

EG280-120N

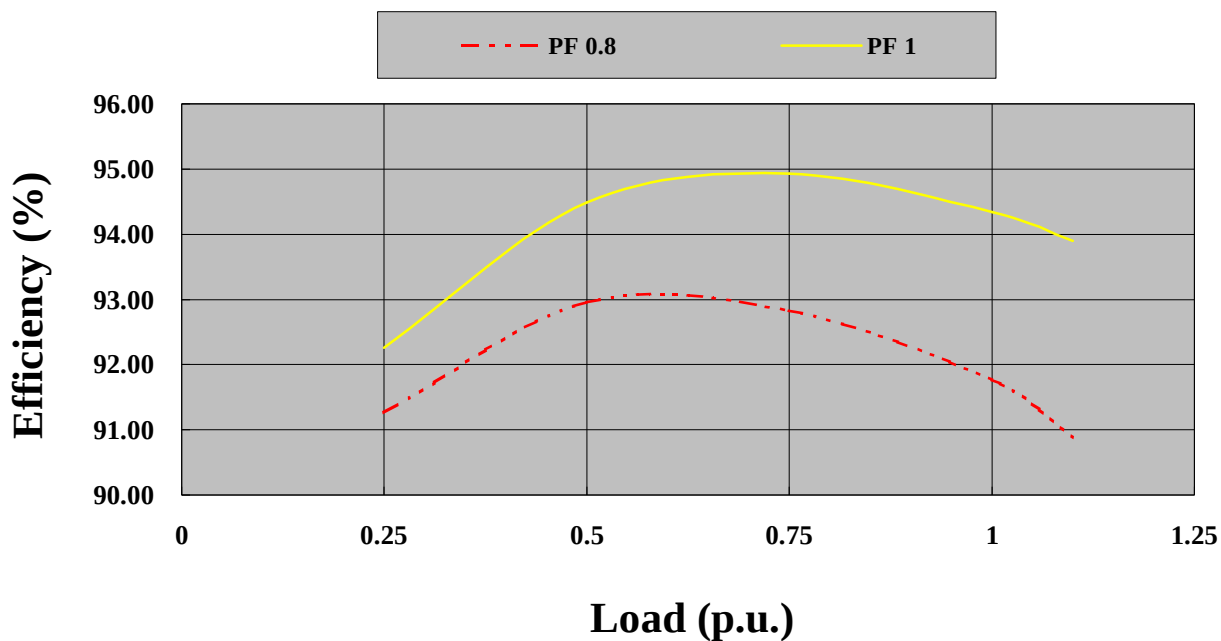
Frequency	Hz	50			60				
Rated capacity (kVA)	S	143	150	140	154	166	176	183	188
Rated power (kW)	P	114	120	112	123	133	141	146	150
Voltage (V)	U	380	400	415	380	416	440	460	480
Short-circuit ratio	Kcc	0.323	0.358	0.44	0.232	0.263	0.284	0.31	0.344
Reactance									
Direct axis synchronous reactance	Xd	3.707	3.522	3.054	4.8	4.331	4.104	3.888	3.669
Direct axis transient reactance saturated	X'd	0.125	0.119	0.103	0.162	0.146	0.138	0.131	0.124
Direct axis subtransient reactance saturated	X''d	0.121	0.115	0.1	0.157	0.141	0.134	0.127	0.12
Quadrature axis synchronous reactance	Xq	1.67	1.586	1.376	2.162	1.951	1.849	1.751	1.652
Quadrature axis subtransient reactance	X''q	0.195	0.186	0.161	0.253	0.228	0.216	0.205	0.193
Negative sequence reactance saturated	X2	0.16	0.15	0.13	0.2	0.18	0.18	0.17	0.16
Zero sequence reactance unsaturated	X0	0.006	0.006	0.005	0.008	0.007	0.007	0.007	0.006
Time constant									
Open circuit time constant	T'd0	1.285	1.285	1.285	1.285	1.285	1.285	1.285	1.285
Short-circuit transient time constant	T'd	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043
Subtransient time constant	T''d	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Armature time constant	Ta	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
No load losses	W	1520	1590	1640	2080	2190	2270	2350	2430
Heat dissipation at full load at Class H	W	10230	10538	9273	11700	11781	12030	12139	12169
Efficiency									
PF=0.8 Efficiency of 25% load	%	91.27	91.42	90.95	90.49	90.81	91.03	91.13	91.17
50% load	%	92.95	93.14	93.00	92.56	92.91	93.14	93.28	93.38
75% load	%	92.83	93.08	93.11	92.52	92.98	93.25	93.45	93.61
100% load	%	91.77	91.93	92.35	91.33	91.85	92.13	92.32	92.50
110% load	%	90.89	91.24	91.48	90.58	91.24	91.61	91.90	92.16
PF=1 Efficiency of 25% load	%	92.26	92.36	91.90	91.30	91.55	91.73	91.80	91.83
50% load	%	94.49	94.61	94.45	93.92	94.17	94.33	94.42	94.48
75% load	%	94.93	95.08	95.07	94.45	94.76	94.94	95.06	95.17
100% load	%	94.34	94.50	94.75	93.83	94.22	94.42	94.58	94.72
110% load	%	93.90	94.12	94.28	93.42	93.86	94.10	94.29	94.46
No load excitation current	io(A)	1	1	1	1	1	1	1	1
Full load excitation current	ic(A)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Full load excitation voltage	uc(V)	33	33	33	33	33	33	33	33
Short circuit current capacity	%	>300IN 10s(with PMG)							
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		EVC600i/EVC800i							
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 1 hour							
Stator winding resistance (20℃)	ohm	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194
Rotor winding resistance (20℃)	ohm	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
Exciter resistance (20℃)	ohm	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Cooling air requirement	m3/min	38.7	38.7	38.7	46.4	46.4	46.4	46.4	46.4
Energy storage constant (H)	sec.	0.368	0.350	0.337	0.482	0.440	0.417	0.398	0.382
Method of cooling		IC 01							
Ambient temperature		40℃							
Sense of rotation		Clockwise-DE							
Type of construction		1 Bearing or 2 Bearings							
Degree of protection / enclosure		IP21 or IP23							
Maximum overspeed		2250 rpm 2minutes							



