load	%	96.01	96.09	96.14	96.19	95.65	95.78	95.87	95.97	96.05	96.12
110% load	%	95.81	95.91	95.96	96.03	95.47	95.61	95.72	95.82	95.92	95.99
PF=1 Efficiency of 25% load	%	94.31	94.33	94.32	94.29	93.35	93.48	93.56	93.57	93.63	93.67
50% load	%	96.26	96.29	96.30	96.30	95.87	95.96	96.02	96.05	96.10	96.14
75% load	%	96.70	96.74	96.77	96.79	96.51	96.59	96.66	96.70	96.75	96.80
100% load	%	96.69	96.76	96.79	96.84	96.59	96.69	96.76	96.82	96.89	96.94
110% load	%	96.61	96.68	96.73	96.78	96.53	96.63	96.71	96.78	96.85	96.91
No load excitation current	io(A)	1	1	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Full load excitation voltage	uc(V)	55	55	55	55	55	55	55	55	55	55
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		EVC600									
Duty		Continuous									
Number of poles		4									
Class of insulation		H									
Altitude		≤1000m									
Rated power factor		0.8									
Excitation		Brushless									
Stator winding		6ends									
Rotor		With damping cage									
Overload	%	110% rated load for 2 hour per 24 hour									
Stator winding resistance (20℃)	ohm	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Rotor winding resistance (20℃)	ohm	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071
Exciter resistance (20℃)	ohm	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Cooling air requirement	m^3/min	186	186	186	186	223	223	223	223	223	223
Energy storage constant (H)	sec.	0.433	0.411	0.396	0.374	0.594	0.564	0.542	0.513	0.490	0.470
Method of cooling		IC 01									
Ambient temperature		40℃									
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

