Alternator Data Sheet
Frame Size: SOL2-G1

Characteristics			1-bearing weight (WDG 06/706)	
Weights:	Stator assembly:		89 lb	40.5 kg
	Rotor assembly:		81 lb	36.8 kg
	Complete assembly:		231 lb	104.6 kg
Maximum speed:			2250 rpm	
Excitation current:	Full load:		3.6 Amps	
	No load:		0.86 Amps	
Insulation system:	Class H throughout			

1 Ø Ratings (Based on specific temperature rise at 40° C ambient temperature)			60 Hz (winding no) 0.8 power factor	1.0 power factor
			120/240 (06/706)	120/240 (06/706)
163° C rise ratings	@ 27° C	kW	12.6	17.1
		kVA	15.8	17.1
150° C rise ratings		kW	12.3	16.6
		kVA	15.4	16.6
125° C rise ratings		kW	11.6	15.6
		kVA	14.5	15.6
105° C rise ratings		kW	10.5	14.1
		kVA	13.1	14.1

1 Ø Reactances (per unit ± 10%) (Based on full load at 125° C rise rating)	0.8 power factor 120/240 (06/706)	1.0 power factor 120/240 (06/706)
Synchronous	0.940	1.011
Transient	0.109	0.117
Subtransient	0.108	0.116
Negative sequence	0.212	0.228
Zero sequence	0.071	0.076

1 Ø Motor starting (90% sustained voltage)	120/240 (06/706)
Maximum kVA	29.5

Time constants (sec)	120/240 (06/706)
Transient	0.025
Subtransient	0.001
Open circuit	0.508
DC	0.012

Windings (@22° C)		120/240 (06/706)
Stator resistance	(Ohms per phase)	0.141
Rotor resistance	(Ohms)	0.644
Number of leads		4

Alternator Data Sheet
Frame Size: SOL2-G1

Characteristics		1-bearing weight (WDG 311/711)	
Weights:	Stator assembly:	93 lb	42.3 kg
	Rotor assembly:	81 lb	36.8 kg
	Complete assembly:	235 lb	106.5 kg
Maximum speed:		2250 rpm	
Excitation current:	Full load:	3.6 Amps	
	No load:	0.86 Amps	
Insulation system:	Class H throughout		

3 Ø Ratings (0.8 power factor)			**50 Hz** (winding no)			**60 Hz** (winding no)		
(Based on specific temperature rise at 40° C ambient temperature)			190/380 (311/711)	200/400 (311/711)	208/415 (311/711)	208/416 (311/711)	220/440 (311/711)	240/480 (311/711)
163° C rise ratings	@ 27° C	kW	16.1	17.6	17.6	18.6	19.7	21.1
		kVA	20.1	22.0	22.0	23.2	24.6	26.4
150° C rise ratings		kW	15.6	17.0	17.0	18.1	19.2	20.5
		kVA	19.5	21.3	21.3	22.6	24.0	25.6
125° C rise ratings		kW	14.6	16.0	16.0	16.9	17.9	19.2
		kVA	18.3	20.0	20.0	21.1	22.4	24.0
105° C rise ratings		kW	13.4	14.6	14.6	15.4	16.3	17.4
		kVA	16.7	18.2	18.2	19.2	20.4	21.8