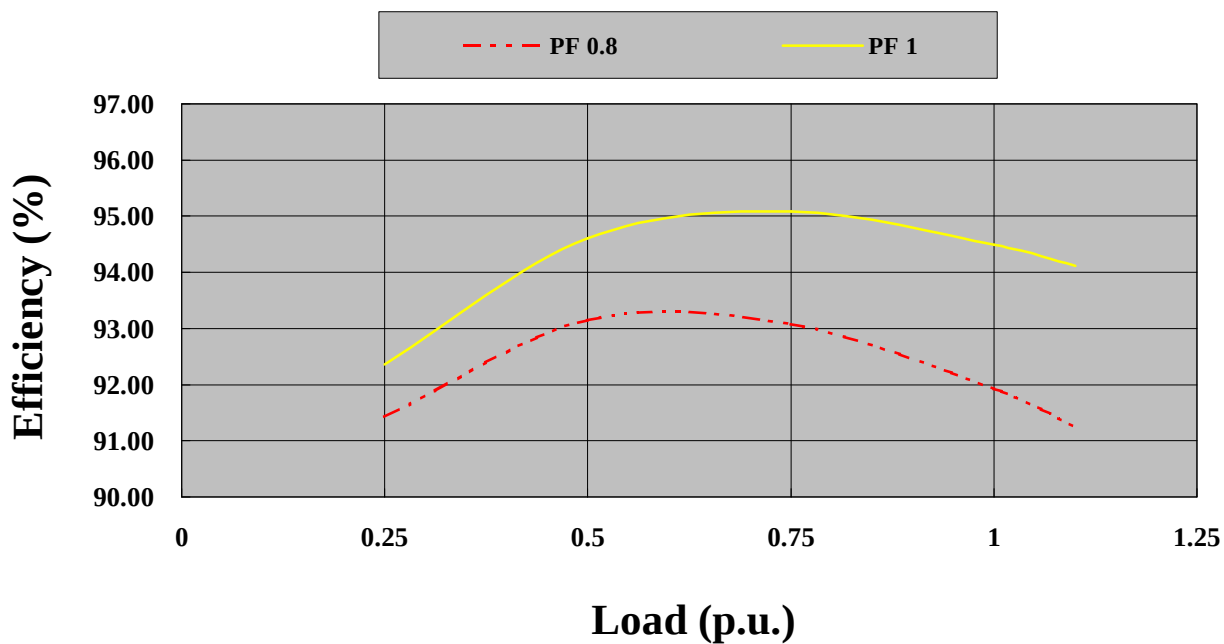
THREE-PHASE SYNCHRONOUS GENERATOR

THREE PHASE EFFICIENCY CURVES 20161208

EG280-120N 50Hz at 1500rpm 380V



EG280-120N 50Hz at 1500rpm 400V



