

# MAGNAMAX®

## TYPICAL SUBMITTAL DATA

BASE MODEL: 742RSL4050

Winding: 740051

Date: 02/10/22

Kilowatt ratings at	1800 RPM	60 Hertz	4 Bus Bars		
kW (kVA)	3 Phase	0.8 Power Factor		Dripproof or Open Enclosure	
	CONTINUOUS <sup>1, 2</sup>			STANDBY <sup>1, 2</sup>	
Voltage*	NEMA B / 80 °C	NEMA F / 105 °C	NEMA H / 125 °C	NEMA F / 130 °C	NEMA H / 150 °C
480	1220 (1525)	1430 (1788)	1500 (1875)	1500 (1875)	1520 (1900)
440	1160 (1450)	1340 (1675)	1420 (1775)	1450 (1813)	1500 (1875)
416	1110 (1388)	1270 (1588)	1340 (1675)	1370 (1713)	1410 (1763)
400	1070 (1338)	1221 (1526)	1259 (1574)	1275 (1594)	1296 (1620)
380	1020 (1275)	1160 (1450)	1160 (1450)	1160 (1450)	1160 (1450)

① Rise by resistance method, Mil-Std-705, Method 680.1b.

② Machine rated for Max Ambient of 40 °C, Max Altitude 3300 ft

**Submittal Data: 416 Volts\*, 1370 kW, 1713 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase** | **High Wye CONNECTION**

Mil-Std-705B Method	Description	Value	Units	Mil-Std-705C Method	Description	Value	Units
301.1b	Insulation Resistance	>1.5 Meg	Ohms	505.3b	Overspeed	2250	RPM
302.1a	High Potential Test			507.1c	Phase Sequence CCW-ODE	ABC	
	Main Stator	1960	Volts	508.1c	Voltage Balance, L-L or L-N	0.2%	
	Main Rotor	1500	Volts	601.4a	L-L Harmonic Max - Total (Distortion Factor)	5.0%	
	Exciter Stator	1500	Volts				
	Exciter Rotor	1500	Volts	601.4a	L-L Harmonic Max - Single	3.0%	
PMG Stator	1500	Volts	601.1c	Deviation Factor	5.0%		
401.1a	Stator Resistance, Line to Line High Wye Connection	0.00230	Ohms	---	TIF (1960 Weightings)	<50	
				---	THF (IEC, BS & NEMA Weightings)	<2%	
	Rotor Resistance	0.889	Ohms	---	Winding Pitch	2/3	
	Exciter Stator	22	Ohms				
	Exciter Rotor	0.043	Ohms				
	PMG Stator	2.1	Ohms				
410.1a	No Load Exciter Field Amps at 416 Volts Line to Line	0.47	A DC	<b>Additional Prototype Mil-Std Methods are Available on Request.</b>			
420.1a	Short Circuit Ratio	0.398					
421.1a	Xd Synchronous Reactance	3.247	PU	--	Generator Frame	742	
		0.328	Ohms	--	Type	MagnaMax	
422.1a	X2 Negative Sequence React.	0.275	PU	--	Insulation	Class H	
		0.028	Ohms	--	Coupling - Single Bearing	Flexible	
423.1a	X0 Zero Sequence Reactance	0.082	PU	--	Amortisseur Windings	Full	
		0.008	Ohms	--	Excitation	Ext. Voltage Regulated, Brushless	
425.1a	X'd Transient Reactance	0.195	PU	--	Voltage Regulator	DVR2400	
		0.020	Ohms	--	Voltage Regulation	0.25%	
426.1a	X''d Subtransient Reactance	0.147	PU				
		0.015	Ohms				
--	Xq Quadrature Synchronous Reactance	1.338	PU	--	Cooling Air Volume	3329	CFM
		0.135	Ohms	--	Heat rejection rate	3536	Btu's/min
427.1a	T'd Transient Short Circuit Time Constant	0.162	Sec	--	Full load current	2376.7	Amps
				--	Minimum Input hp required	1919.8	HP
428.1a	T''d Subtransient Short Circuit Time Constant	0.011	Sec	--	Full load torque	5599	Lb-ft
				--	Efficiency at rated load :	95.7%	
430.1a	T'do Transient Open Circuit Time Constant	2.88	Sec				
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.028	Sec	--	Weight	7230	lbs

\* Voltages refer to wye (star) connection, unless otherwise specified.

