

FRAME FGL30110**WINDING 6P****MODELS FGL30110**

REF: FGL30110W6P-1 SEP 2020

WINDING DETAILS

Code	6P	Insulation class	H
Phase	3	Leads	4
Pole number	4	Pitch	2/3

MECHANICAL DETAILS

Standard protection	IP23	
Overspeed	rpm	2250
Air flow 50Hz/60Hz	m ³ /s	0.25 / 0.3

EXCITATION DETAILS

Excitation system	SHUNT	PMG
AVR model	R120	R180
Sustained short-circuit current	-	270%:5s
Steady state voltage regulation	±1.0%	±1.0%

WAVEFORM

<i>Line voltage on no load</i>	
Total harmonic content THC	< 2%
Telephone influence factor TIF (NEMA)	< 50
Telephone harmonic factor THF (IEC)	< 2%

LINE VOLTAGE*No overvoltage tolerance for 220V 50Hz excitation level*

Frequency / speed	V	50Hz / 1500rpm			60Hz / 1800rpm					
		200	208	220	200	208	220	230	240	
Star										

RATING*Power factor 0.8, Altitude <=1000m*

Class H rise BR	125/40	kVA	165	165	138	180	185	195	200	206
		<i>kW</i>	132	132	110	144	148	156	160	165
Class H rise PR	150/40	kVA	175	175	146	191	196	207	212	219
		<i>kW</i>	140	140	117	153	157	165	170	175
Class H rise PR	163/27	kVA	182	182	152	198	204	215	220	227
		<i>kW</i>	145	145	121	158	163	172	176	182
Class F rise BR	105/40	kVA	150	150	126	164	168	178	182	188
		<i>kW</i>	120	120	100	131	135	142	146	150

EFFICIENCIES*Power factor 0.8*

110%	Class H BR	%	92.5	92.3	91.9	93.0	93.1	93.2	93.1	93.0
100%	Class H BR	%	92.8	92.6	92.0	93.3	93.4	93.4	93.4	93.2
75%	Class H BR	%	93.5	93.1	92.0	93.9	94.0	94.0	93.9	93.6
50%	Class H BR	%	93.5	93.0	90.9	94.1	94.1	93.9	93.7	93.4
25%	Class H BR	%	91.4	90.4	86.3	92.4	92.2	91.8	91.3	90.6

CHARACTERISTIC PARAMETERS*Reactance base class H BR rating*

K _c	Short-circuit ratio		0.40	0.49	0.81	0.24	0.26	0.29	0.34	0.39
X _d	D-Axis synchronous reactance (unsaturated)	pu	3.43	3.19	2.37	4.49	4.27	4.02	3.77	3.58
X' _d	D-Axis transient reactance (saturated)	pu	0.17	0.15	0.11	0.22	0.21	0.19	0.18	0.17
X'' _d	D-Axis sub-transient reactance (saturated)	pu	0.099	0.092	0.069	0.130	0.123	0.116	0.109	0.103
X _q	Q-Axis synchronous reactance (unsaturated)	pu	1.75	1.63	1.21	2.29	2.18	2.05	1.92	1.82
X'' _q	Q-Axis sub-transient reactance (saturated)	pu	0.196	0.182	0.135	0.256	0.244	0.229	0.215	0.204
X ₂	Negative-sequence reactance (saturated)	pu	0.147	0.137	0.102	0.193	0.183	0.173	0.162	0.154
X ₀	Zero-sequence reactance (independent)	pu	0.007	0.006	0.005	0.009	0.008	0.008	0.007	0.007
T' _d	D-Axis transient time constant	ms	100			100				
T'' _d	D-Axis sub-transient time constant	ms	10			10				
T' _{do}	D-Axis open-circuit time constant	ms	2077			2077				
T _a	Armature time constant	ms	15			15				
T _r	Voltage recovery time	ms	< 500			< 500				

EXCITATION VOLTAGE AND CURRENT

No load excitation voltage	V	8.8	10.1	13.1	5.7	6.1	6.9	7.8	8.8
No load excitation current	A	0.68	0.78	1.01	0.44	0.47	0.53	0.60	0.68
Class H BR excitation voltage	V	36.5	38.7	37.8	30.7	31.1	32.6	33.9	36.1
Class H BR excitation current	A	2.82	2.99	2.92	2.37	2.40	2.52	2.62	2.79

WINDING RESISTANCE*At 20°C*

Stator line-to-line (series star)	Ω	0.048	Exciter field - Shunt		Ω	12.9
Main field	Ω	3.43				

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.