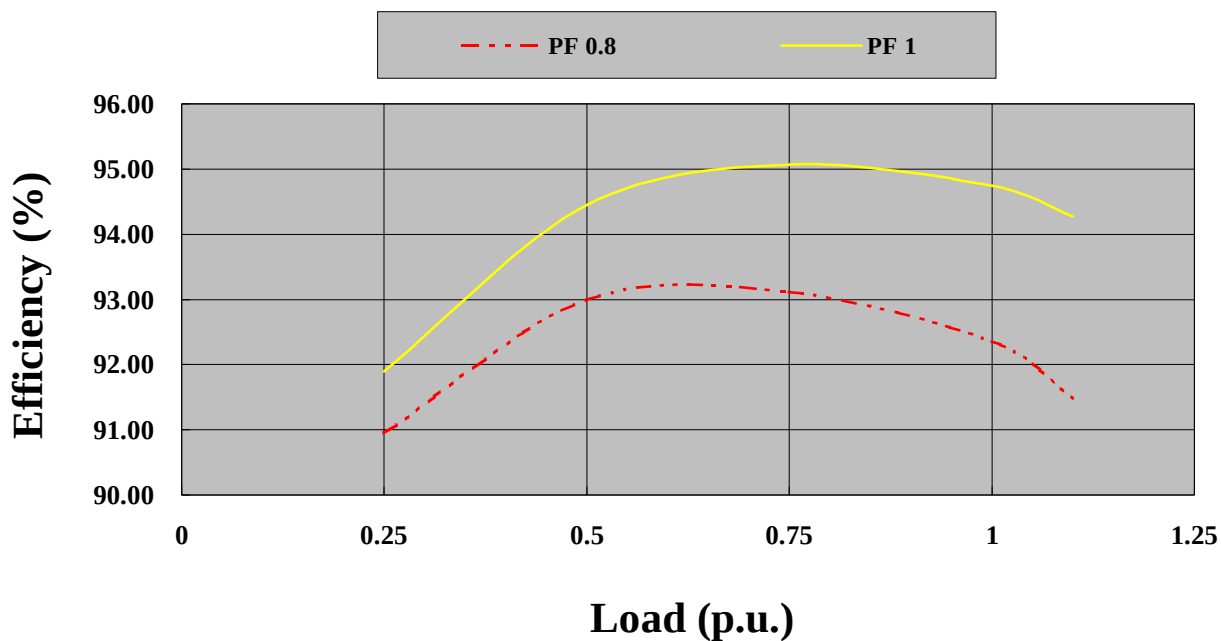
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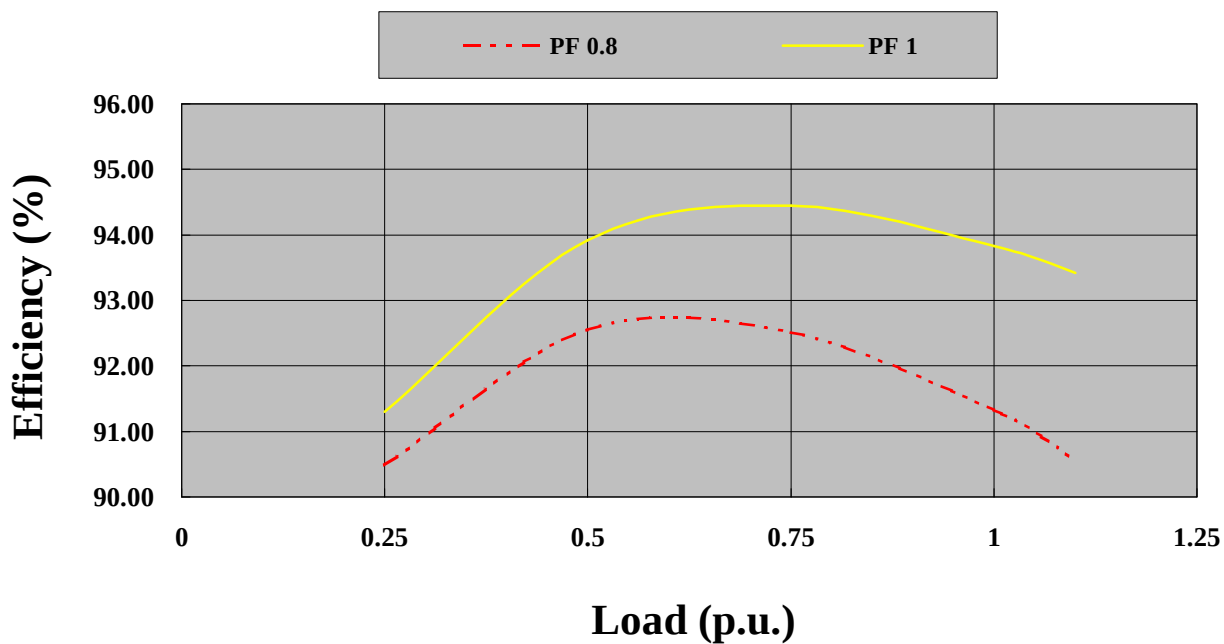
THREE-PHASE SYNCHRONOUS GENERATOR