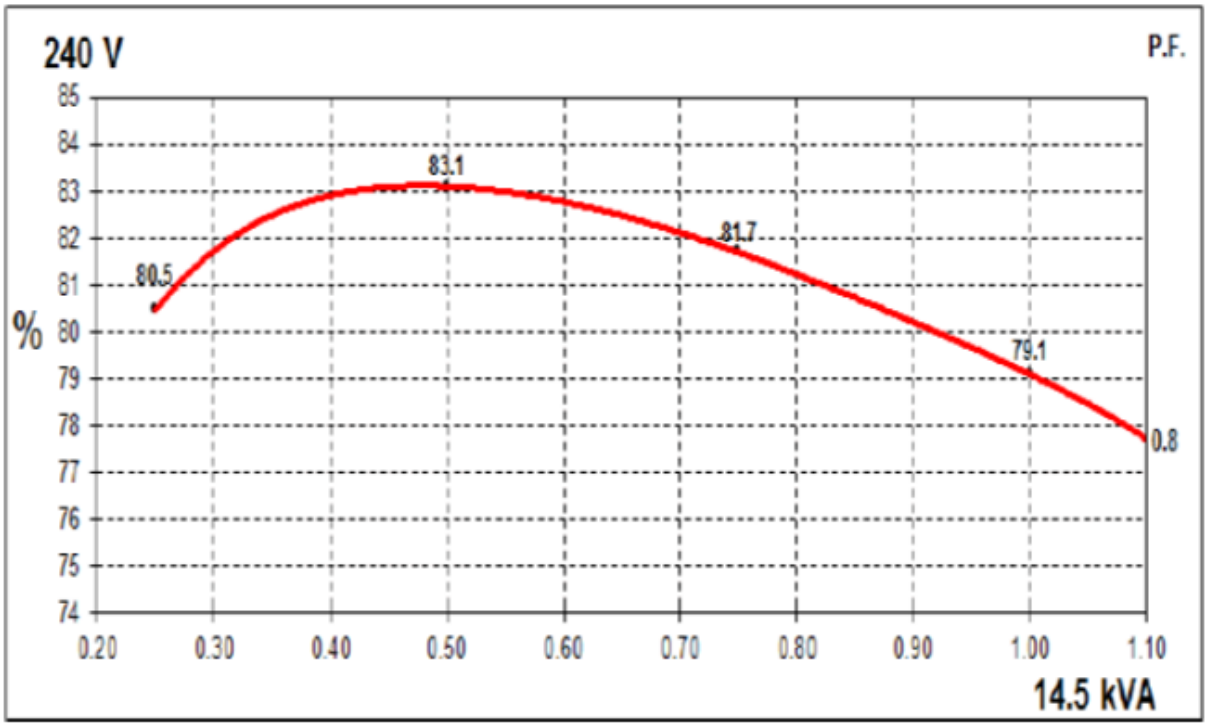
3 Ø Reactances (per unit ± 10%)	190/380 (311/711)	200/400 (311/711)	208/415 (311/711)	208/416 (311/711)	220/440 (311/711)	240/480 (311/711)
(Based on full load at 125° C rise rating)						
Synchronous	2.660	2.623	2.437	3.070	2.914	2.623
Transient	0.141	0.139	0.129	0.163	0.154	0.139
Subtransient	0.138	0.136	0.126	0.159	0.151	0.136
Negative sequence	0.230	0.227	0.211	0.266	0.252	0.227
Zero sequence	0.023	0.023	0.021	0.026	0.025	0.023

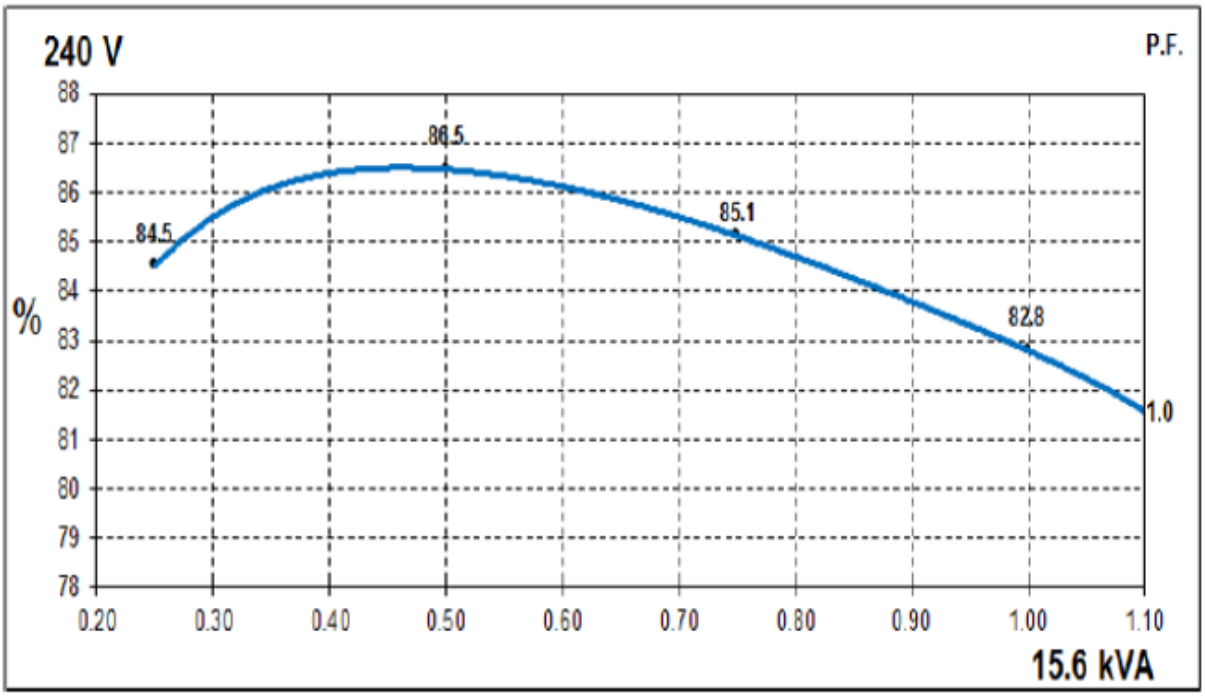
3 Ø Motor starting	190/380 (311/711)	200/400 (311/711)	208/415 (311/711)	208/416 (311/711)	220/440 (311/711)	240/480 (311/711)
(90% sustained voltage)						
Maximum kVA	24.5	29.5	32	26	31	39.5