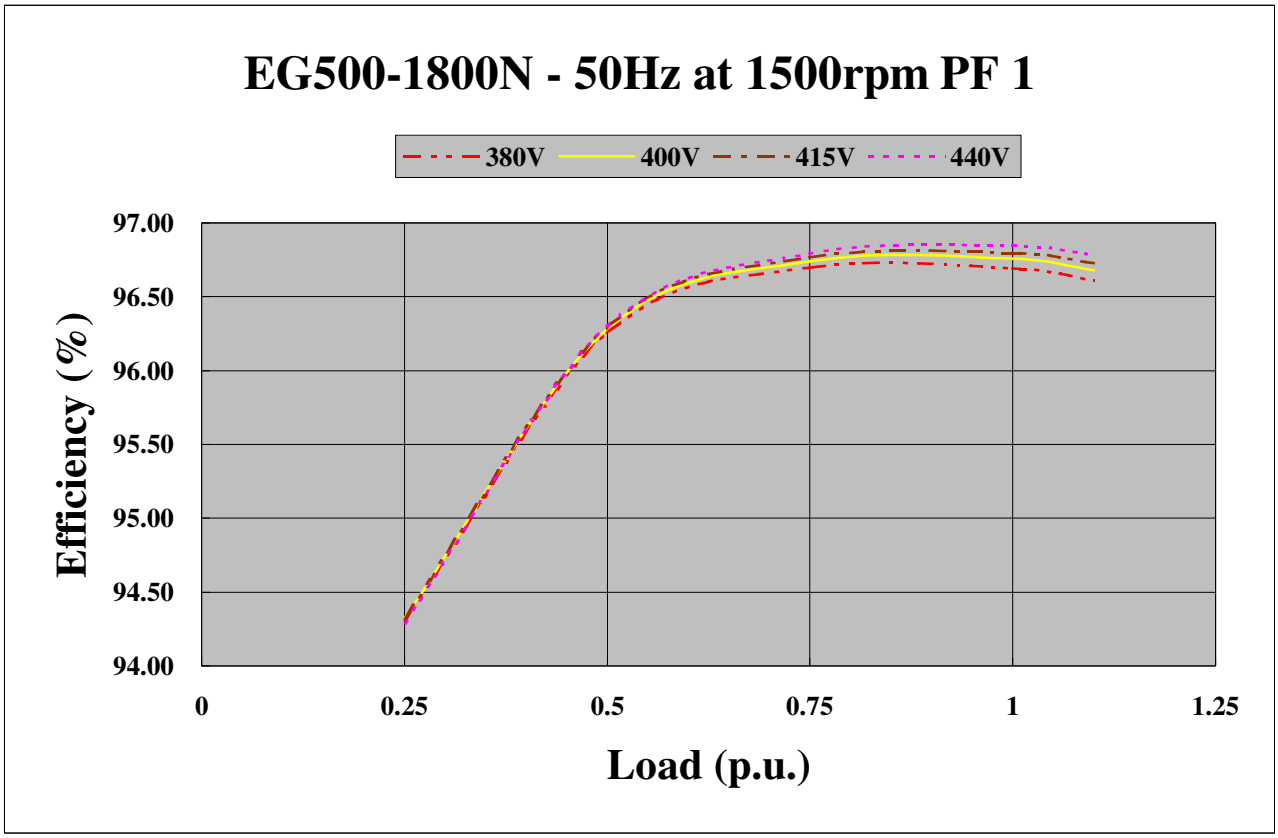


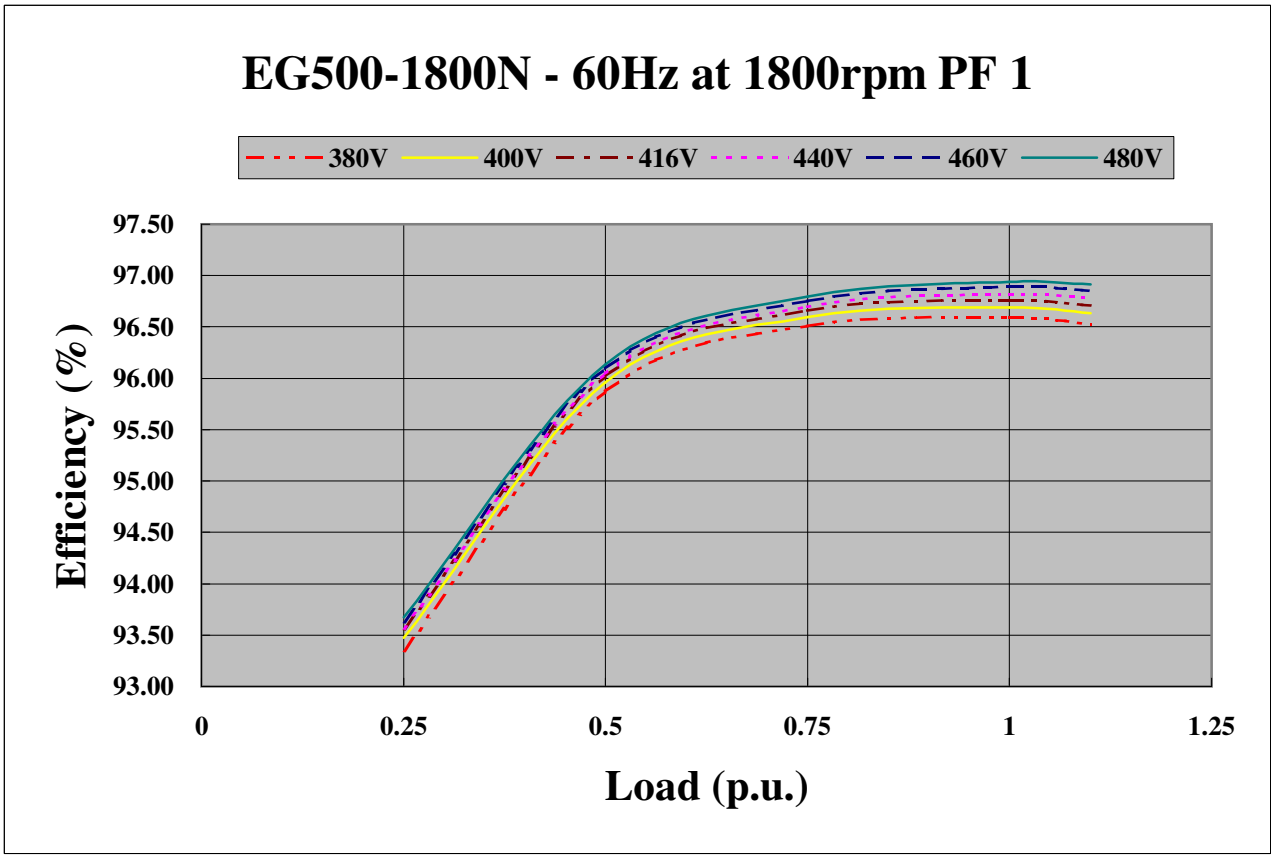


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THREE-PHASE SYNCHRONOUS

THREE PHASE EFFICIENCY CRUVES 20121201



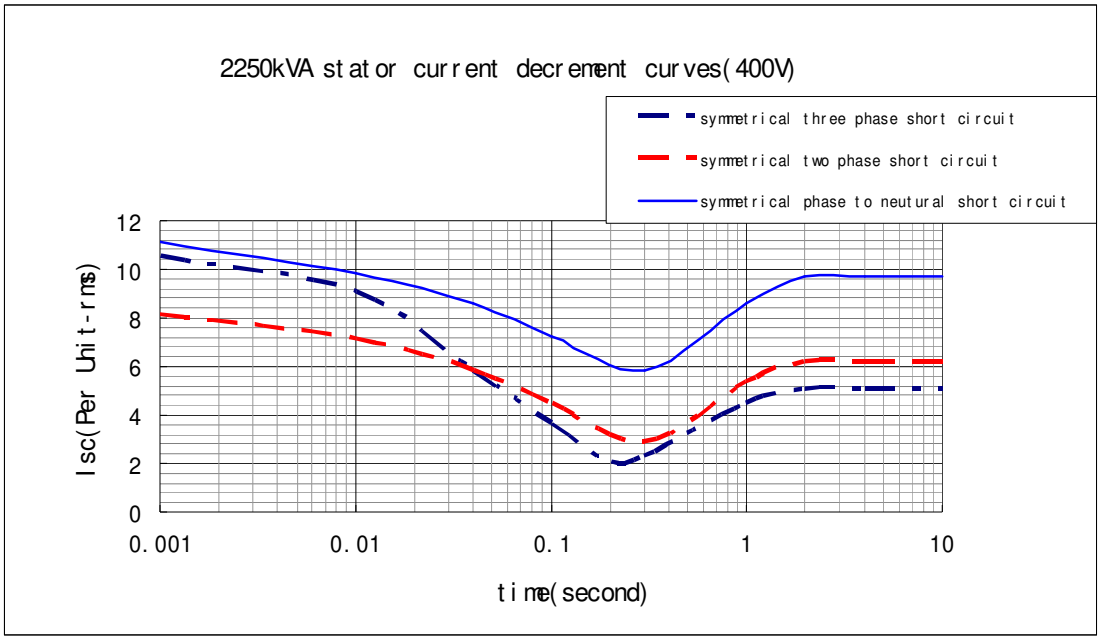


