

FRAME HC634J

WINDING 311/312

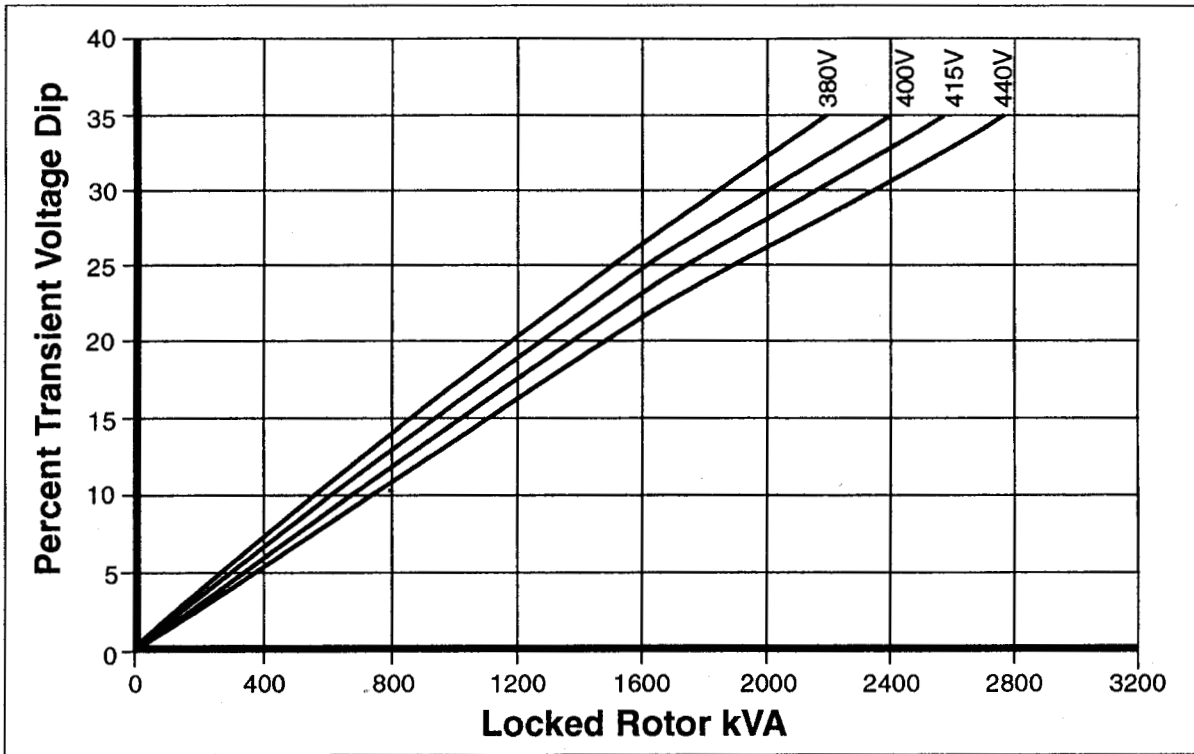
RATINGS	REFER TO RATINGS BOOK
OVERLOAD	REFER TO RATINGS BOOK
ALTITUDE	REFER TO RATINGS BOOK
AMBIENT TEMP.	REFER TO RATINGS BOOK

CONTROL SYSTEM SER. 3	SEPARATELY EXCITED BY P.M.G. FRAME DESIGNATION HC634J	
A.V.R.	MX321	
VOLTAGE REGULATION	± 0.5%	WITH 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES OF THIS SECTION	

INSULATION SYSTEM	CLASS H	
PROTECTION	IP22 STANDARD - IP23 OPTIONAL (5% DERATE)	
RATED POWER FACTOR	0.8	
STATOR WINDING	DOUBLE LAYER LAP	
WINDING PITCH	TWO THIRDS	
WINDING LEADS	12 (311) 6 (312)	
STATOR WDG. RESISTANCE	0.0024 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED	
ROTOR WDG. RESISTANCE	1.73 Ohms at 22°C	
R.F.I. SUPPRESSION	BS EN 50081/2-1/2 VDE 0875G VDE 0875N For other standards apply to the factory	
WAVEFORM DISTORTION	NO LOAD < 1.5 % NON-DISTORTING BALANCED LINEAR LOAD < 5.0 %	
MAXIMUM OVERSPEED	2250 Rev/Min	
BEARING DRIVE END	BALL. 6224 (ISO)	
BEARING NON-DRIVE END	BALL. 6317 (ISO)	
EFFICIENCY	REFER TO EFFICIENCY CURVES OF THIS SECTION	
	1 BEARING	2 BEARING
WEIGHT COMP. GENERATOR	2268 kg	2269 kg
WEIGHT WOUND STATOR	1120 kg	1120 kg
WEIGHT WOUND ROTOR	951 kg	885.3 kg
WR ² INERTIA	19.03 kgm ²	18.26 kgm ²