[www.regalrexnord.com/brands/Marathon-Generators](http://www.regalrexnord.com/brands/Marathon-Generators)



Not indicative of legal entity.



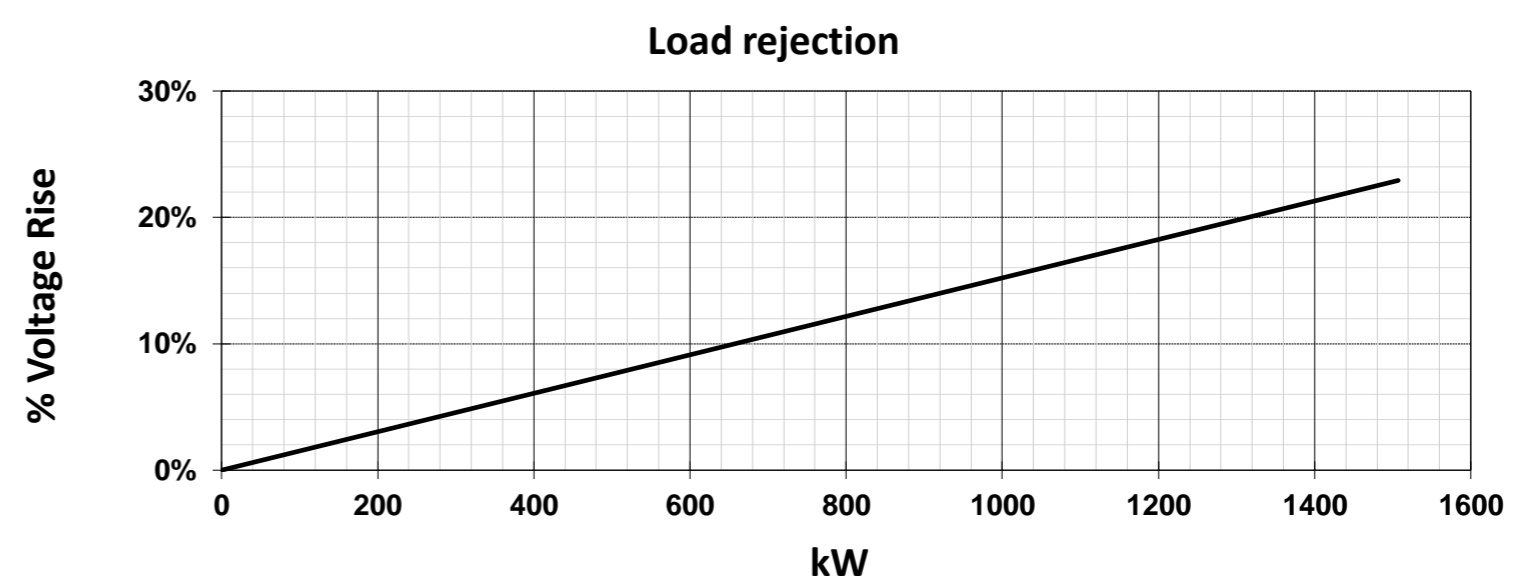