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THREE-PHASE SYNCHRONOUS GENERATOR
STATOR CURRENT DECREMENT CURVES

EG500-1800 N

20140601

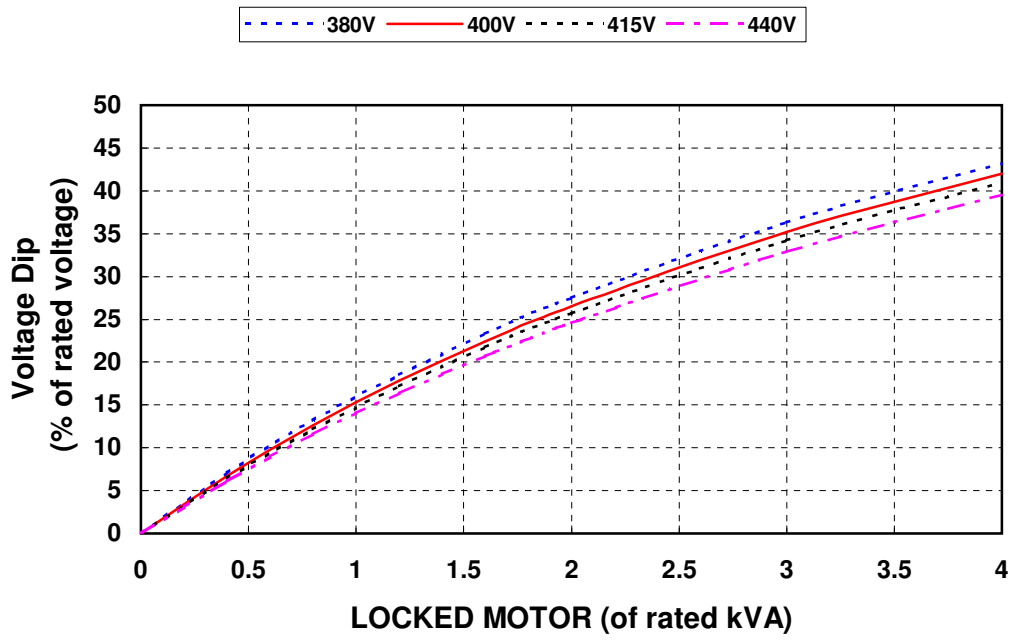


with PMG or Auxiliary winding

