

**FRAME FGL30030****WINDING M****MODELS FGL30030**

REF: FGL30030WM-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 <sup>3</sup> /s 0.25/0.3

**EXCITATION DETAILS**

Excitation system	<b>SHUNT</b>
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	57.0	57.0	57.0	63.0	63.0	63.0
Class H rise BR	125/40	kVA	57.0	57.0	57.0	63.0	63.0	63.0
		kW	60.4	60.4	60.4	66.8	66.8	66.8
Class H rise PR	150/40	kVA	60.4	60.4	60.4	66.8	66.8	66.8
		kW	62.5	62.5	62.5	69.5	69.5	69.5
Class H rise PR	163/27	kVA	62.5	62.5	62.5	69.5	69.5	69.5
		kW	52.0	52.0	52.0	57.5	57.5	57.5
Class F rise BR	105/40	kVA	52.0	52.0	52.0	57.5	57.5	57.5
		kW	57.5	57.5	57.5	57.5	57.5	57.5

**EFFICIENCIES***Power factor 1.0*

Efficiency	Class	%	90.6	90.7	90.5	89.4	89.9	90.3
110%	Class H BR	%	90.6	90.7	90.5	89.4	89.9	90.3
100%	Class H BR	%	91.0	91.0	90.8	89.9	90.3	90.6
75%	Class H BR	%	91.7	91.5	91.0	90.9	91.1	91.3
50%	Class H BR	%	91.7	91.1	90.2	91.2	91.2	91.1
25%	Class H BR	%	88.6	87.3	85.5	88.5	88.2	87.7

**CHARACTERISTIC PARAMETERS***Reactance base class H BR rating*

Parameter	Value	0.69	0.81	0.98	0.41	0.44	0.48
K <sub>c</sub> Short-circuit ratio		0.69	0.81	0.98	0.41	0.44	0.48
X <sub>d</sub> D-Axis synchronous reactance (unsaturated)	pu	2.18	1.99	1.83	2.88	2.64	2.42
X' <sub>d</sub> D-Axis transient reactance (saturated)	pu	0.18	0.17	0.15	0.24	0.22	0.20
X'' <sub>d</sub> D-Axis sub-transient reactance (saturated)	pu	0.110	0.100	0.092	0.146	0.133	0.122
X <sub>q</sub> Q-Axis synchronous reactance (unsaturated)	pu	1.31	1.19	1.10	1.73	1.58	1.45
X'' <sub>q</sub> Q-Axis sub-transient reactance (saturated)	pu	0.235	0.215	0.197	0.311	0.285	0.262
X <sub>2</sub> Negative-sequence reactance (saturated)	pu	-	-	-	-	-	-
X <sub>0</sub> Zero-sequence reactance (independent)	pu	-	-	-	-	-	-
T' <sub>d</sub> D-Axis transient time constant	ms		100			100	
T'' <sub>d</sub> D-Axis sub-transient time constant	ms		10			10	
T' <sub>do</sub> D-Axis open-circuit time constant	ms		1188			1188	
T <sub>a</sub> Armature time constant	ms		15			15	
T <sub>r</sub> Voltage recovery time	ms		< 500			< 500	

**EXCITATION VOLTAGE AND CURRENT**

Parameter	Value	7.2	8.5	10.3	4.8	5.1	5.6
No load excitation voltage	V	7.2	8.5	10.3	4.8	5.1	5.6
No load excitation current	A	0.62	0.73	0.88	0.41	0.44	0.48
Class H BR excitation voltage	V	16.5	17.5	19.2	15.3	14.9	14.7
Class H BR excitation current	A	1.42	1.50	1.65	1.31	1.28	1.26

**WINDING RESISTANCE***At 20°C*

Parameter	Value	0.024	Exciter field	Ω	11.7
Stator (series)	Ω	0.024	Exciter field	Ω	11.7
Main field	Ω	2.35			

