

MAGNAPLUS®

TYPICAL SUBMITTAL DATA

BASE MODEL: 284PSL1742

Winding: 1742

Date: 03/16/22

Kilowatt ratings at	1800 RPM	60 Hertz	12 Leads		
kW (kVA)	3 Phase	0.8 Power Factor		Dripproof or Open Enclosure	
	CONTINUOUS ^{1, 2}			STANDBY ^{1, 2}	
Voltage*	NEMA B / 80 °C	NEMA F / 105 °C	NEMA H / 125 °C	NEMA F / 130 °C	NEMA H / 150 °C
240/480	32 (40)	36 (45)	40 (50)	40 (50)	45 (56)
220/440	32 (40)	36 (45)	40 (50)	40 (50)	43 (54)
208/416	32 (40)	36 (45)	40 (50)	40 (50)	42 (53)
200/400	31 (39)	35 (44)	39 (49)	39 (49)	40 (50)
190/380	29 (36)	33 (41)	37 (46)	37 (46)	38 (48)

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: 208 Volts*, 40 kW, 50 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase **Low 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)	3.0%	
	Exciter Stator	1500	Volts				
	Exciter Rotor	1500	Volts	601.4a	L-L Harmonic Max - Single	3.0%	
				601.1c	Deviation Factor	5.0%	
401.1a	Stator Resistance, Line to Line Low Wye Connection	0.05500	Ohms	---	TIF (1960 Weightings)	<50	
	Rotor Resistance	0.55	Ohms	---	THF (IEC, BS & NEMA Weightings)	<2%	
	Exciter Stator	17.5	Ohms	---	Winding Pitch	2/3	
	Exciter Rotor	0.12	Ohms				
410.1a	No Load Exciter Field Amps at 208 Volts Line to Line	0.56	A DC	Additional Prototype Mil-Std Methods are Available on Request.			
420.1a	Short Circuit Ratio	0.535					
421.1a	Xd Synchronous Reactance	2.566	PU	--	Generator Frame	284	
		2.220	Ohms	--	Type	MagnaPlus	
422.1a	X2 Negative Sequence React.	0.213	PU	--	Insulation	Class H	
		0.184	Ohms	--	Coupling - Single Bearing	Flexible	
423.1a	X0 Zero Sequence Reactance	0.045	PU	--	Amortisseur Windings	Full	
		0.039	Ohms	--	Excitation	Ext. Voltage Regulated, Brushless	
425.1a	X'd Transient Reactance	0.091	PU	--	Voltage Regulator	SE350	
		0.078	Ohms	--	Voltage Regulation	1.00%	
426.1a	X''d Subtransient Reactance	0.079	PU				
		0.068	Ohms				
				--	Cooling Air Volume	250	CFM
				--	Heat rejection rate	222	Btu's/min
427.1a	T'd Transient Short Circuit Time Constant	0.025	Sec	--	Full load current	138.8	Amps
				--	Minimum Input hp required	58.9	HP
428.1a	T''d Subtransient Short Circuit Time Constant	0.014	Sec	--	Full load torque	172	Lb-ft
				--	Efficiency at rated load :	91.1%	
430.1a	T'do Transient Open Circuit Time Constant	0.71	Sec				
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.023	Sec	--	Weight	436	lbs