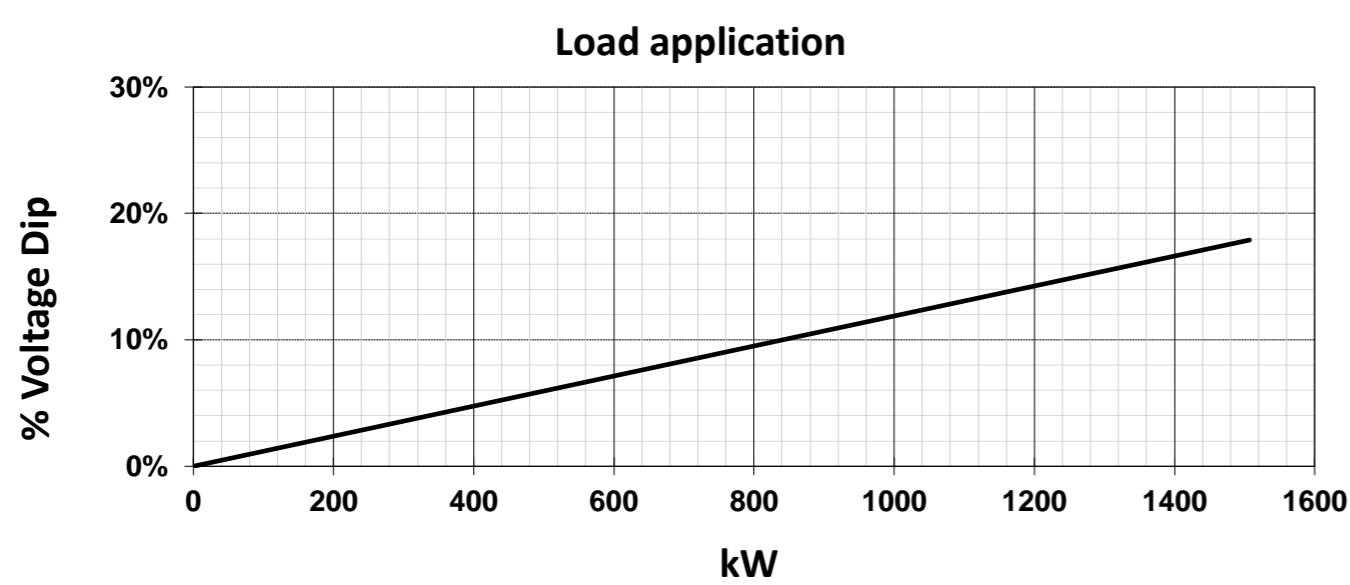
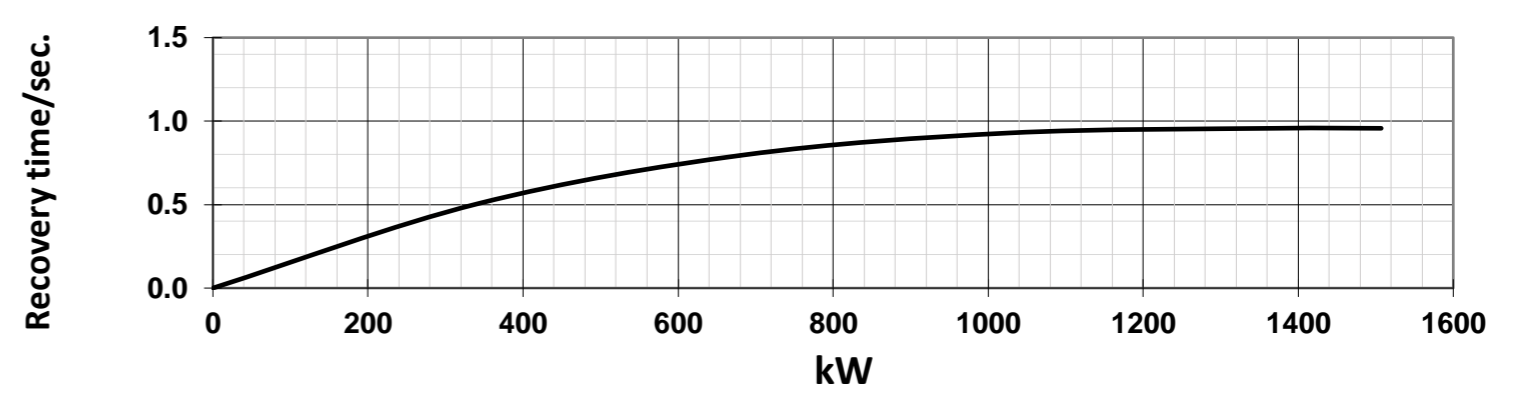
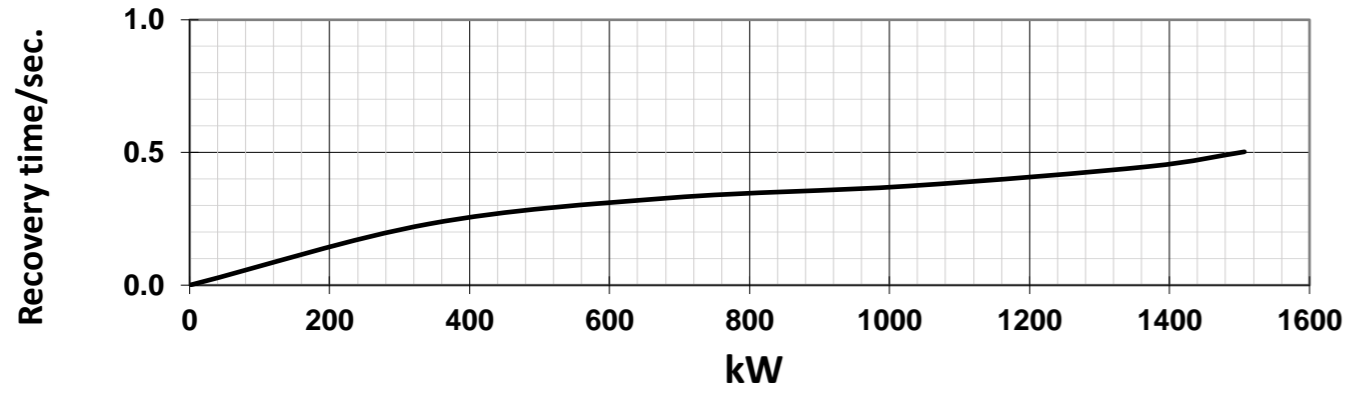
# MAGNAMAX<sup>®</sup>