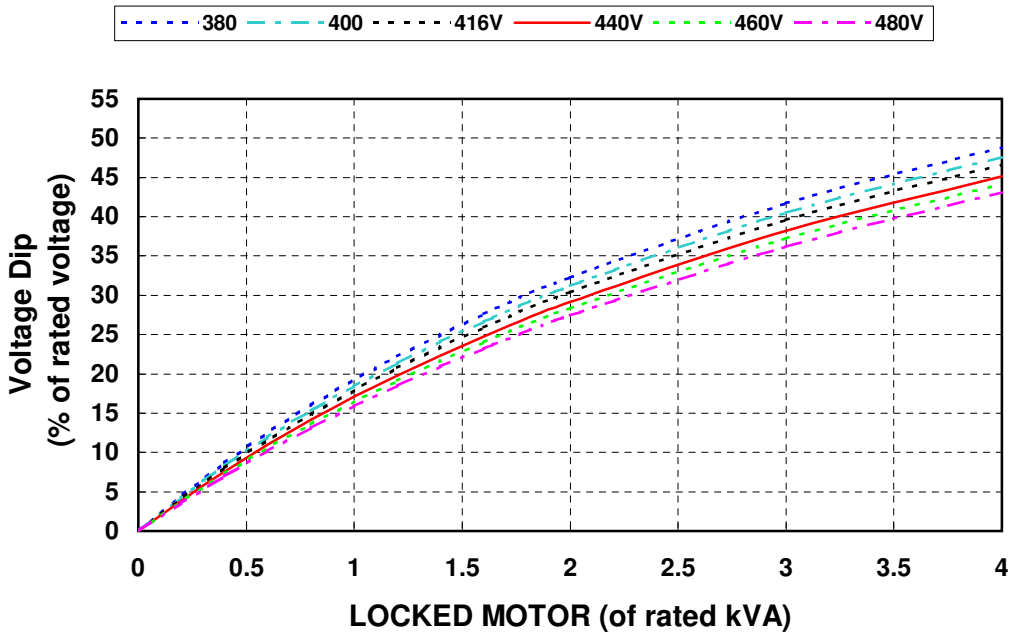
THREE PHASE SYNCHRONROUS GENERATOR

EG500-1800N 20130527

LOCKED ROTOR MOTOR STARTING CURVES AT 50Hz



LOCKED ROTOR MOTOR STARTING CURVES AT 60Hz



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