maranello alternator

M3450

CONT 3000 kVA

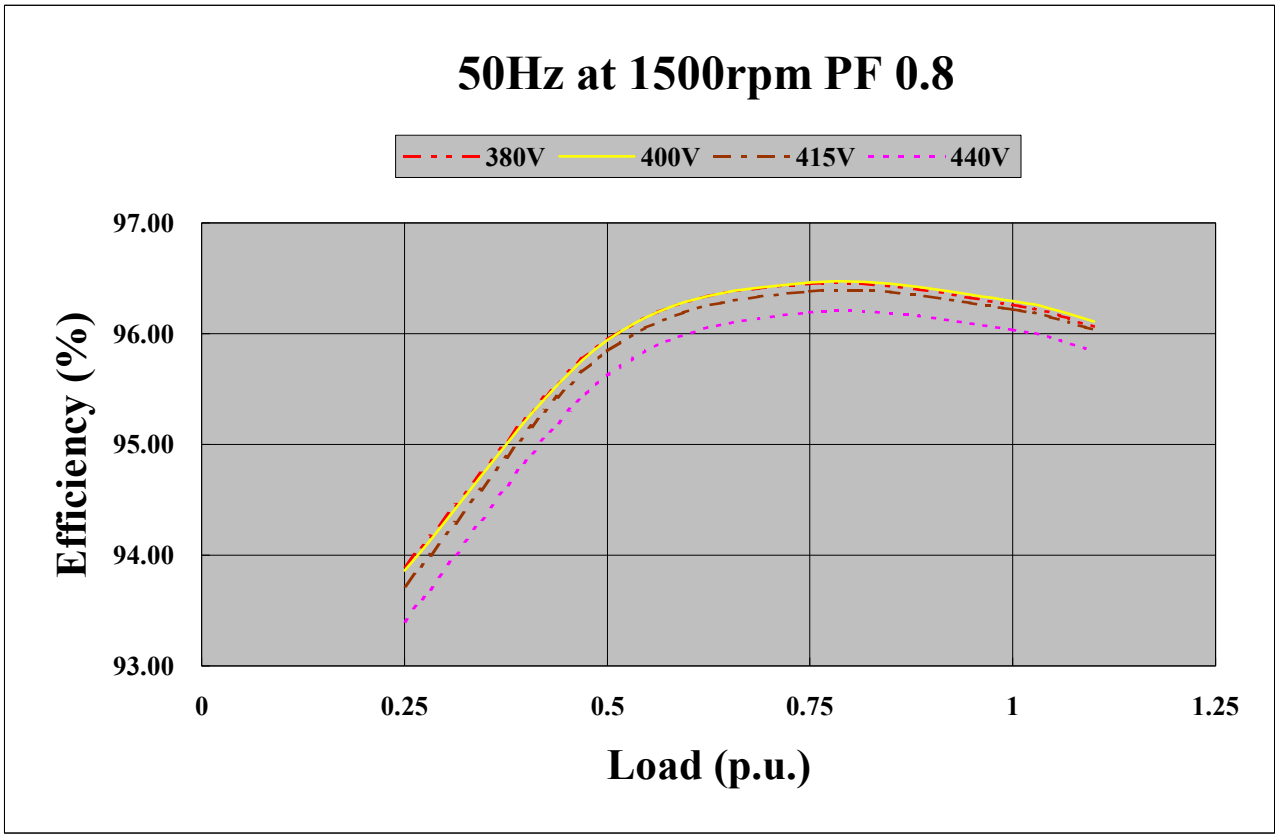
maranello alternator