## TYPICAL DYNAMIC CHARACTERISTICS

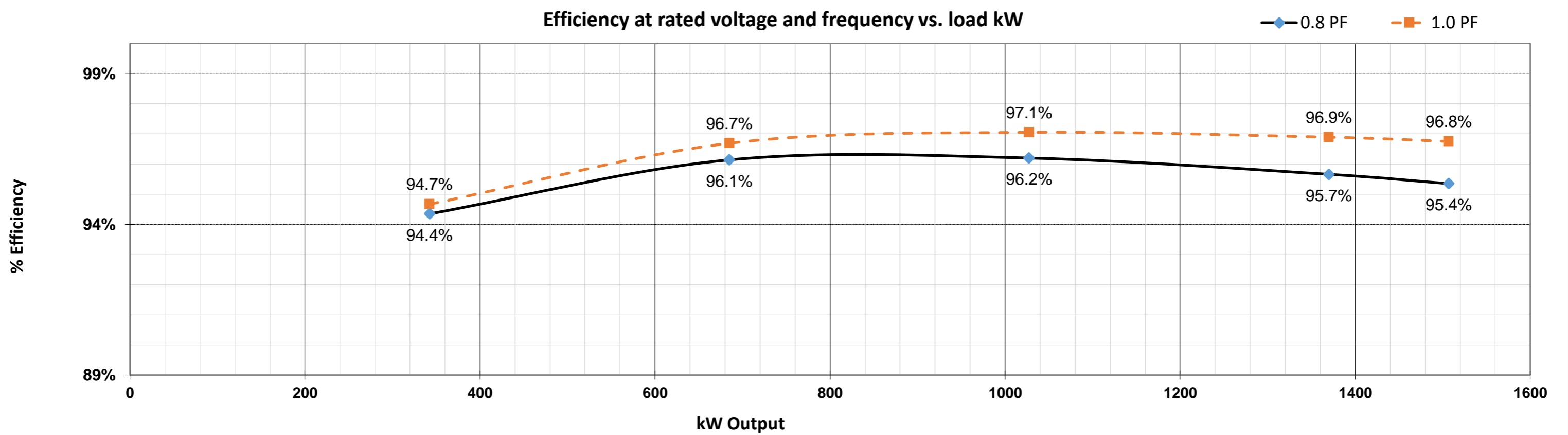
BASE MODEL: **742RSL4050**

Date: **02/10/22**

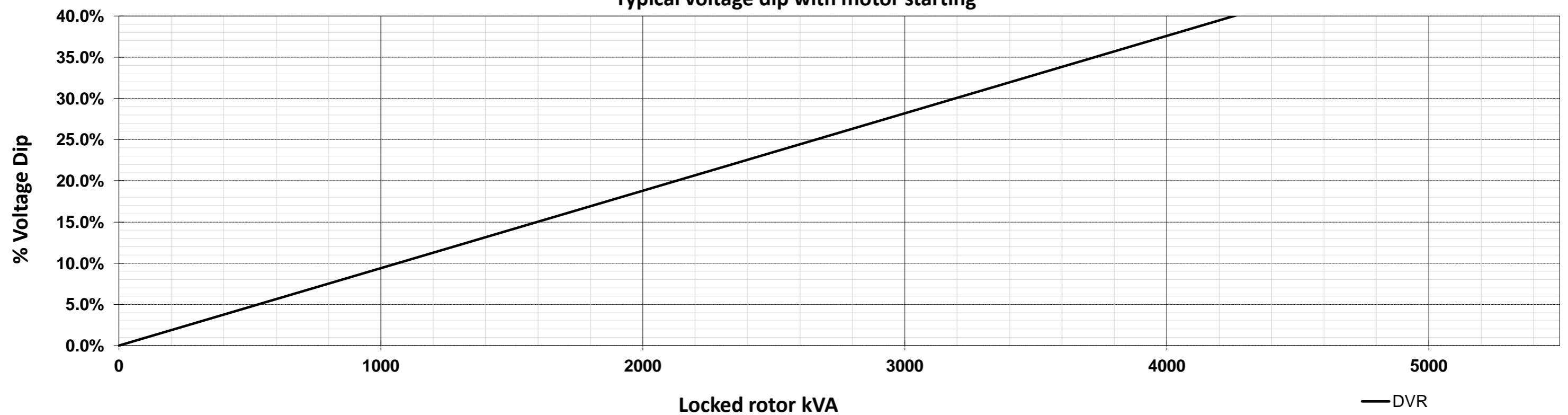
Submittal Data: **416 Volts\*, 1370 kW, 1713 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase**