Time constants (sec)	190-415 (311/711)	208-480 (311/711)
Transient	0.022	0.022
Subtransient	0.002	0.002
Open circuit	0.502	0.502
DC	0.006	0.006

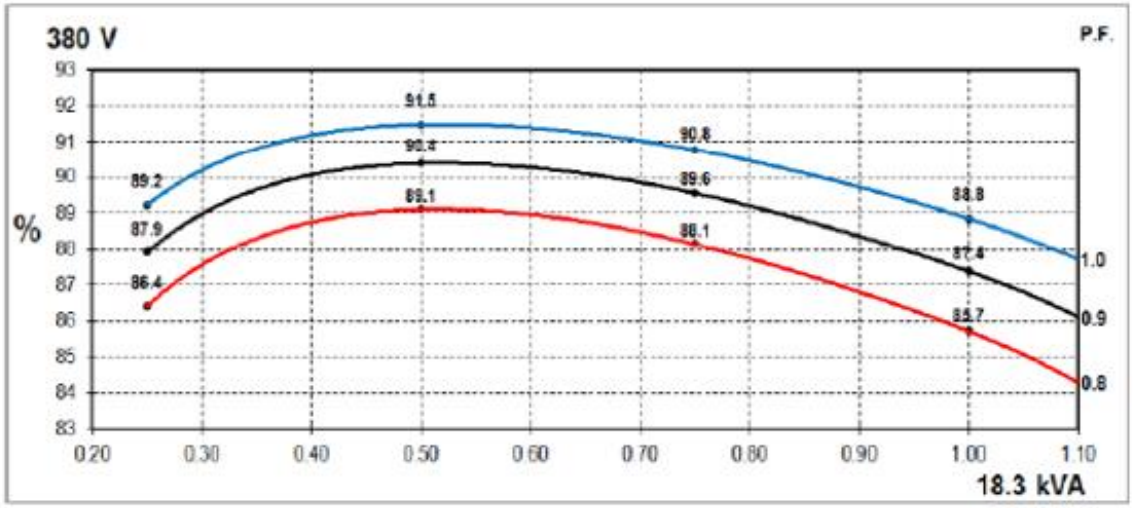
Windings (@22° C)		190-415 (311/711)	208-480 (311/711)
Stator resistance	(Ohms per phase)	0.448	0.448
Rotor resistance	(Ohms)	0.644	0.644
Number of leads		12	12

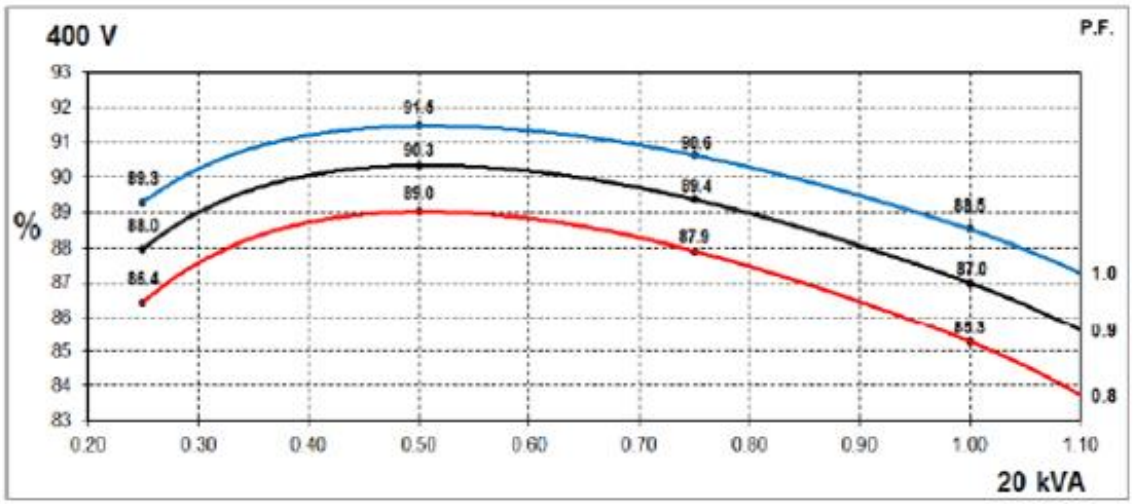
Single Phase Efficiency Curves WDG 06/706 60Hz