THREE PHASE EFFICIENCY CURVES 20161208

EG280-120N 50Hz at 1500rpm 415V



EG280-120N 60Hz at 1800rpm 380V



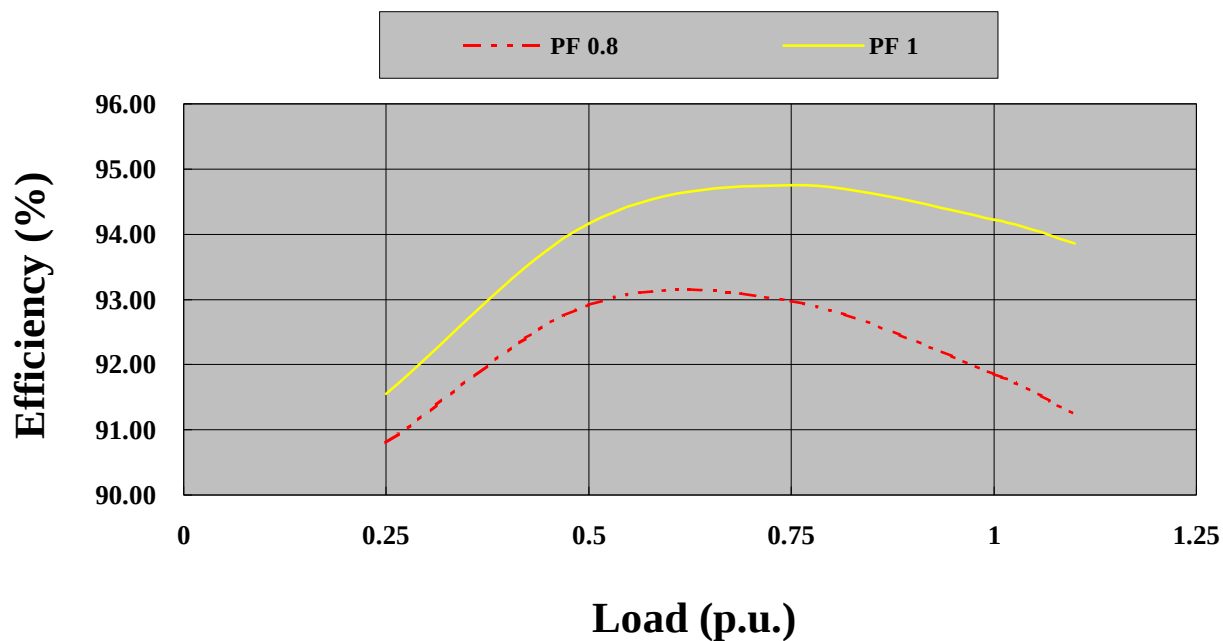
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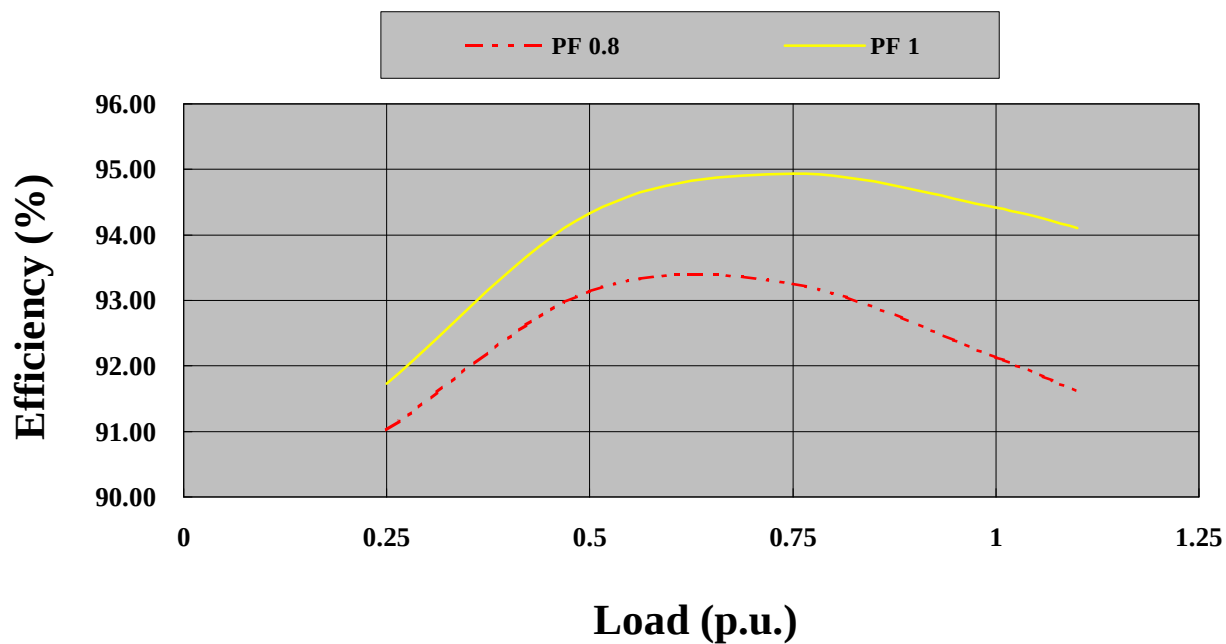
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THREE PHASE EFFICIENCY CURVES 20161208