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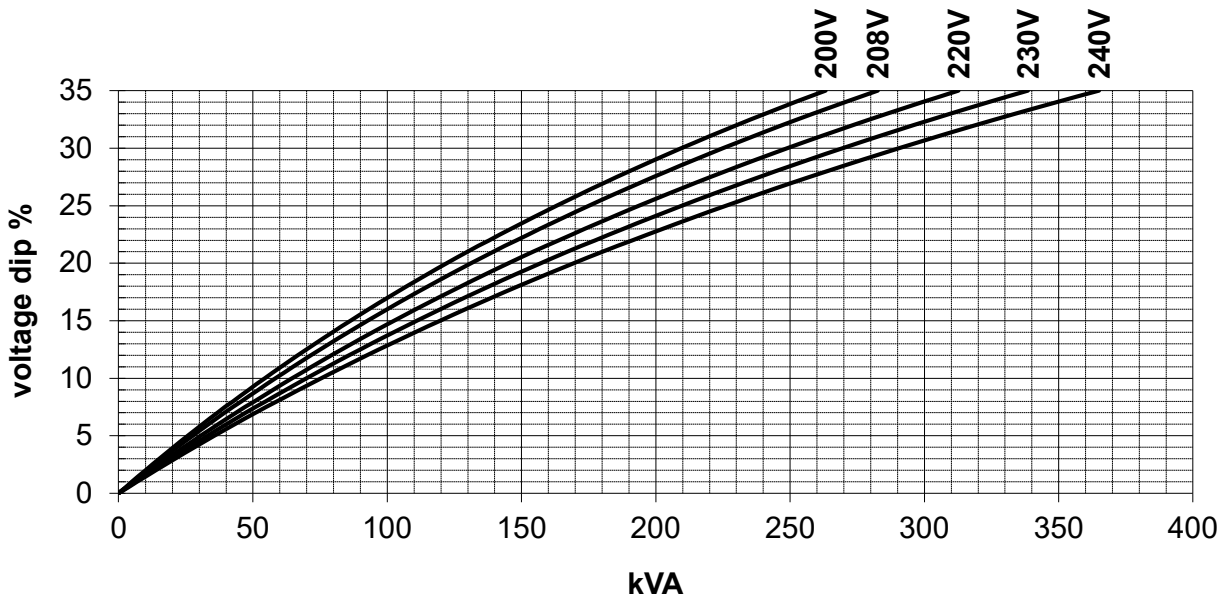
LOCKED ROTOR MOTOR STARTING CURVES