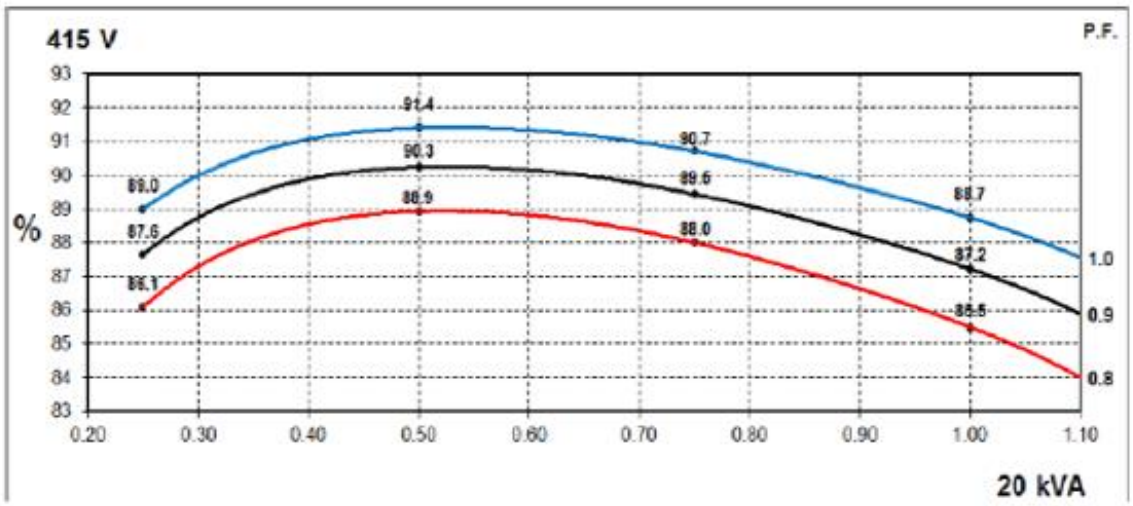




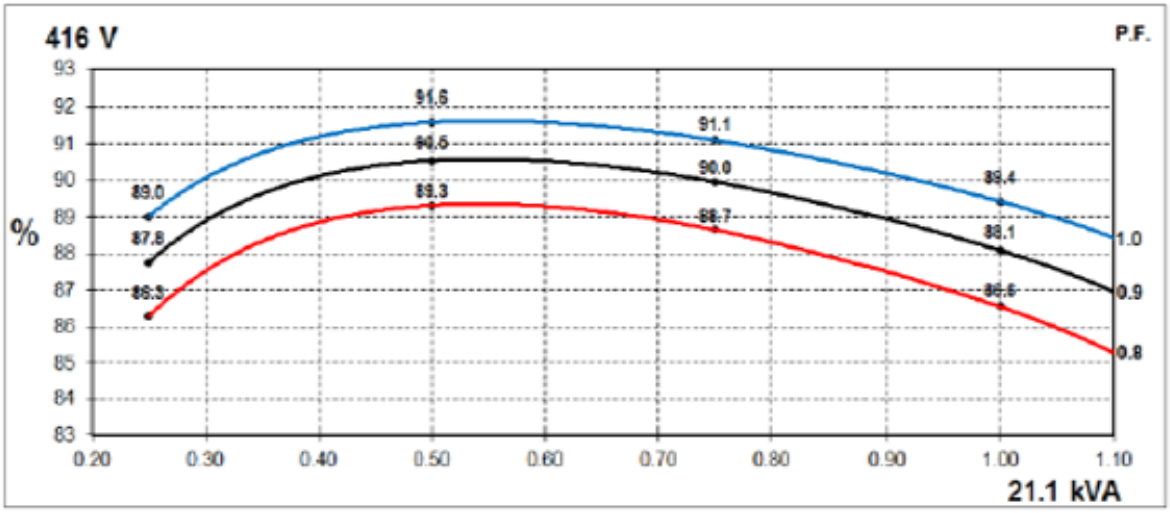
Three Phase Efficiency Curves WDG 311/711 50Hz