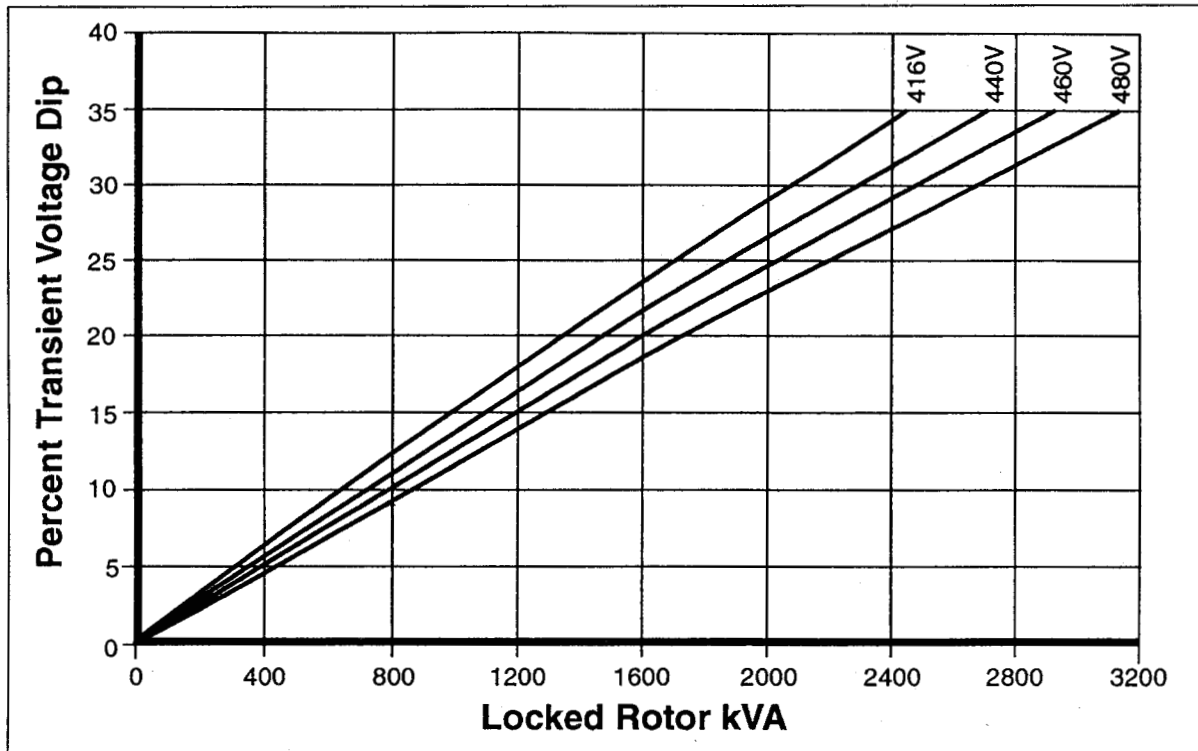
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF < 2%				TIF < 50			
COOLING AIR	1.614 m ³ /sec 3420 cfm				1.961 m ³ /sec 4156 cfm			
WINDING 311								
VOLTAGE SERIES STAR (Y)	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE PARALLEL STAR (Y)	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
VOLTAGE EDISON DELTA (Δ)	220/110	230/115	240/120	250/125	240/120	254/127	266/133	277/138
WINDING 312								
VOLTAGE SERIES STAR (Y)	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE DELTA (Δ)	220	230	240	250	240/120	254/127	266/133	277/138
kVA BASE RATING FOR REACTANCE VALUES	1000	1000	1000	1000	1150	1200	1250	1300
X _d DIR. AXIS SYNCHRONOUS	3.03	2.73	2.54	2.26	3.49	3.25	3.10	2.96
X' _d DIR. AXIS TRANSIENT	0.24	0.22	0.20	0.18	0.28	0.26	0.25	0.24
X'' _d DIR. AXIS SUBTRANSIENT	0.17	0.15	0.14	0.13	0.19	0.18	0.17	0.16
X _q QUAD. AXIS REACTANCE	1.78	1.61	1.49	1.33	2.05	1.91	1.82	1.74
X'' _q QUAD. AXIS SUBTRANSIENT	0.21	0.19	0.18	0.16	0.25	0.23	0.22	0.21
X _L LEAKAGE REACTANCE	0.090	0.081	0.075	0.067	0.104	0.097	0.092	0.088
X ₂ NEGATIVE SEQUENCE	0.21	0.19	0.18	0.16	0.25	0.23	0.22	0.21
X ₀ ZERO SEQUENCE	0.026	0.023	0.022	0.019	0.029	0.027	0.026	0.025
REACTANCES ARE SATURATED					VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED			
T' _d TRANSIENT TIME CONST.	0.185 sec							
T'' _d SUB-TRANSTIME CONST.	0.025 sec							
T' _{do} O.C. FIELD TIME CONST.	3.03 sec							
T _a ARMATURE TIME CONST.	0.046 sec							
SHORT CIRCUIT RATIO	1/X _d							