Efficiency at rated voltage and frequency vs. load kW



Typical voltage dip with motor starting



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## DECREMENT CURVE

BASE MODEL: 742RSL4050

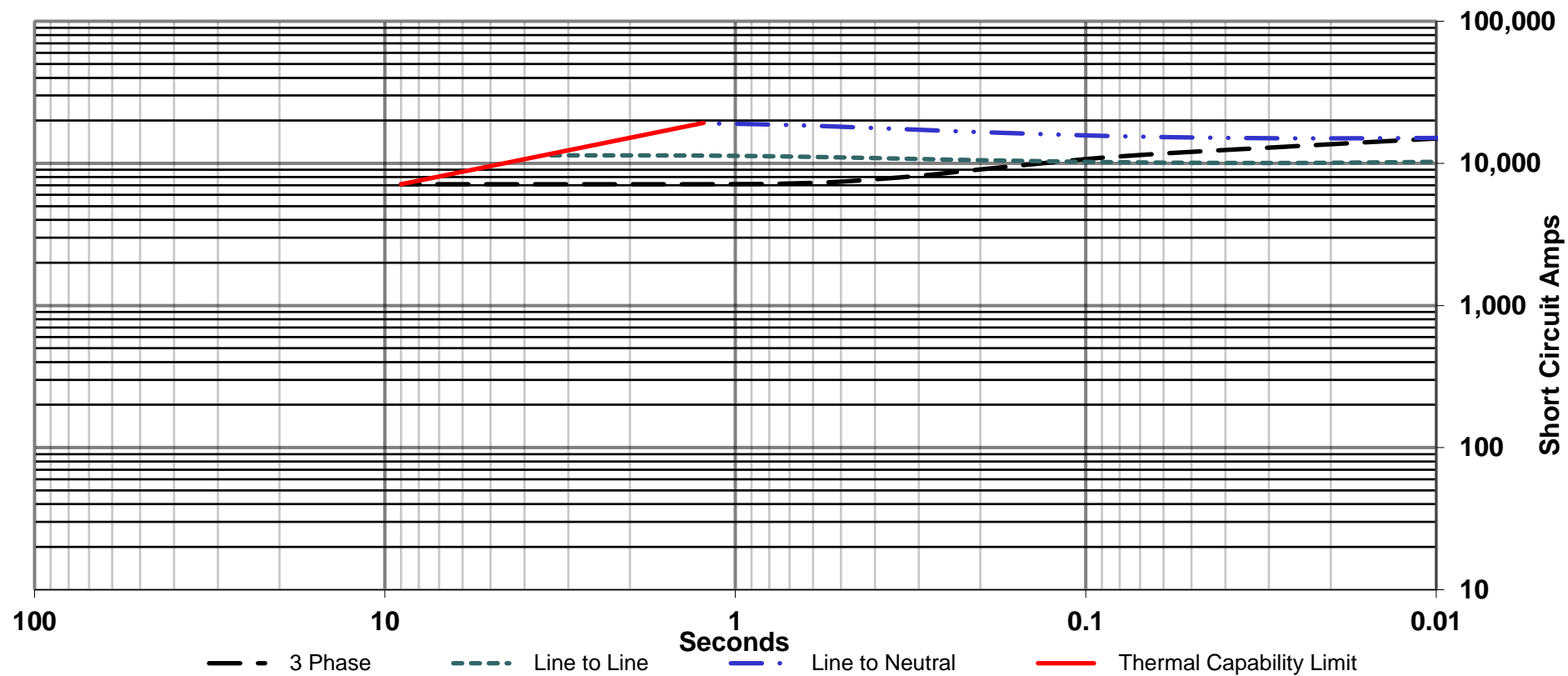
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Date : 02/10/22

