

FRAME FGL20080**WINDING M****MODELS FGL20080**

REF: FGL20080WM-1 AUG 2020

WINDING DETAILS

Code	M	Insulation class	H
Phase	1	Leads	3
Pole number	4	Pitch	2/3

MECHANICAL DETAILS

Standard protection	IP23
Overspeed	rpm 2250
Air flow 50Hz/60Hz	m ³ /s 0.1/0.13

EXCITATION DETAILS

Excitation system	SHUNT
AVR model	R121
Sustained short-circuit current	-
Steady state voltage regulation	±1%

WAVEFORM

<i>No load or linear rated load</i>	
Total harmonic content THC	<3.5%
Telephone influence factor TIF (NEMA)	<100
Telephone harmonic factor THF (IEC)	<2%

VOLTAGE

Frequency / speed Series	V	50Hz / 1500rpm			60Hz / 1800rpm		
		220	230	240	220	230	240

RATING*Power factor 1.0, Altitude <=1000m*

Class	Rating	kVA	42.0	42.0	42.0	46.0	46.0	46.0
Class H rise BR	125/40	kVA	42.0	42.0	42.0	46.0	46.0	46.0
		kW	42.0	42.0	42.0	46.0	46.0	46.0
Class H rise PR	150/40	kVA	44.5	44.5	44.5	48.8	48.8	48.8
		kW	44.5	44.5	44.5	48.8	48.8	48.8
Class H rise PR	163/27	kVA	46.2	46.2	46.2	50.6	50.6	50.6
		kW	46.2	46.2	46.2	50.6	50.6	50.6
Class F rise BR	105/40	kVA	38.2	38.2	38.2	41.9	41.9	41.9
		kW	38.2	38.2	38.2	41.9	41.9	41.9

EFFICIENCIES*Power factor 1.0*

Efficiency	Class	%	89.8	90.2	90.3	88.8	89.4	89.9
110%	Class H BR	%	89.8	90.2	90.3	88.8	89.4	89.9
100%	Class H BR	%	90.4	90.5	90.8	89.4	90.0	90.4
75%	Class H BR	%	91.6	91.7	91.6	90.9	91.3	91.6
50%	Class H BR	%	92.2	92.0	91.6	91.9	92.0	92.1
25%	Class H BR	%	90.5	89.7	88.7	90.8	90.5	90.2

CHARACTERISTIC PARAMETERS*Reactance base class H BR rating*

K _c	Short-circuit ratio		0.56	0.63	0.70	0.38	0.40	0.48
X _d	D-Axis synchronous reactance (unsaturated)	pu	2.24	2.05	1.88	2.94	2.69	2.47
X' _d	D-Axis transient reactance (saturated)	pu	0.23	0.21	0.19	0.30	0.27	0.25
X'' _d	D-Axis sub-transient reactance (saturated)	pu	0.113	0.103	0.095	0.148	0.136	0.125
X _q	Q-Axis synchronous reactance (unsaturated)	pu	1.12	1.02	0.94	1.47	1.35	1.24
X'' _q	Q-Axis sub-transient reactance (saturated)	pu	0.161	0.148	0.136	0.212	0.194	0.178
X ₂	Negative-sequence reactance (saturated)	pu	-	-	-	-	-	-
X ₀	Zero-sequence reactance (independent)	pu	-	-	-	-	-	-
T' _d	D-Axis transient time constant	ms		50			50	
T'' _d	D-Axis sub-transient time constant	ms		5			5	
T' _{do}	D-Axis open-circuit time constant	ms		497			497	
T _a	Armature time constant	ms		7.5			7.5	
T _r	Voltage recovery time	ms		< 500			< 500	

EXCITATION VOLTAGE AND CURRENT

No load excitation voltage	V	7.9	8.8	9.9	6.0	6.3	6.7
No load excitation current	A	0.45	0.50	0.56	0.34	0.36	0.38
Class H BR excitation voltage	V	22.5	22.7	23.2	21.6	20.9	20.4
Class H BR excitation current	A	1.28	1.29	1.32	1.23	1.19	1.16

WINDING RESISTANCE*At 20°C*

Stator (series)	Ω	0.047			Exciter field	Ω	17.6
Main field	Ω	0.95					

According to: IEC 60034, UTE NFC51.111, VDE 0530, BS 4999/5000, NEMA MG 1-33

Values quoted are typical. In line with our policy of continuous improvement, we reserve the right to change specification without notice.