**SERIES 3 WINDING 311/312
 LOCKED ROTOR MOTOR STARTING CURVE**

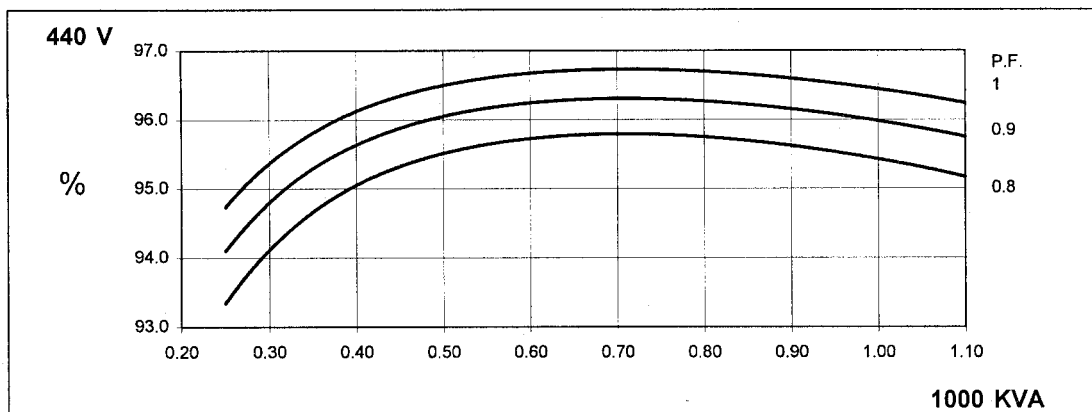
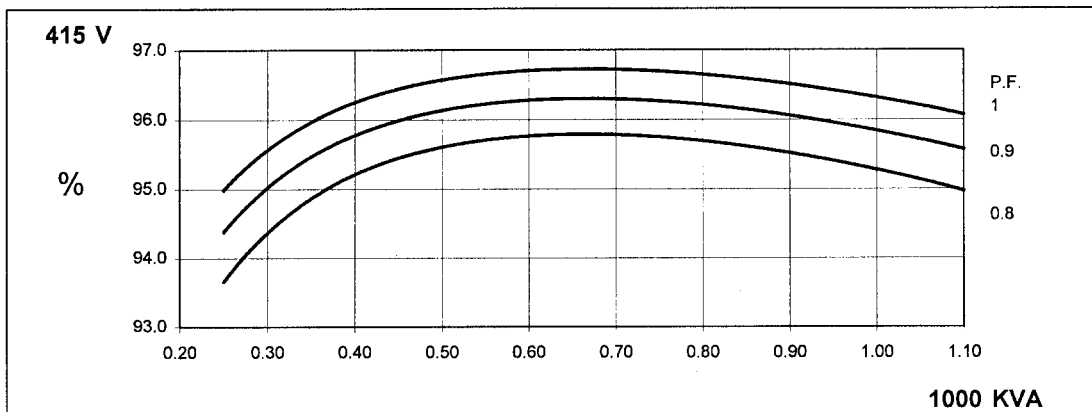
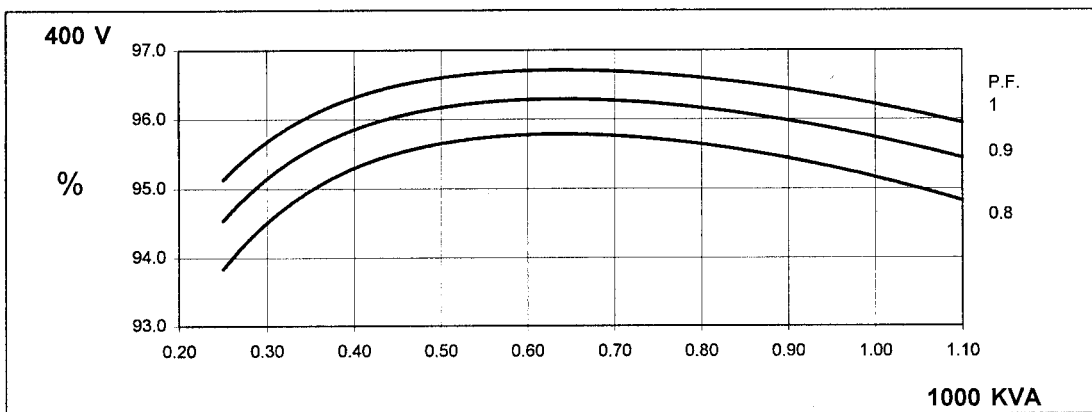
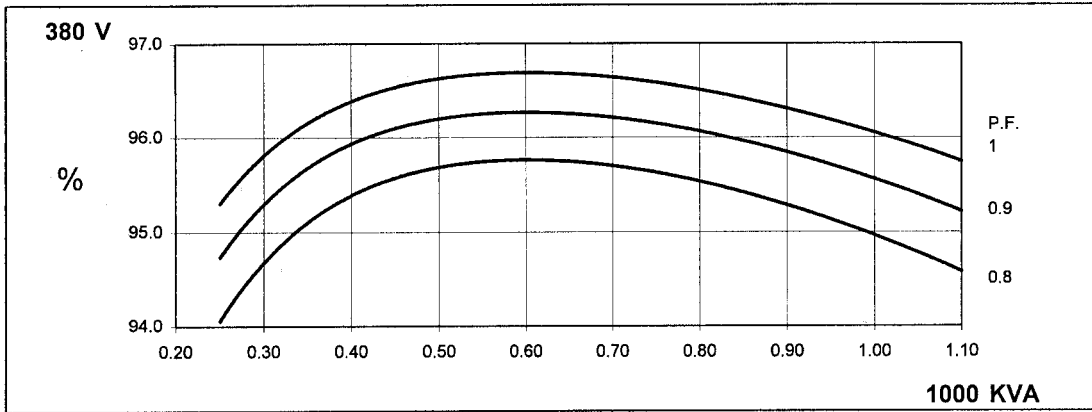