EG280-120N 60Hz at 1800rpm 416V



EG280-120N 60Hz at 1800rpm 440V



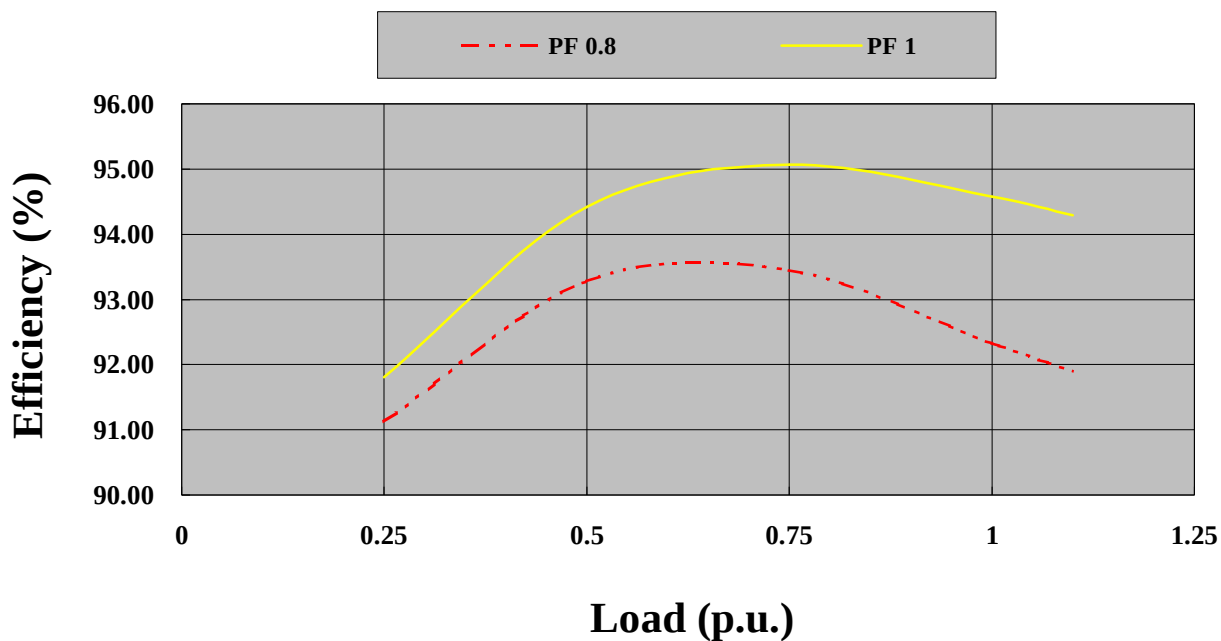
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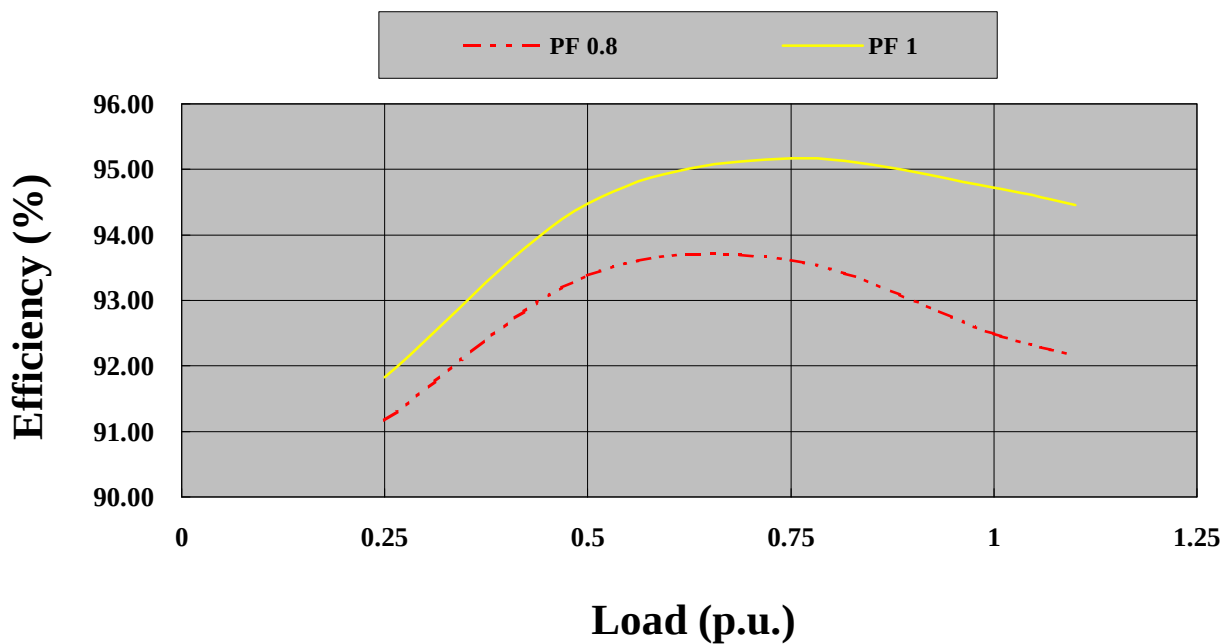
THREE-PHASE SYNCHRONOUS GENERATOR