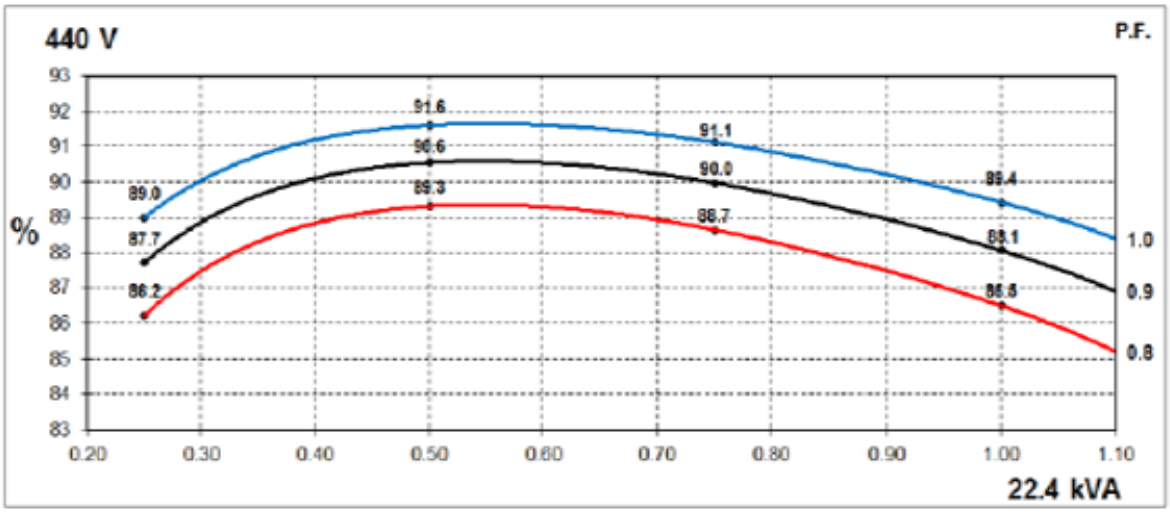


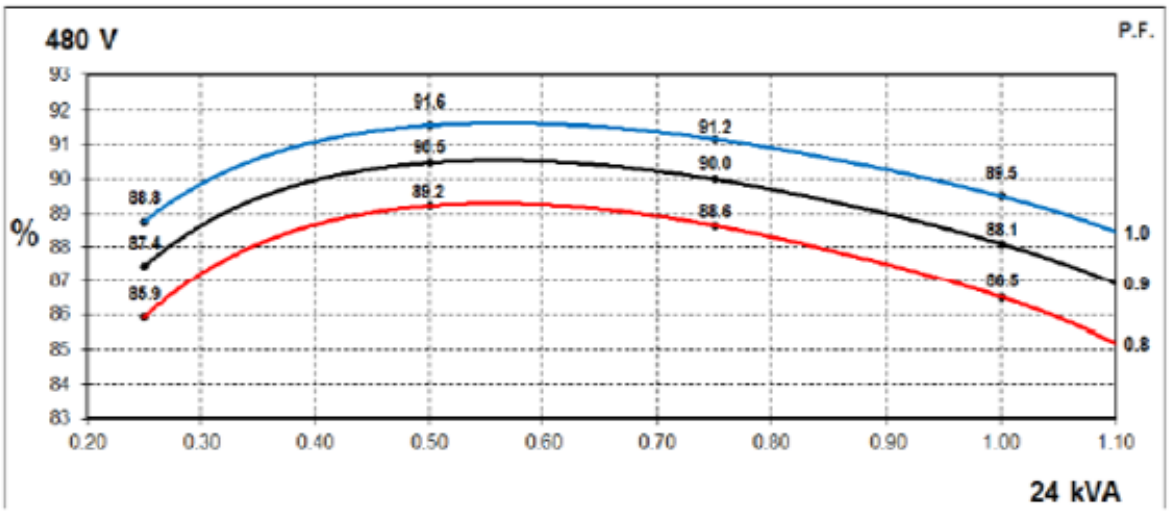




Three Phase Efficiency Curves WDG 311/711 60Hz







S0L2-G1 Winding 06 / 706

Locked Rotor Motor Starting Curves

60Hz