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

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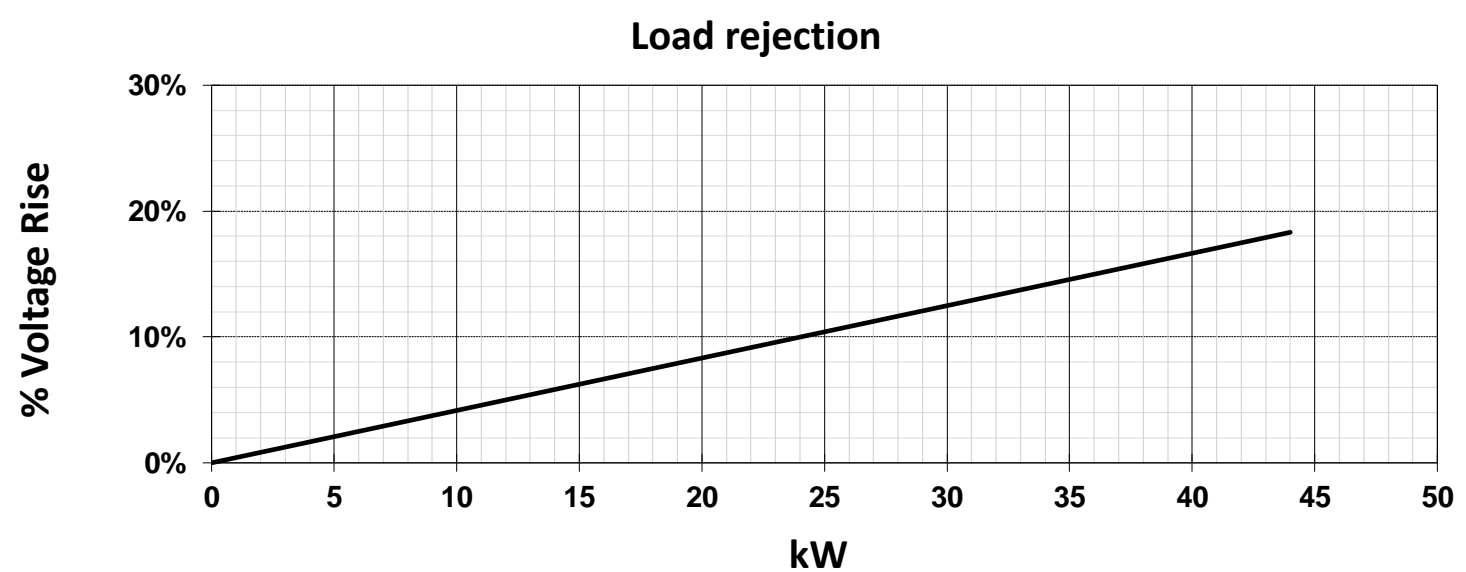
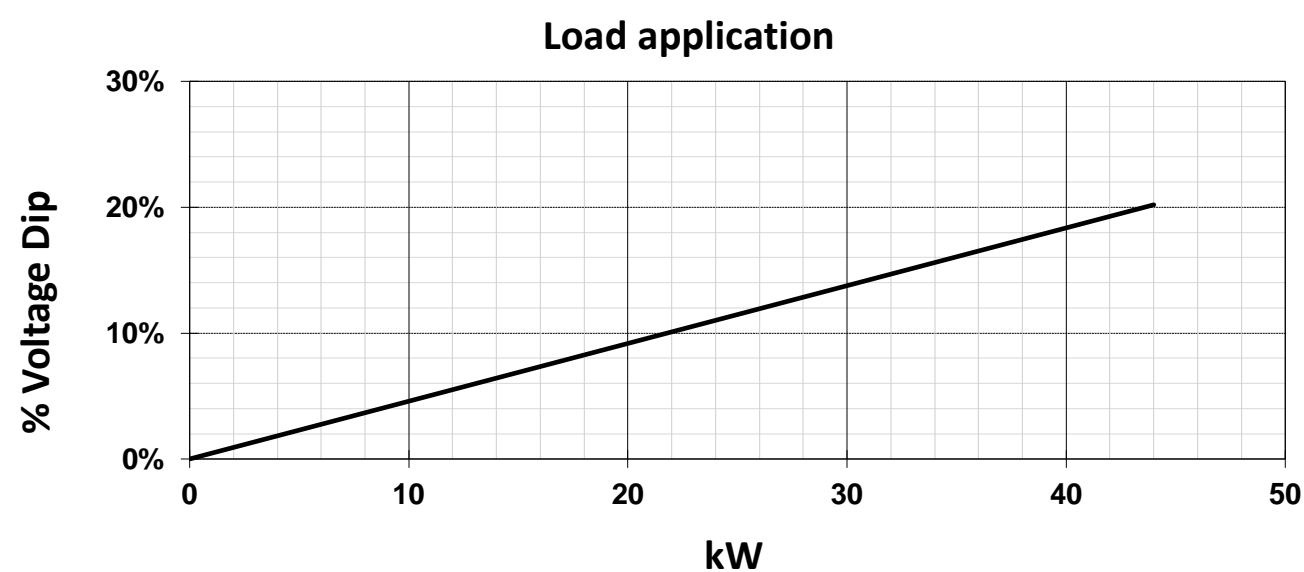