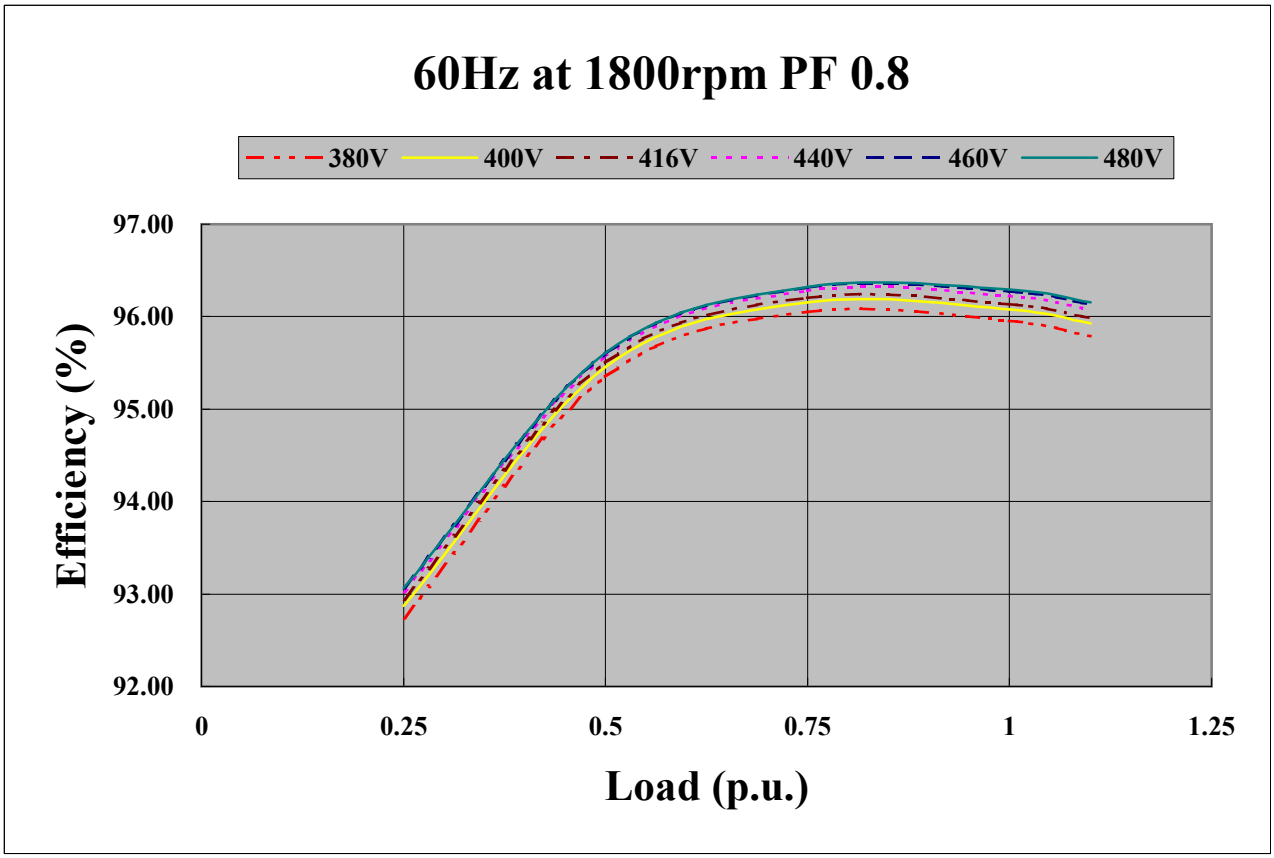
Datasheet For 50Hz @ 1500rpm / 60Hz @ 1800rpm