Full Load Current : 2376.7 amps  
Steady State S.C. Current : 7130.1 amps

Max. 3 ph. Symm. S.C. Current : 16153 amps  
INCLUDES EXCITATION SUPPORT (PMG)

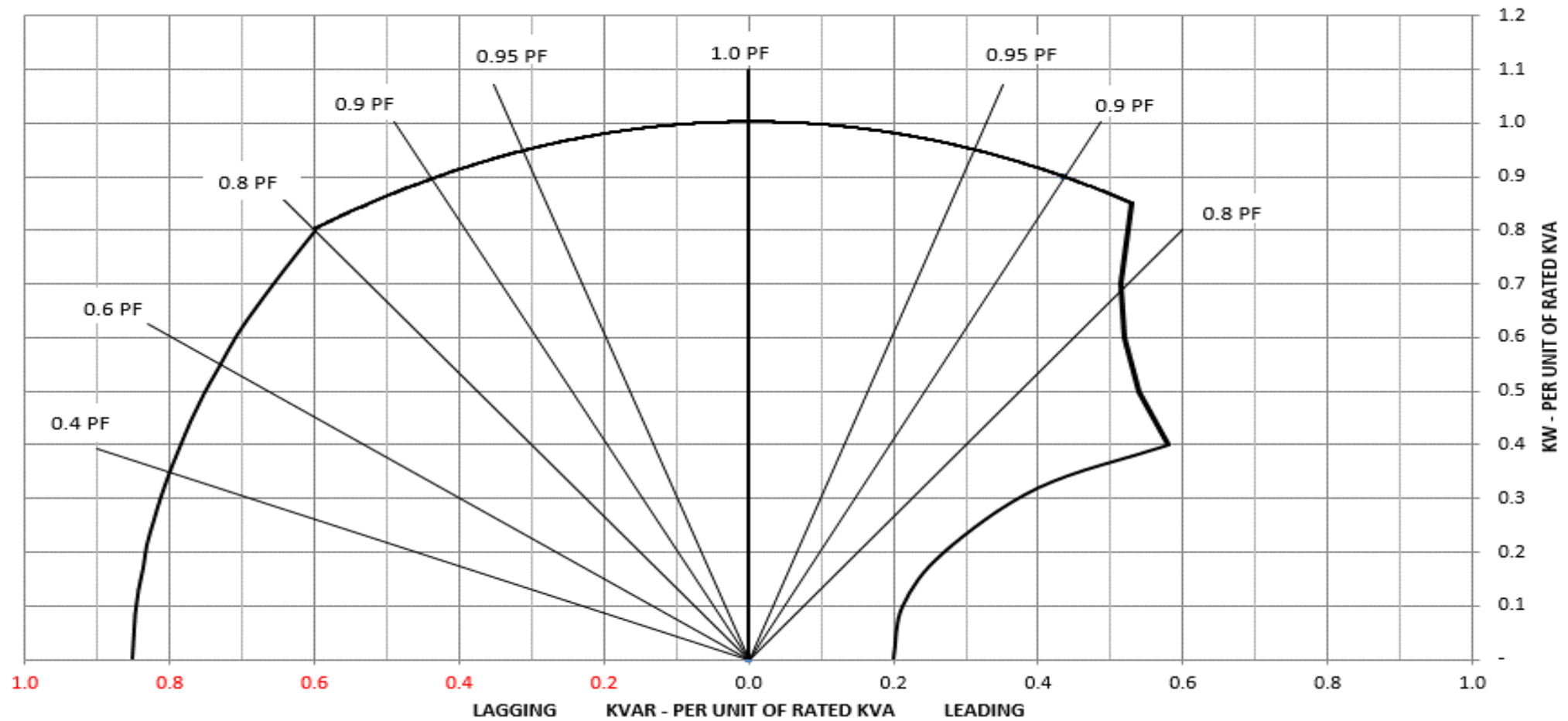
Symmetrical Component values, Maximum Asymmetrical Values Are 1.732 Times Symmetrical Values