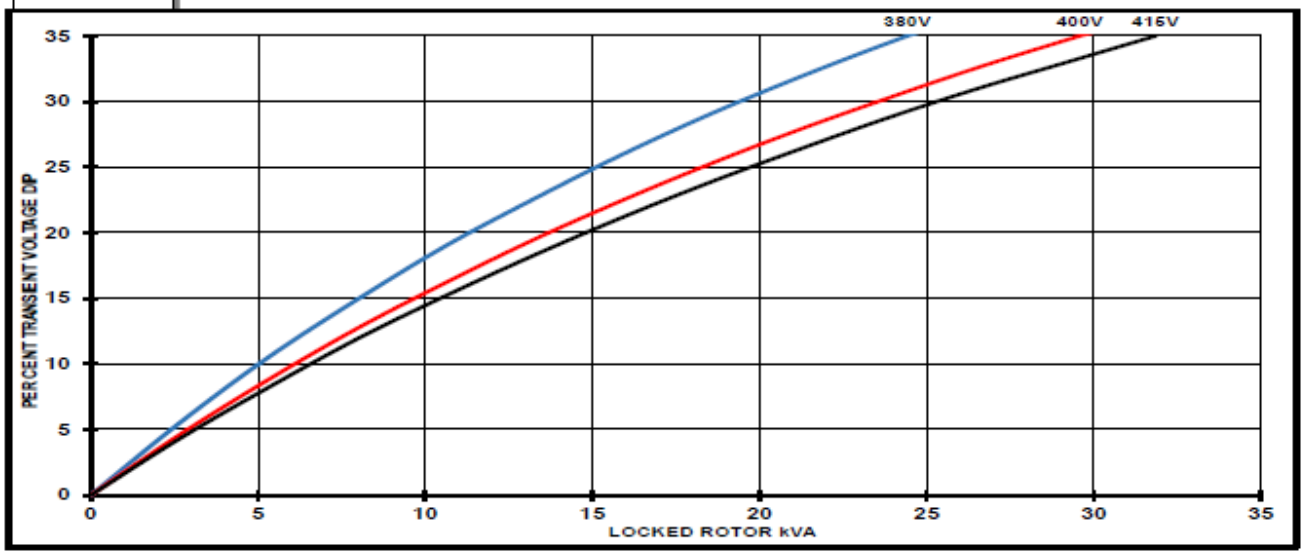
Transient Voltage Dip Scaling Factor	
PF	Factor
< 0.5	1.00
0.5	0.97
0.6	0.93
0.7	0.90
0.8	0.85
0.9	0.83
1.0	0.80

Transient Voltage Rise Scaling Factor
For voltage rise multiply voltage dip by 1.25