Frequency	Hz	50				60					
Rated capacity (kVA)	S	2850	3000	3113	3300	2993	3150	3276	3465	3623	3780
Rated power (kW)	P	2280	2400	2490	2640	2394	2520	2621	2772	2898	3024
Voltage (V)	U	380	400	415	440	380	400	416	440	460	480
Short-circuit ratio	Kcc	0.439	0.503	0.579	0.753	0.315	0.336	0.355	0.389	0.426	0.479
Reactance											
Direct axis synchronous reactance	Xd	2.768	2.63	2.535	2.391	3.488	3.314	3.186	3.012	2.881	2.761
Direct axis transient reactance saturated	X'd	0.144	0.137	0.132	0.124	0.181	0.172	0.166	0.157	0.15	0.144
Direct axis subtransient reactance saturated	X"d	0.11	0.104	0.1	0.095	0.138	0.131	0.126	0.119	0.114	0.109
Quadrature axis synchronous reactance	Xq	1.214	1.153	1.111	1.048	1.529	1.453	1.397	1.321	1.263	1.211
Quadrature axis subtransient reactance	X"q	0.135	0.128	0.123	0.116	0.17	0.161	0.155	0.147	0.14	0.134
Negative sequence reactance saturated	X2	0.12	0.12	0.11	0.11	0.15	0.15	0.14	0.13	0.13	0.12
Zero sequence reactance unsaturated	X0	0.006	0.006	0.006	0.006	0.008	0.008	0.007	0.007	0.007	0.006
Time constant											
Open circuit time constant	T'd0	4.334	4.334	4.334	4.334	4.334	4.334	4.334	4.334	4.334	4.334
Short-circuit transient time constant	T'd	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
Subtransient time constant	T"d	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Armature time constant	Ta	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
No load losses	W	31473	32795	33830	35641	44098	45269	46250	47794	49147	50560
Heat dissipation at full load at Class H	W	88598	92309	97901	109045	100916	102759	105352	108771	112251	116466
Efficiency											
PF=0.8 Efficiency of 25% load	%	93.90	93.86	93.72	93.41	92.74	92.87	92.94	93.03	93.07	93.07