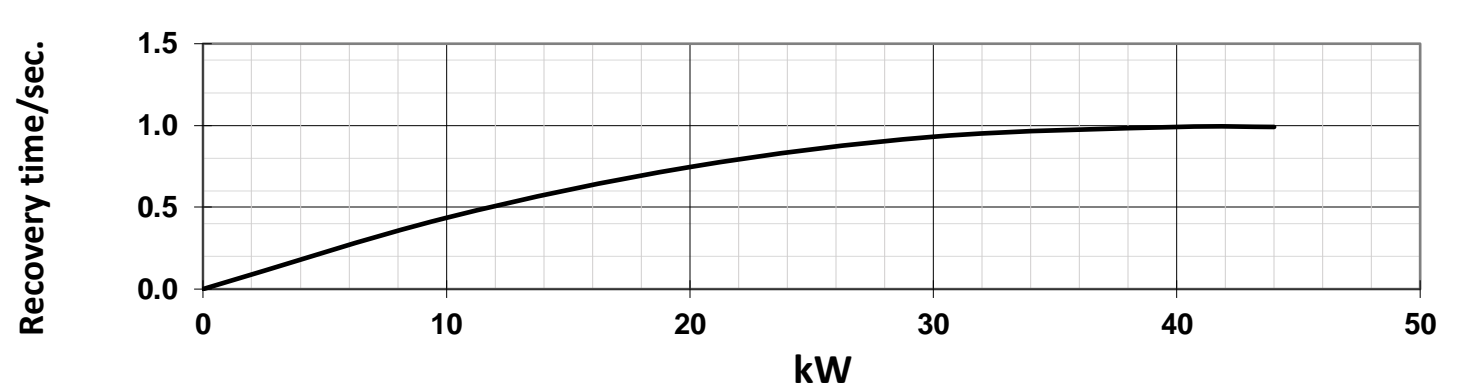
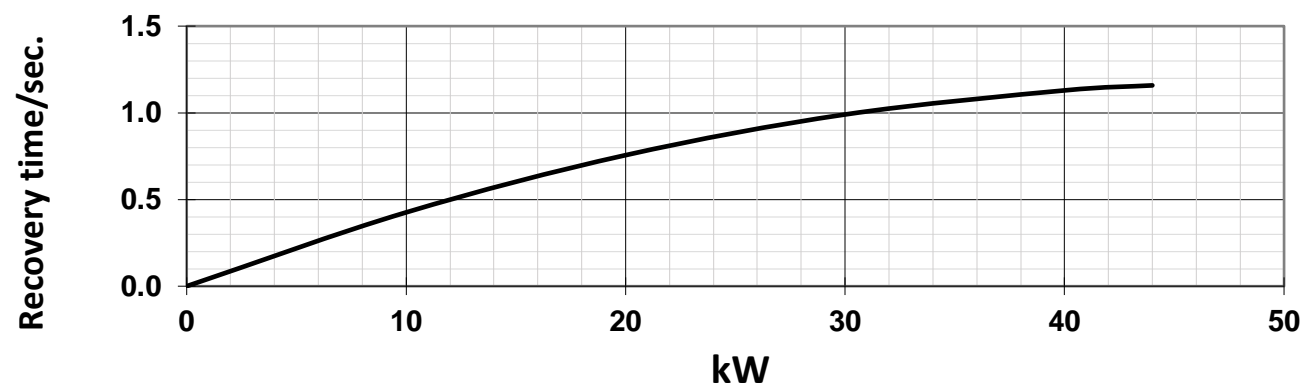
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TYPICAL DYNAMIC CHARACTERISTICS