FRAME HC634J 60 Hz

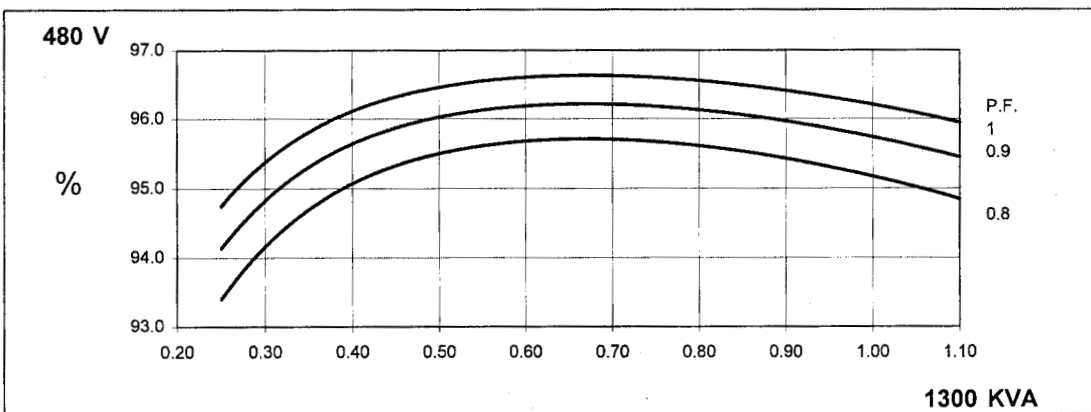
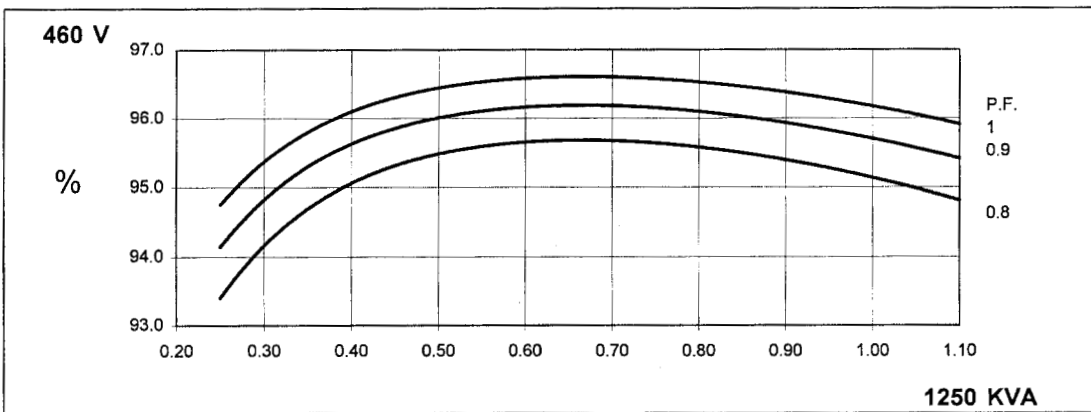
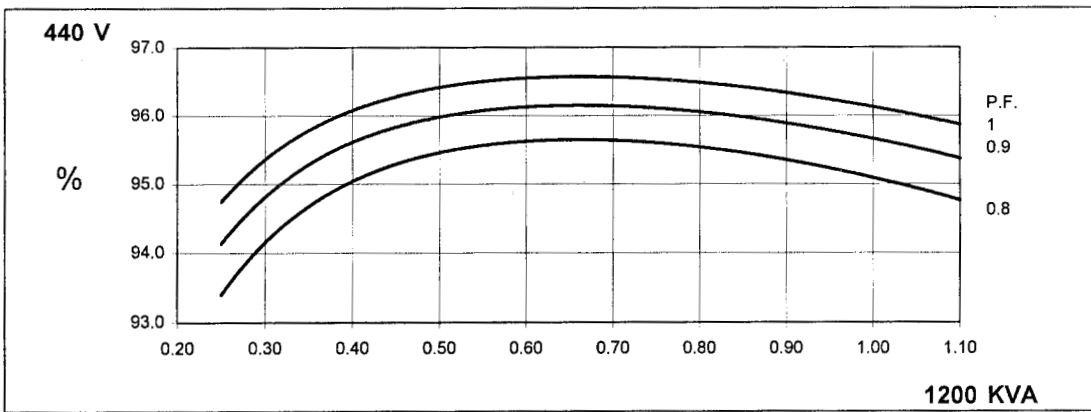