50% load	%	95.95	95.94	95.85	95.62	95.35	95.46	95.50	95.57	95.60	95.61
75% load	%	96.45	96.46	96.38	96.19	96.05	96.16	96.20	96.28	96.31	96.32
100% load	%	96.26	96.30	96.22	96.03	95.96	96.08	96.14	96.22	96.27	96.29
110% load	%	96.07	96.11	96.03	95.84	95.79	95.92	95.98	96.08	96.13	96.16
PF=1 Efficiency of 25% load	%	93.94	93.92	93.83	93.60	92.82	92.94	93.02	93.11	93.15	93.17
50% load	%	96.15	96.15	96.11	95.99	95.59	95.67	95.72	95.79	95.82	95.84
75% load	%	96.87	96.89	96.87	96.81	96.49	96.57	96.62	96.68	96.72	96.75
100% load	%	96.83	96.87	96.86	96.82	96.56	96.65	96.70	96.77	96.82	96.85
110% load	%	96.69	96.75	96.74	96.72	96.46	96.56	96.61	96.69	96.74	96.78
No load excitation current	io(A)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Full load excitation current	ic(A)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Full load excitation voltage	uc(V)	78	78	78	78	78	78	78	78	78	78
Short circuit current capacity	%	>300I_N 10s(with PMG or Auxiliary winding!									
Recovery time	Tr	1 s									
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	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Rotor winding resistance (20)	ohm	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730
Exciter resistance (20)	ohm	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
Cooling air requirement	m^3/min	188	188	188	188	226	226	226	226	226	226
Energy storage constant (H)	sec.	0.477	0.453	0.437	0.412	0.654	0.622	0.598	0.565	0.540	0.518
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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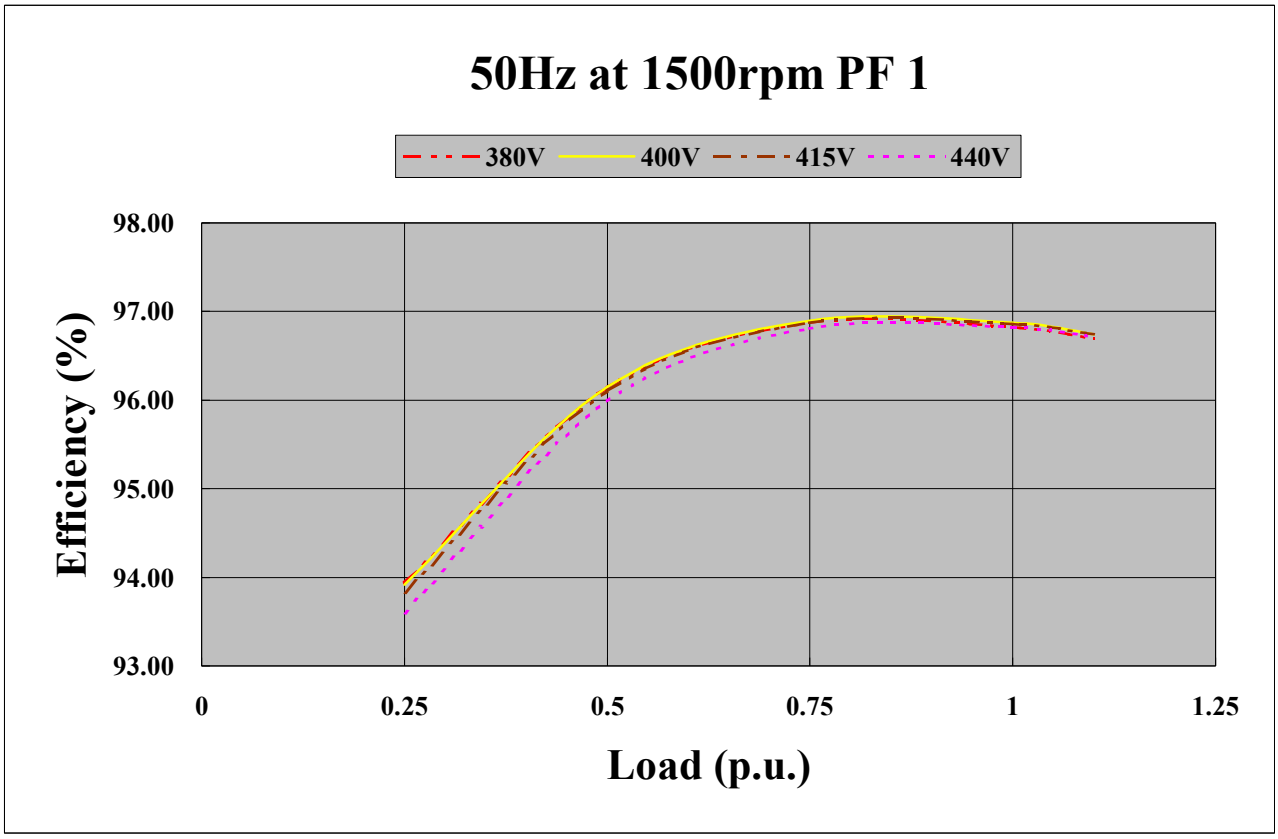
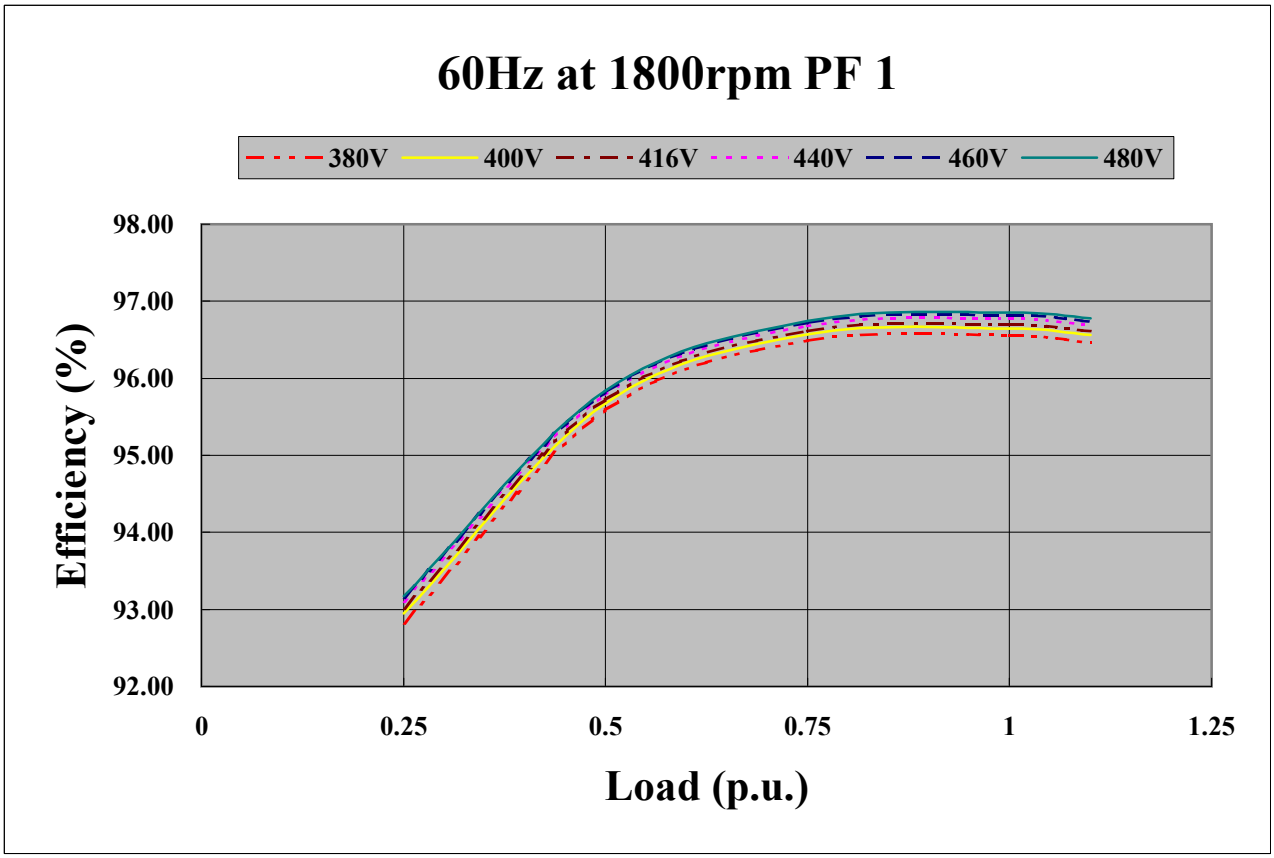
THREE-PHASE SYNCHRONOUS