THREE PHASE EFFICIENCY CURVES 20161208

EG280-120N 60Hz at 1800rpm 460V



EG280-120N 60Hz at 1800rpm 480V



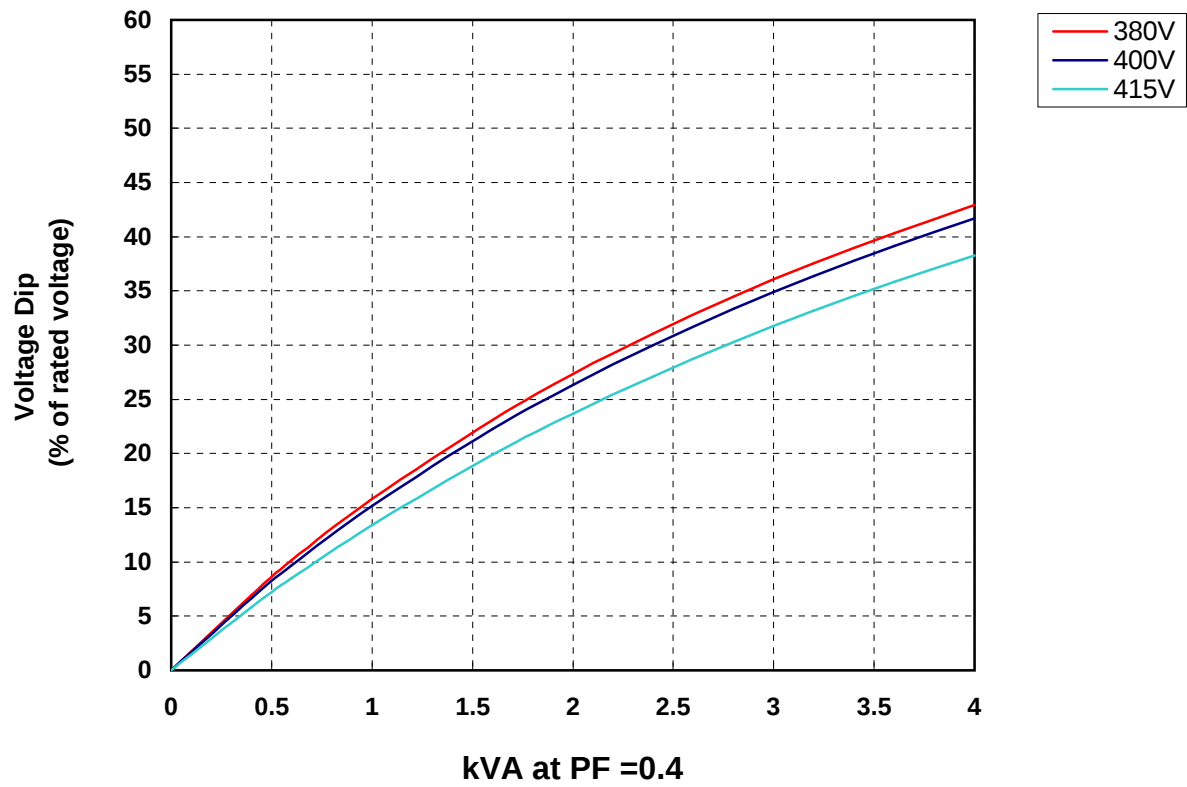
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THREE PHASE SYNCHRONROUS GENERATOR

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MOTOR STARTING CURVES (50Hz)