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## Typical Reactive Capability Curve

Date : 02/10/22

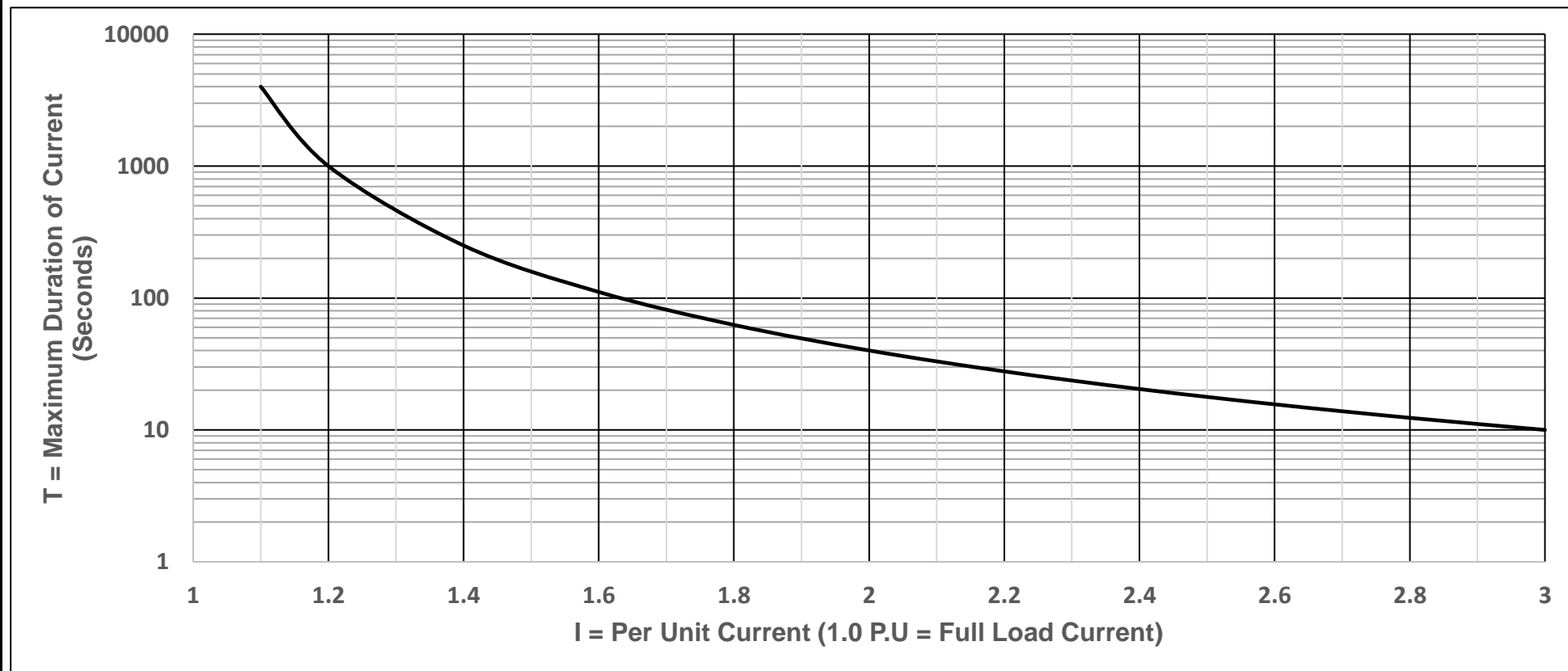


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## THERMAL DAMAGE CURVE

Date : 02/10/22

Base is 3.0 P.U. current for 10 seconds from  $T = 40/(I-1)^2$   
Windings at operating temperature



**RegalRexnord**

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Generators