THREE PHASE EFFICIENCY CRUVES 20121201





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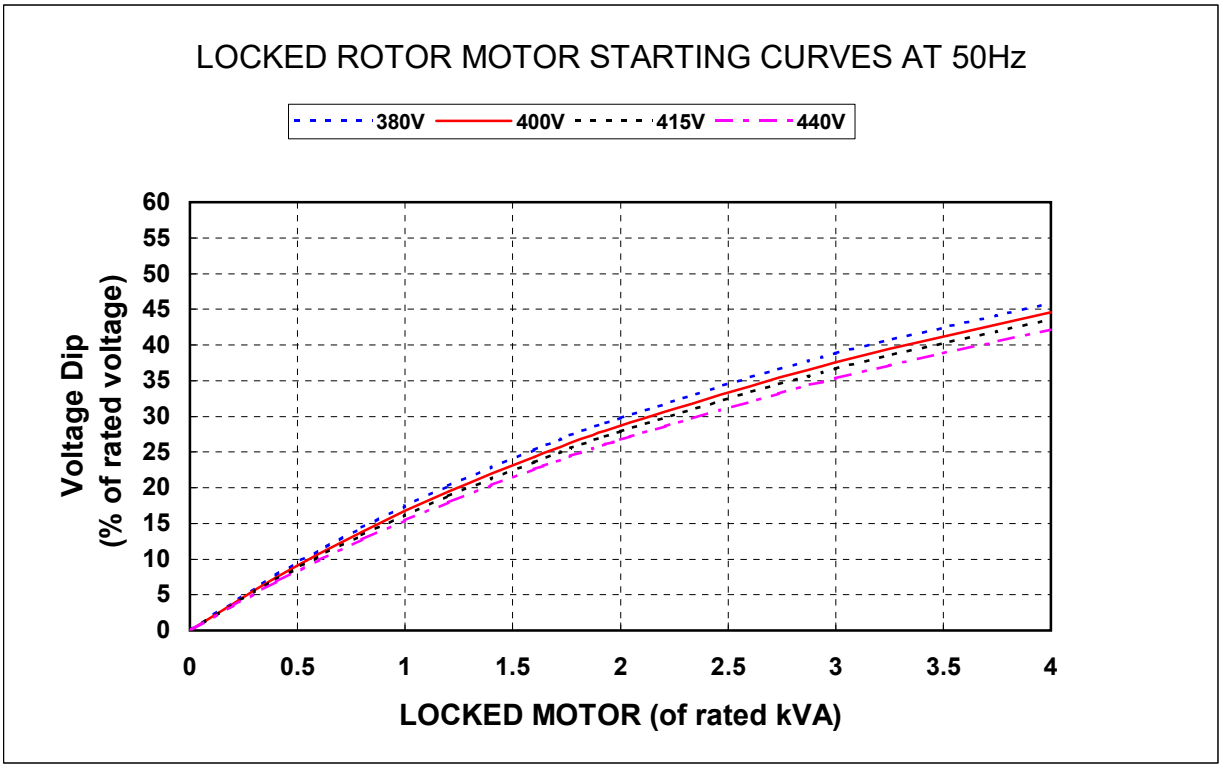
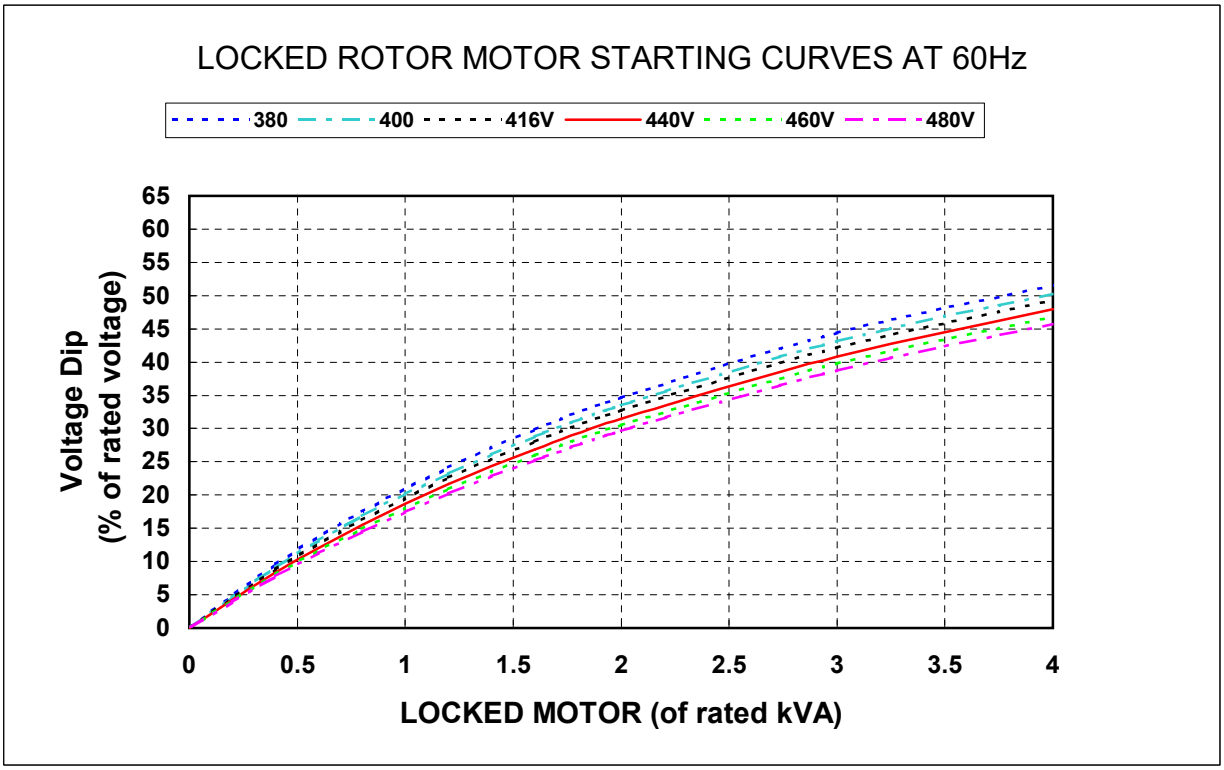
THREE PHASE SYNCHRONROUS GENERATOR