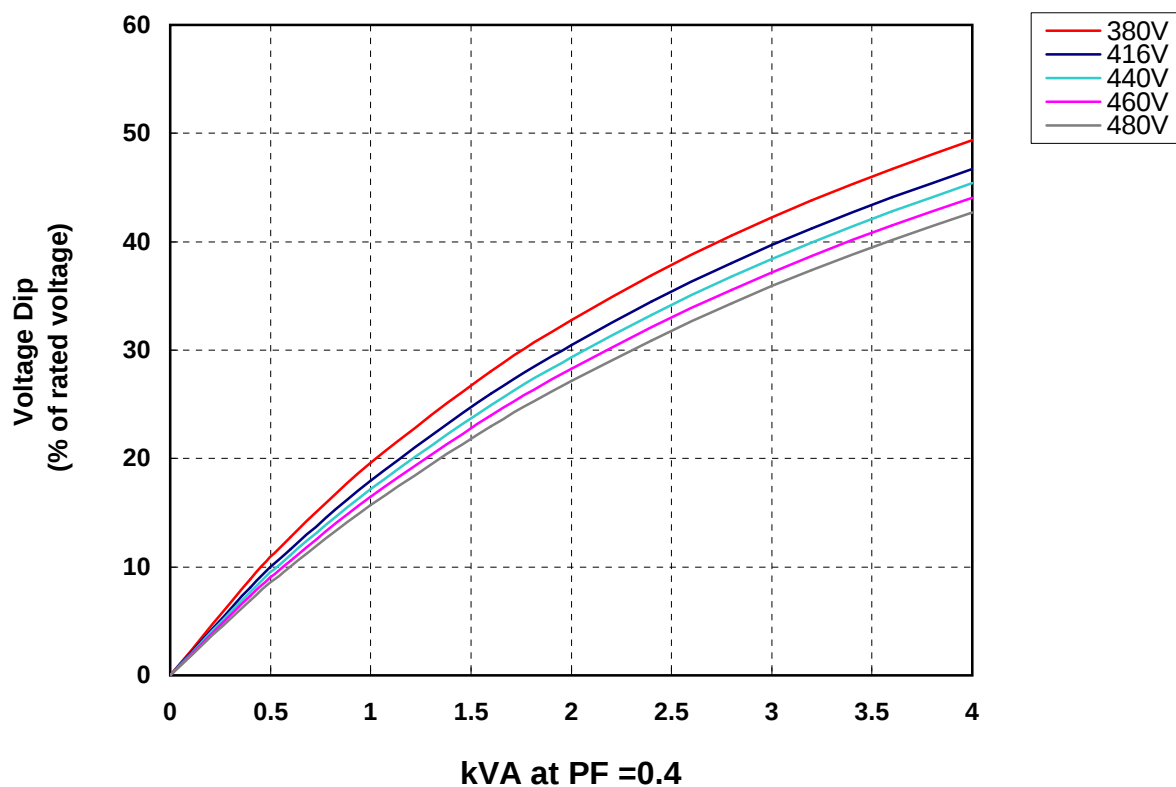




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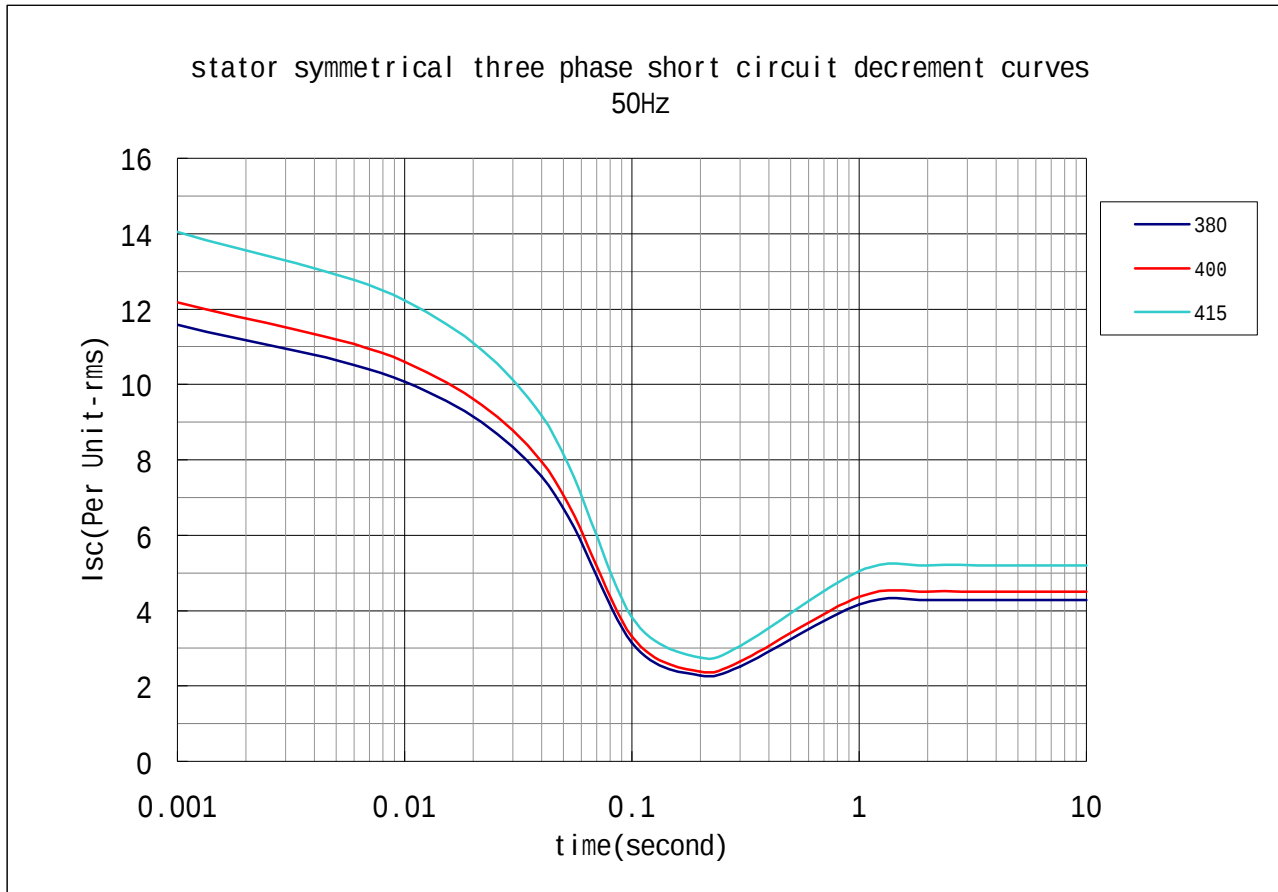
MOTOR STARTING CURVES (60Hz)