Manufactured for FG Wilson by Leroy Somer - Nidec.

FRAME FGL20080 WINDING M



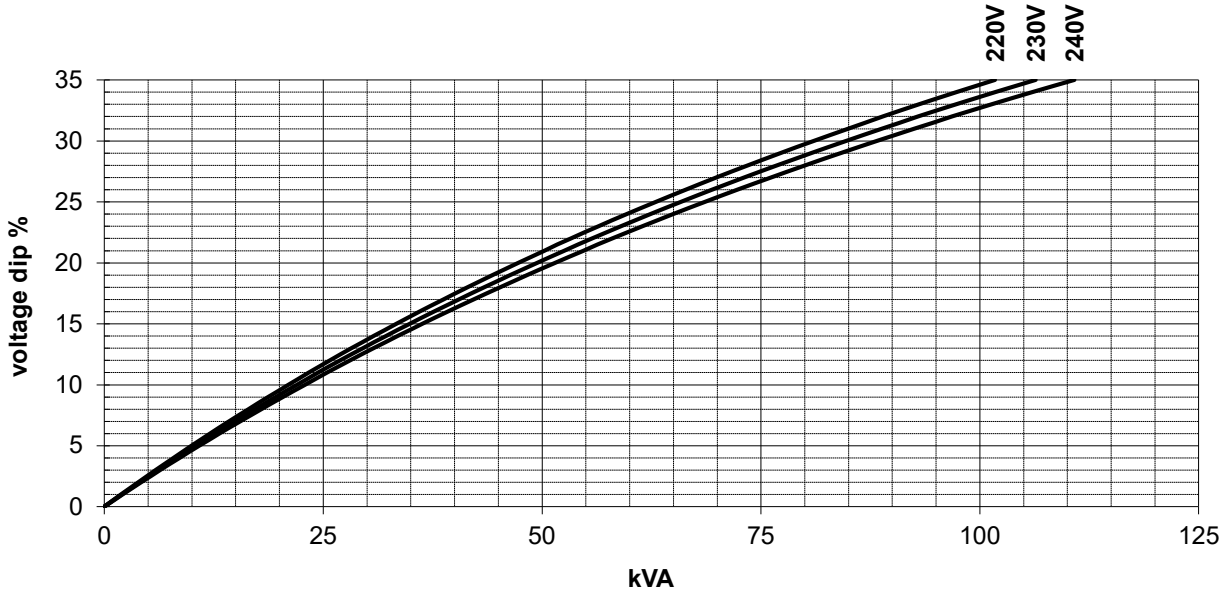
MODELS FGL20080

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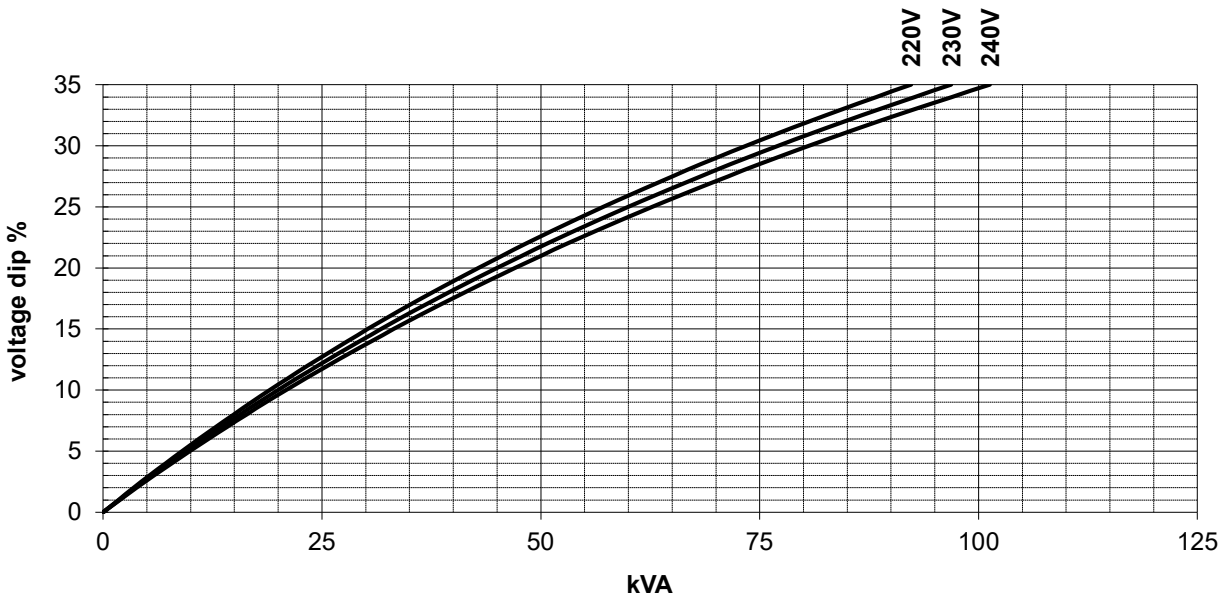
LOCKED ROTOR MOTOR STARTING CURVES

Power factor 0.9

50 Hz SHUNT



60 Hz SHUNT



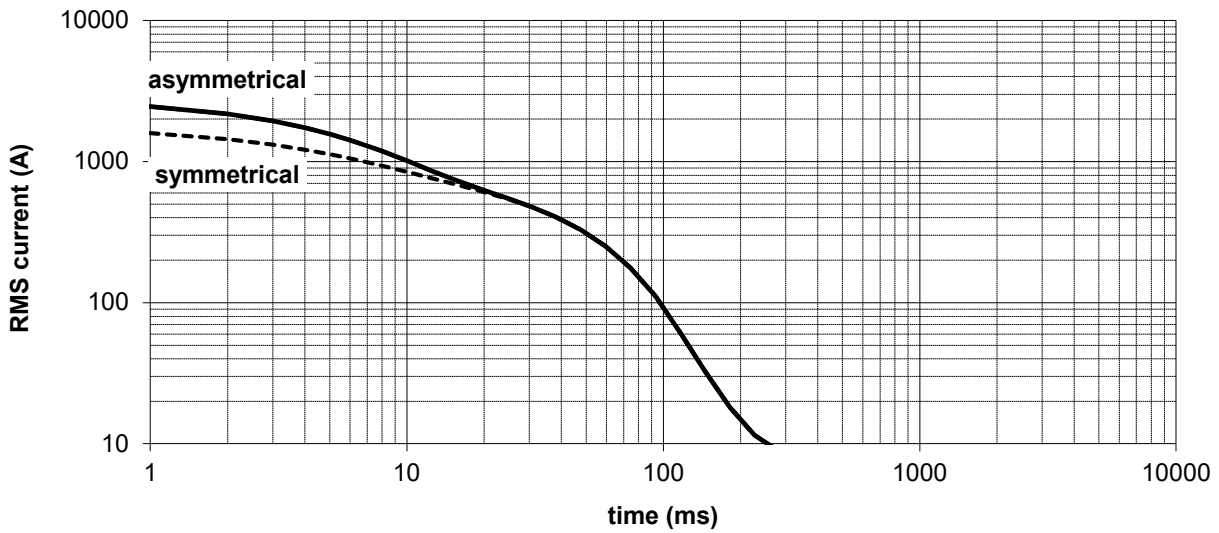
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SHORT-CIRCUIT DECREMENT CURVES

No-load excitation at rated speed

230V 50Hz



Multiplication Factors

50Hz Voltages	220	230	240
Multiplication Factor	0.96	1.00	1.04

Apply factor up to 2xT'd, remainder of curve unchanged

60Hz Voltages	220	230	240
Multiplication Factor	0.80	0.83	0.87

Apply factor up to 2xT'd, remainder of curve unchanged