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 FGL30030 WINDING M**



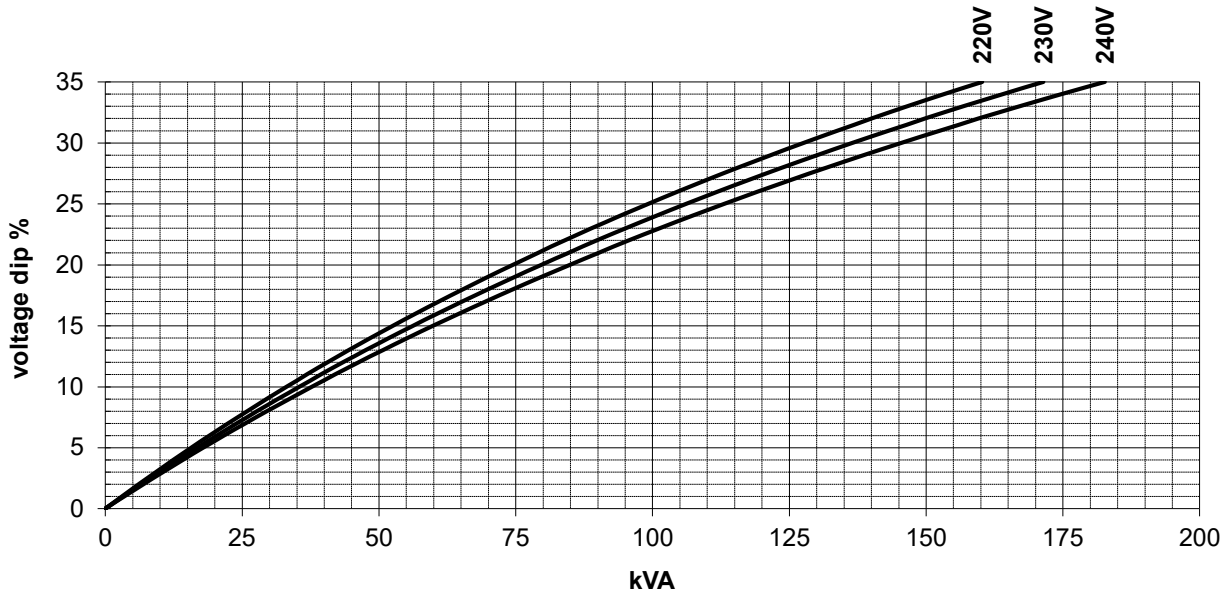
**MODELS FGL30030**

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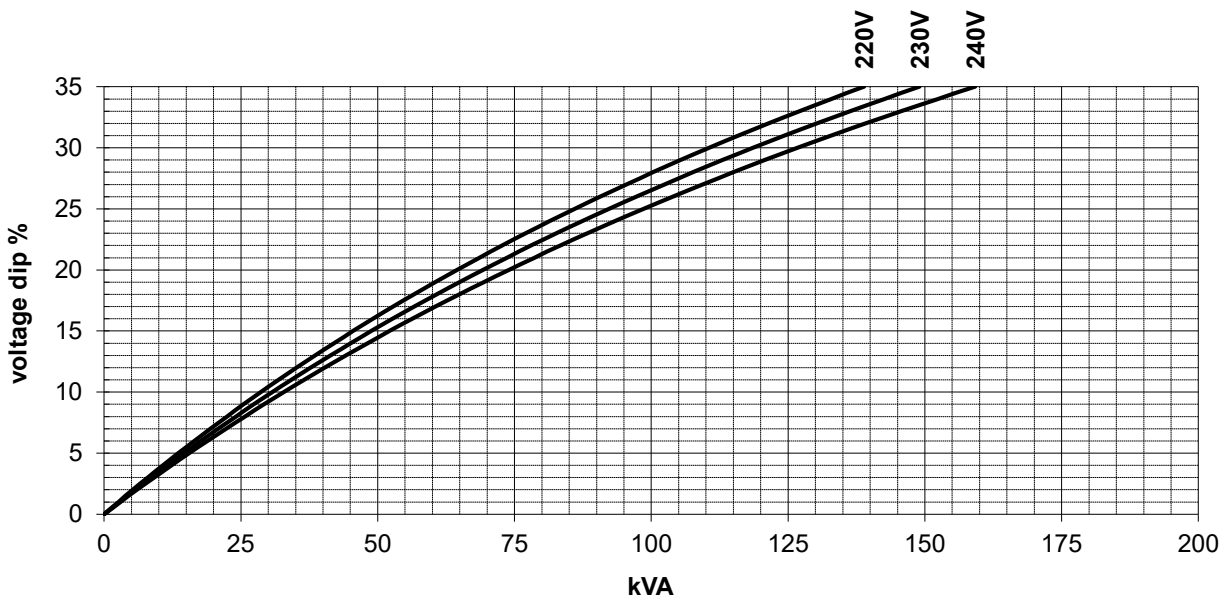
**LOCKED ROTOR MOTOR STARTING CURVES**

*Power factor 0.9*

**50 Hz SHUNT**



**60 Hz SHUNT**



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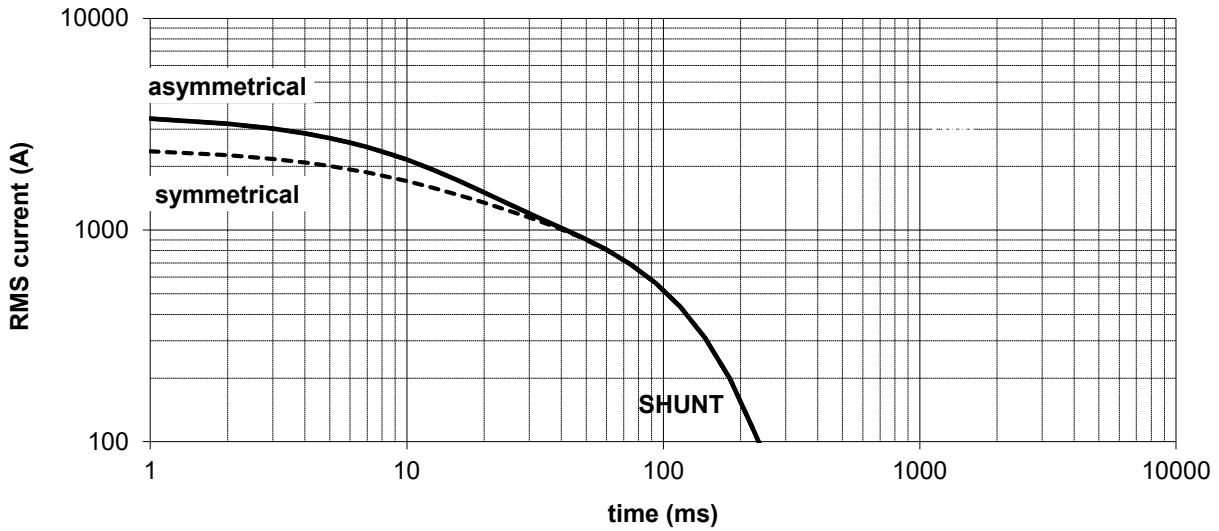
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**SHORT-CIRCUIT DECREMENT CURVES**

*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*