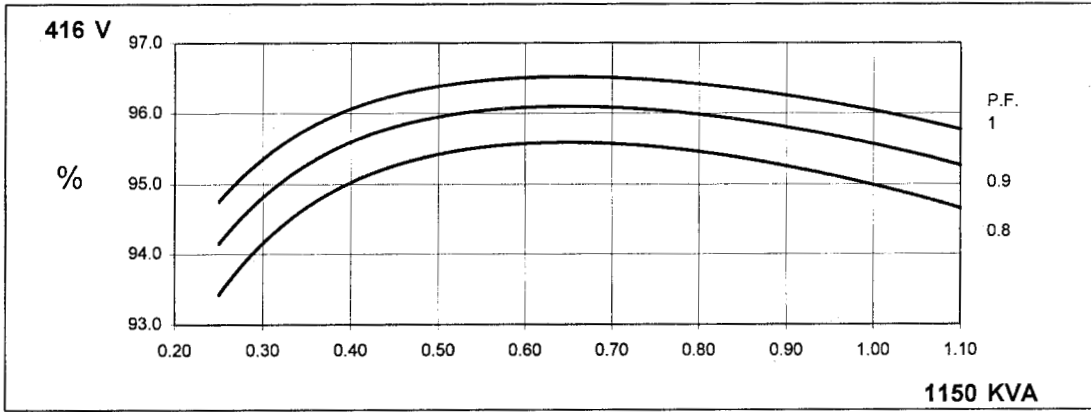
**SERIES 3 WINDING 311/312
 LOCKED ROTOR MOTOR STARTING CURVE**