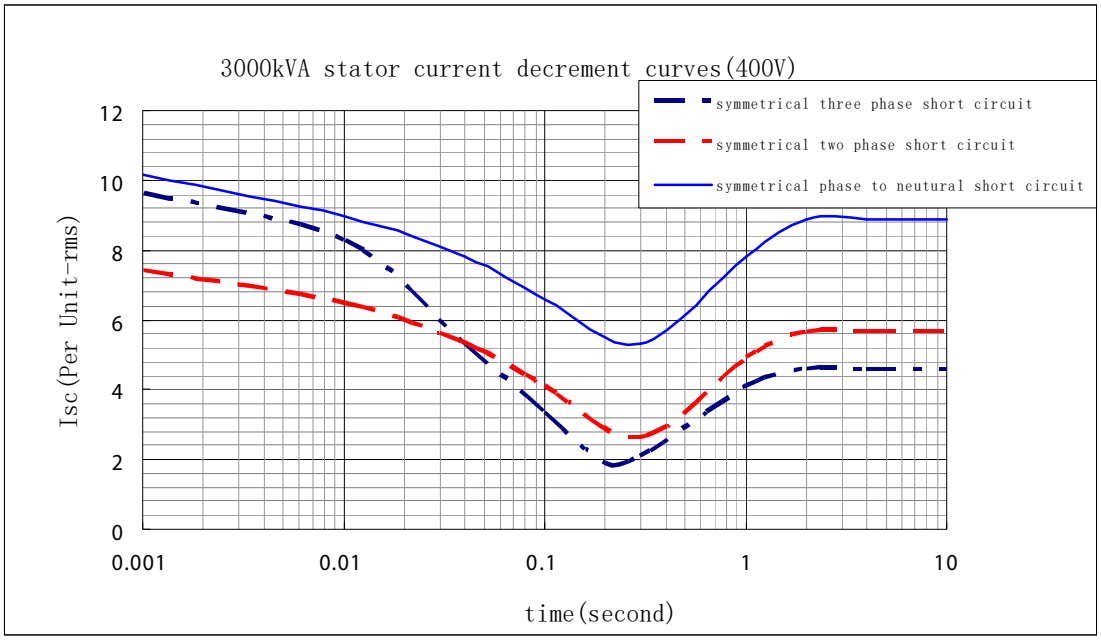
20130527





THREE-PHASE SYNCHRONOUS GENERATOR
STATOR CURRENT DECREMENT CURVES

20140601



with PMG or Auxiliary winding

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