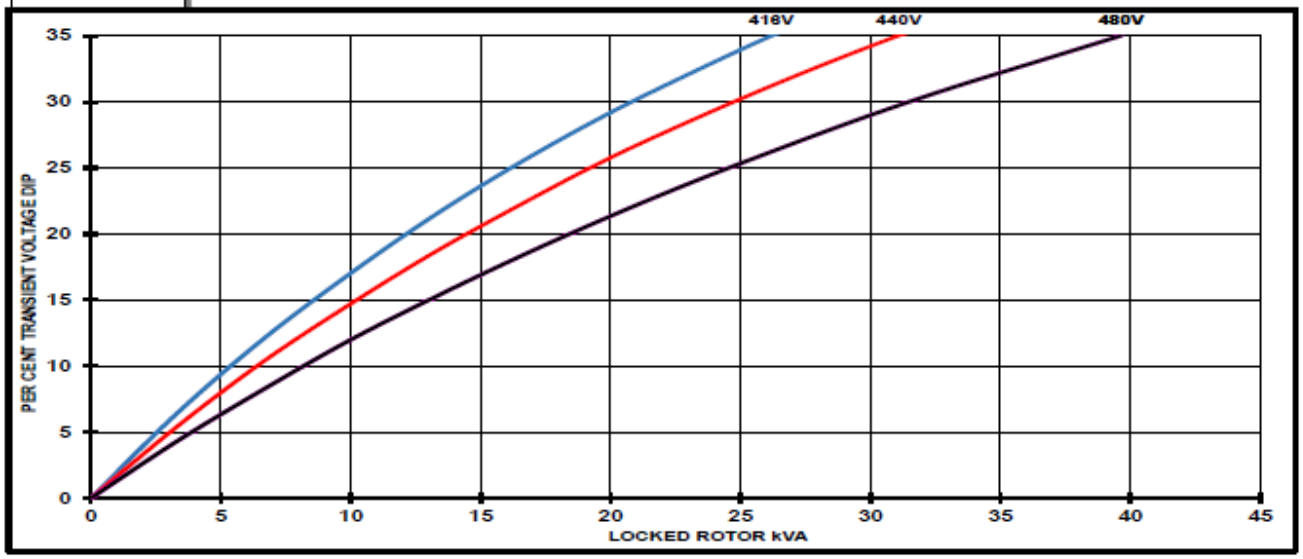
S0L2-G1 Winding 311 / 711

Locked Rotor Motor Starting Curves

50Hz



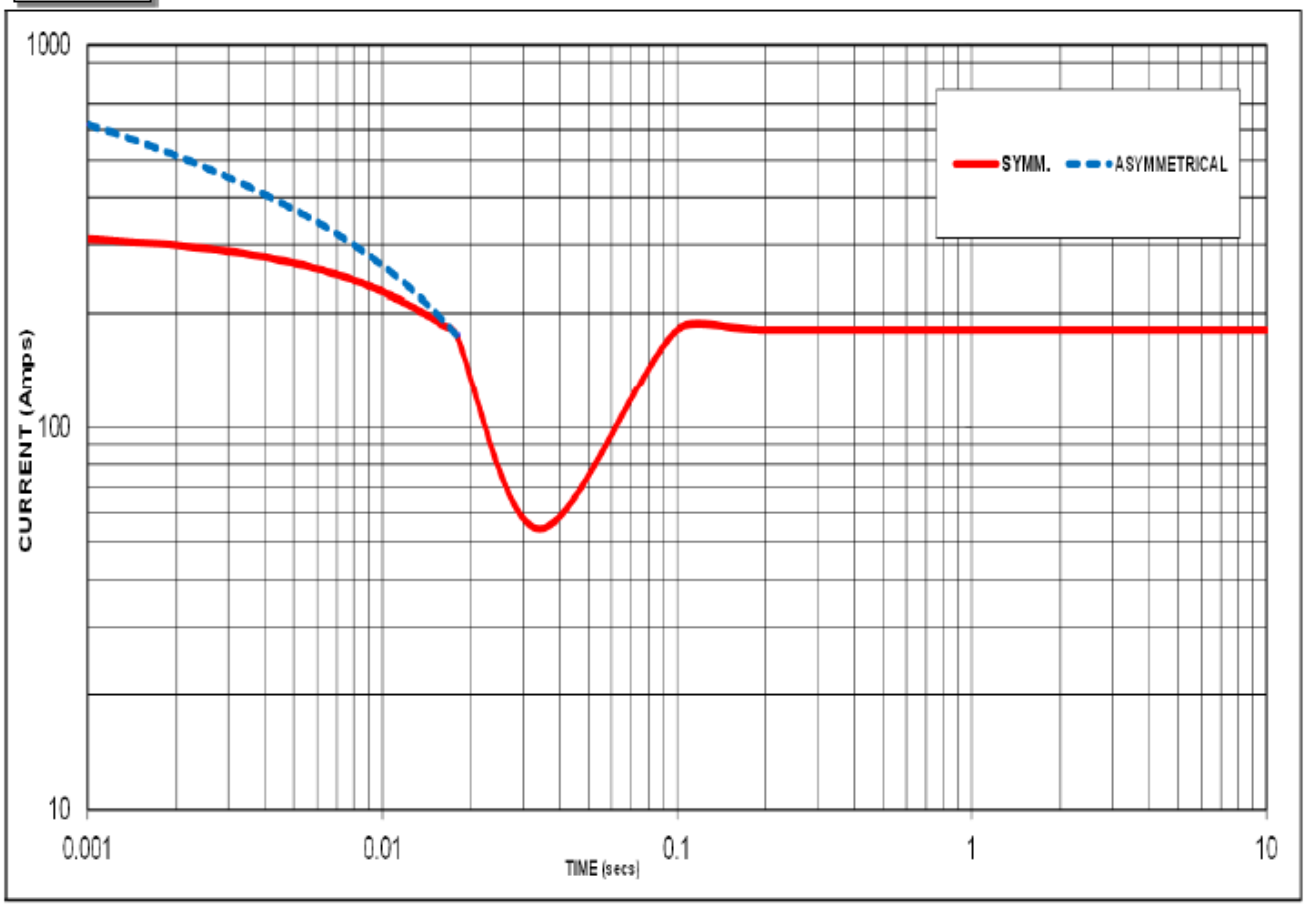
60Hz



S0L2-G1 Winding 706
Short Circuit Decrement Curve

Note: Applicable only for Winding 706 (Auxiliary winding).
Winding 06 (no Auxiliary winding) will not provide short circuit capability.