THREE PHASE EFFICIENCY CURVES



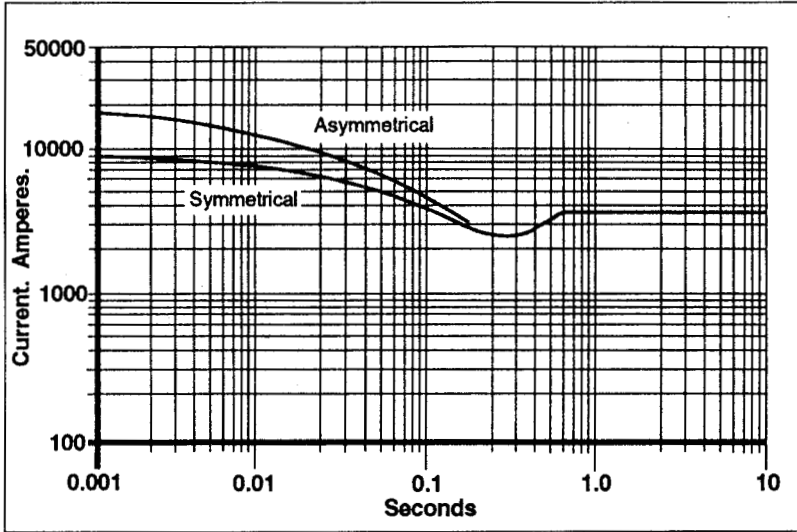
THREE PHASE EFFICIENCY CURVES



FRAME HC634J 50 Hz

SERIES THREE Three Phase Short Circuit Decrement Curve No-load Excitation at Rated Speed

Based on series star (wye) connection



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 :

VOLTAGE	FACTOR
380 V	X 1.0
400 V	X 1.07
415 V	X 1.12
440 V	X 1.18

The sustained current value is constant irrespective of voltage level.

Note 2

The following multiplication factors 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 Winding 311 Only

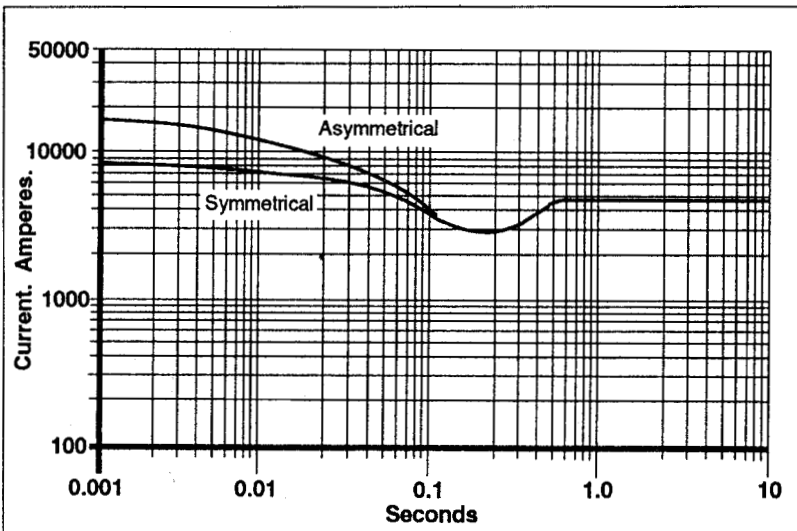
Curves are drawn for Series Star (Wye) connected machines. For other connections the following multipliers should be applied to current values shown :

Parallel Star (Wye) Curve current value X 2
Series Delta (Δ) Curve current value X 1.732

FRAME HC634J 60 Hz

SERIES THREE Three Phase Short Circuit Decrement Curve No-load Excitation at Rated Speed

Based on series star (wye) connection



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 :

VOLTAGE	FACTOR
416 V	X 1.0
440 V	X 1.06
460 V	X 1.12
480 V	X 1.17

The sustained current value is constant irrespective of voltage level.

Note 2

The following multiplication factors 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 Winding 311 Only

Curves are drawn for Series Star (Wye) connected machines. For other connections the following multipliers should be applied to current values shown :

Parallel Star (Wye) Curve current value X 2
Series Delta (Δ) Curve current value X 1.732

Times are unchanged.

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