THREE PHASE SYNCHRONROUS GENERATOR

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Other factor of short-circuit curves

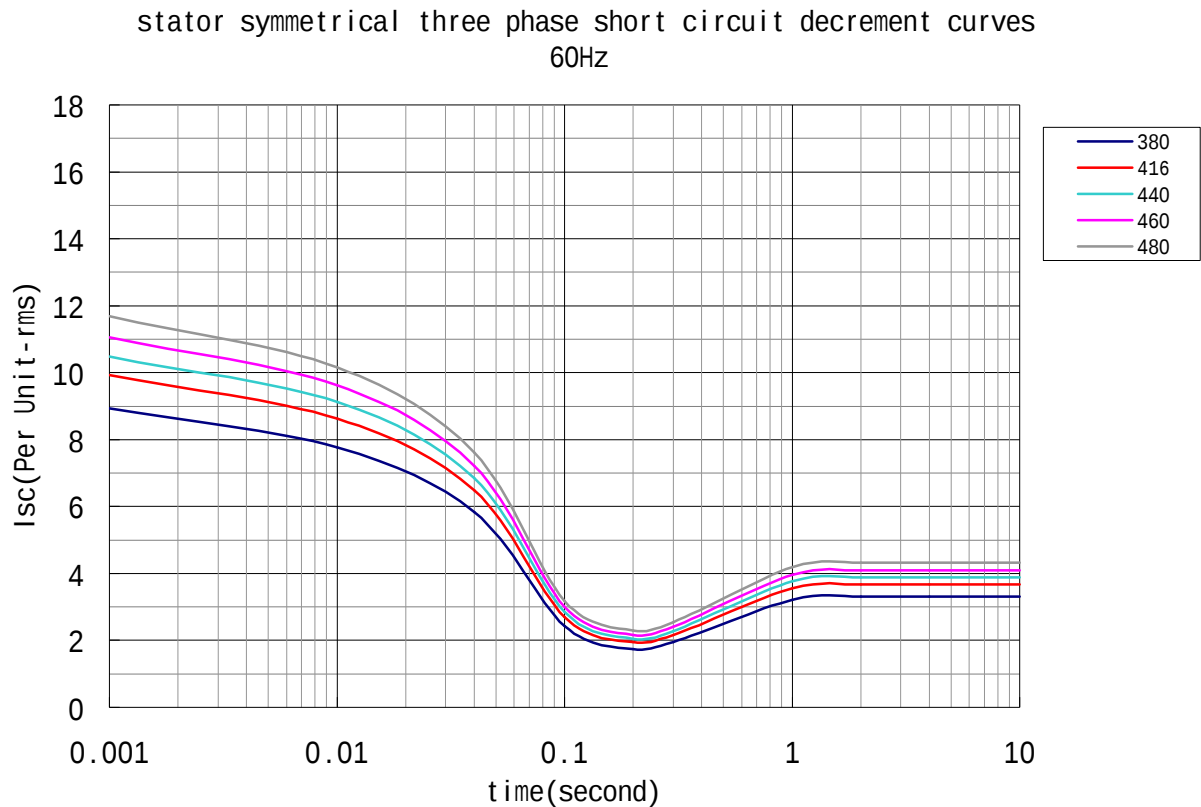
For other short-circuit curves ,use following multiplication factor:

	3 phase	2 phase L-L	1 phase L-N
Initial short circuit current	1	0.87	1.3
Minmum short circuit current	1	1.8	3.2
Sustained short circuit current	1	1.5	2.2
Max sustained duration (S)	10	5	2



THREE PHASE SYNCHRONOUS GENERATOR

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