Power factor 0.6

50 Hz SHUNT



60 Hz SHUNT



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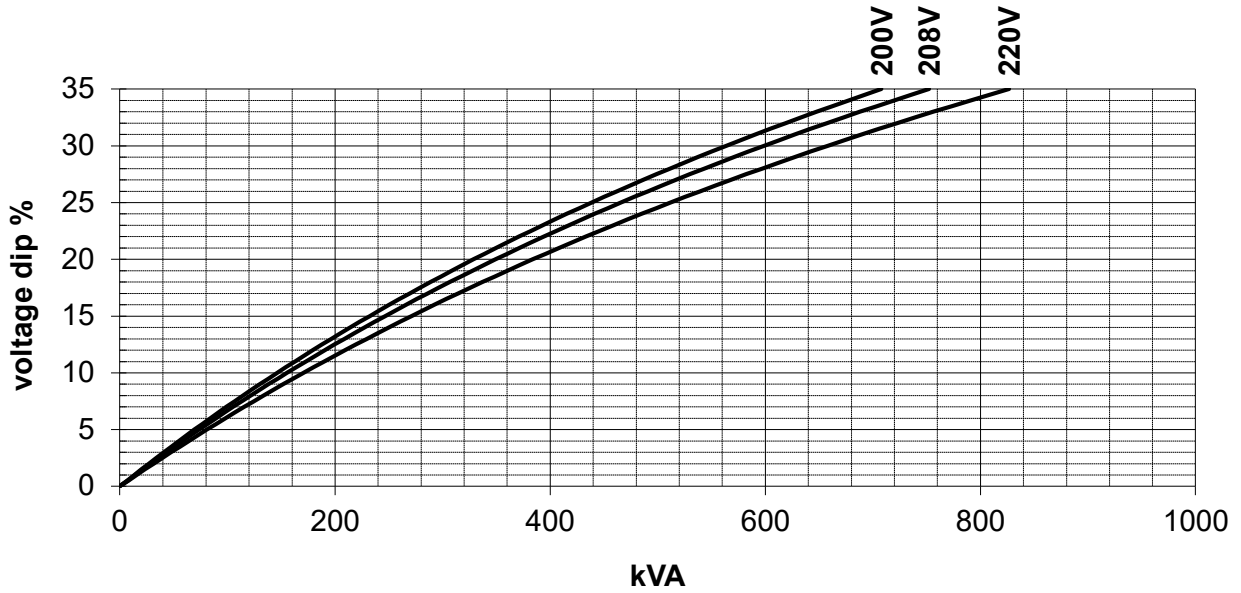
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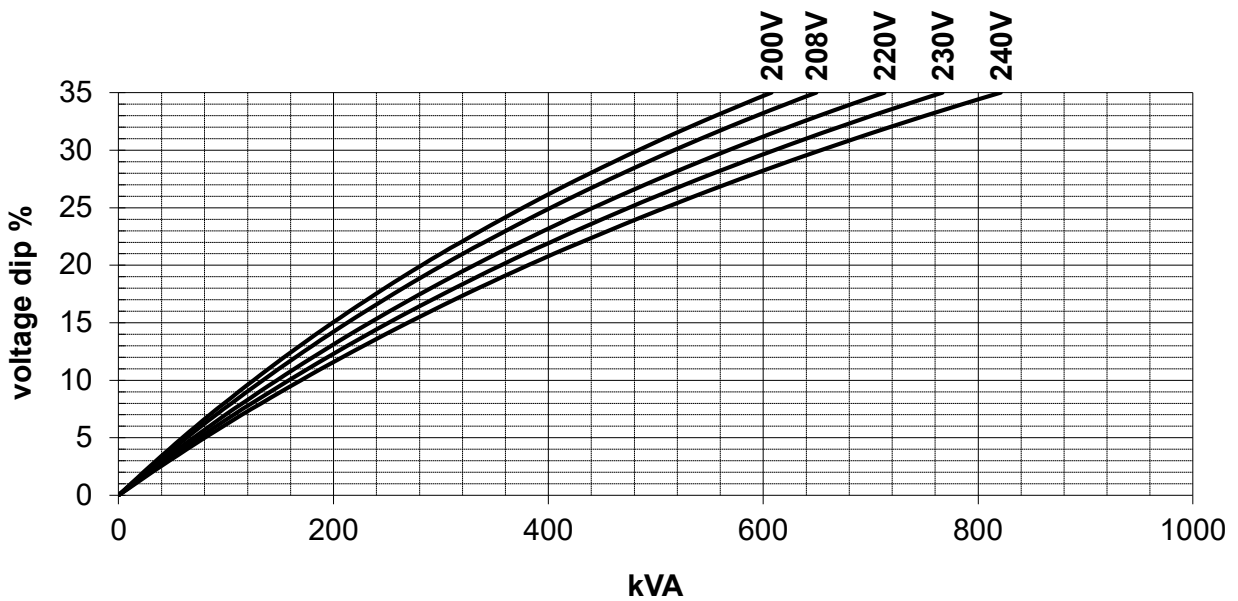
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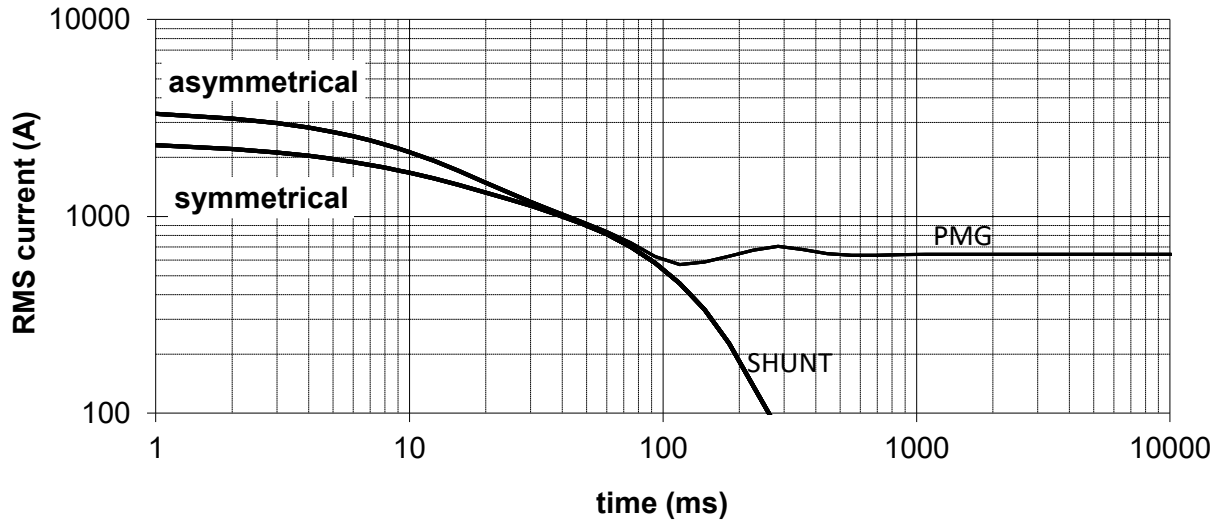
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THREE-PHASE SHORT-CIRCUIT DECREMENT CURVES

No-load excitation at rated speed

200V 50Hz, 240V 60Hz

Star



Multiplication Factors

50Hz Voltages

200 208 220

Multiplication Factor

1.00 1.04 1.10

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

60Hz Voltages

200 208 220 230 240

Multiplication Factor

0.83 0.87 0.92 0.96 1.00

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

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