60Hz

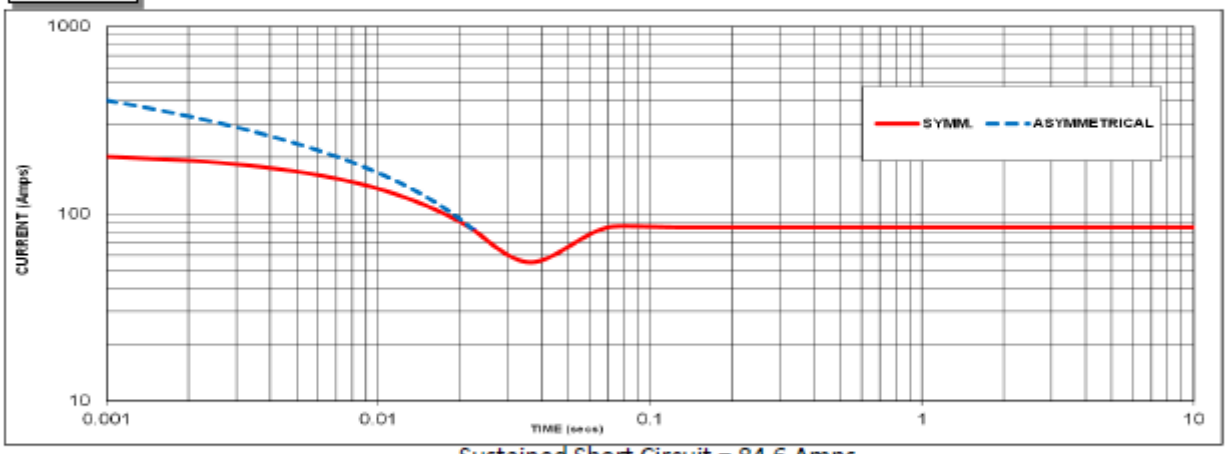


Sustained Short Circuit = 181 Amps

S0L2-G1 Winding 711
Three-phase Short Circuit Decrement Curve

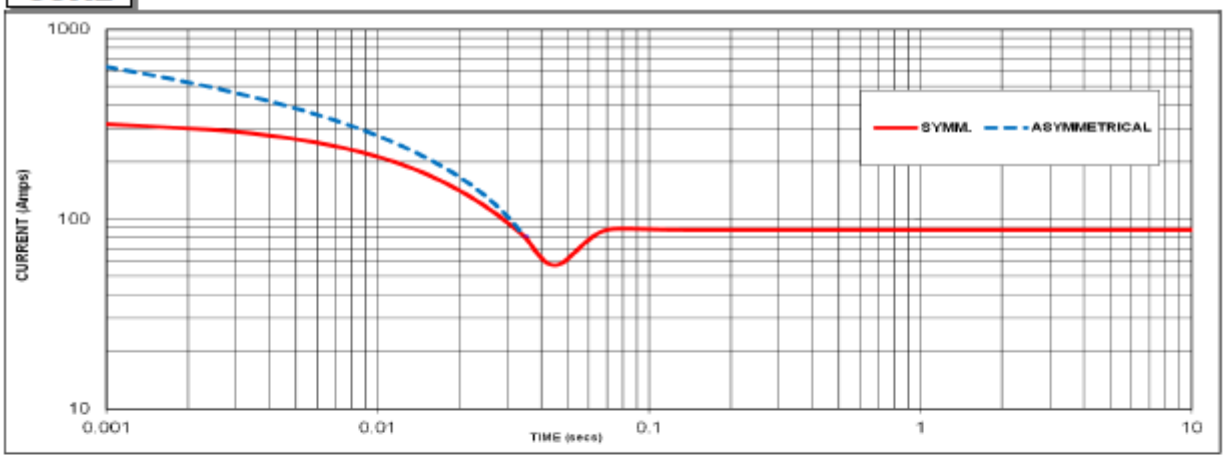
Note: Applicable only for Winding 711 (Auxiliary winding).
Winding 311 (no Auxiliary winding) will not provide short circuit capability.

50Hz



Sustained Short Circuit = 84.6 Amps

60Hz



Sustained Short Circuit = 88 Amps

Note 1
The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380V	N/A	416V	X 1.00
400V	X 1.00	440V	X 1.06
415v	X 1.04	460V	N/A
440V	N/A	480V	X 1.15

The sustained current value is constant irrespective of voltage level

Note 2
The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3
Curves are drawn for Star connected machines under no-load excitation at rated speeds. For other connection the following multipliers should be applied to current values as shown :
Parallel Star = Curve current value X 2
Series Delta = Curve current value X 1.732