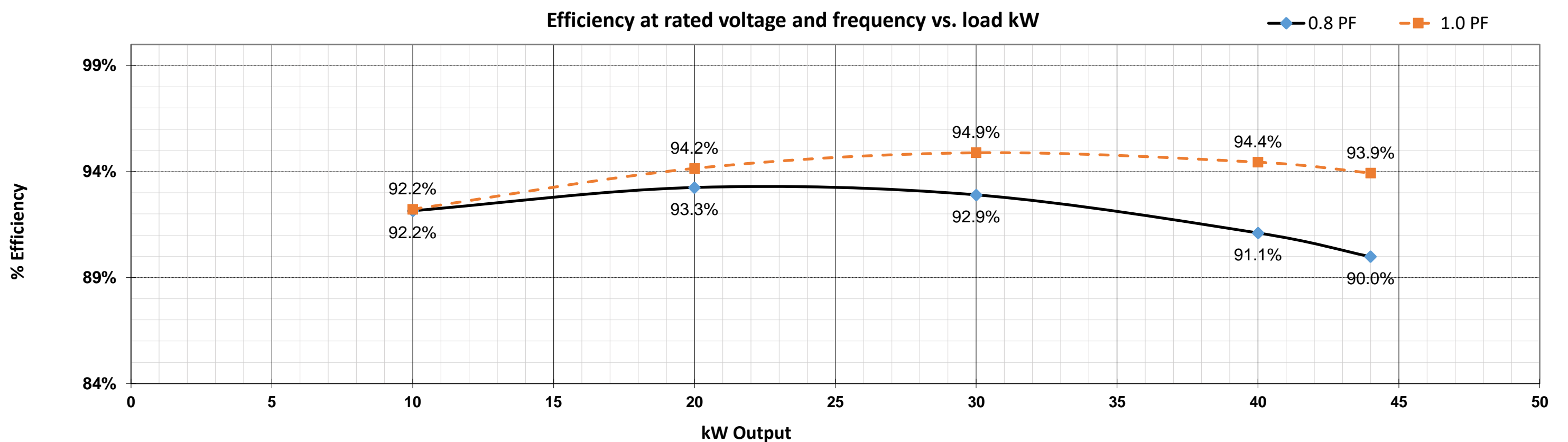
BASE MODEL: **284PSL1742**

Date: **03/16/22**

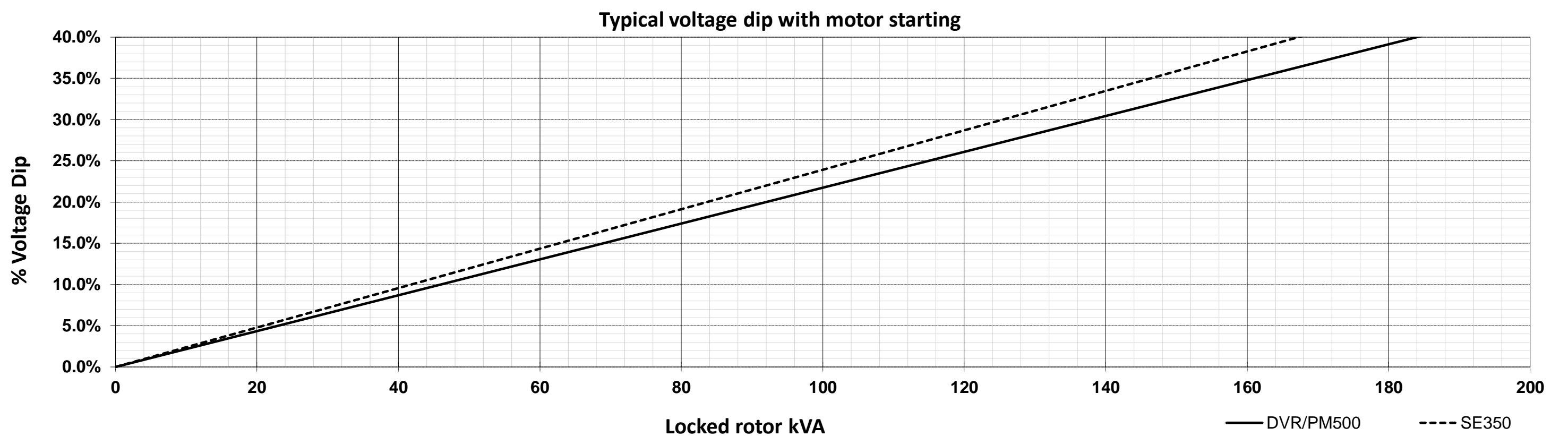
Submittal Data: 208 Volts*, 40 kW, 50 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase



Efficiency at rated voltage and frequency vs. load kW



Typical voltage dip with motor starting



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DECREMENT CURVE

BASE MODEL: 284PSL1742

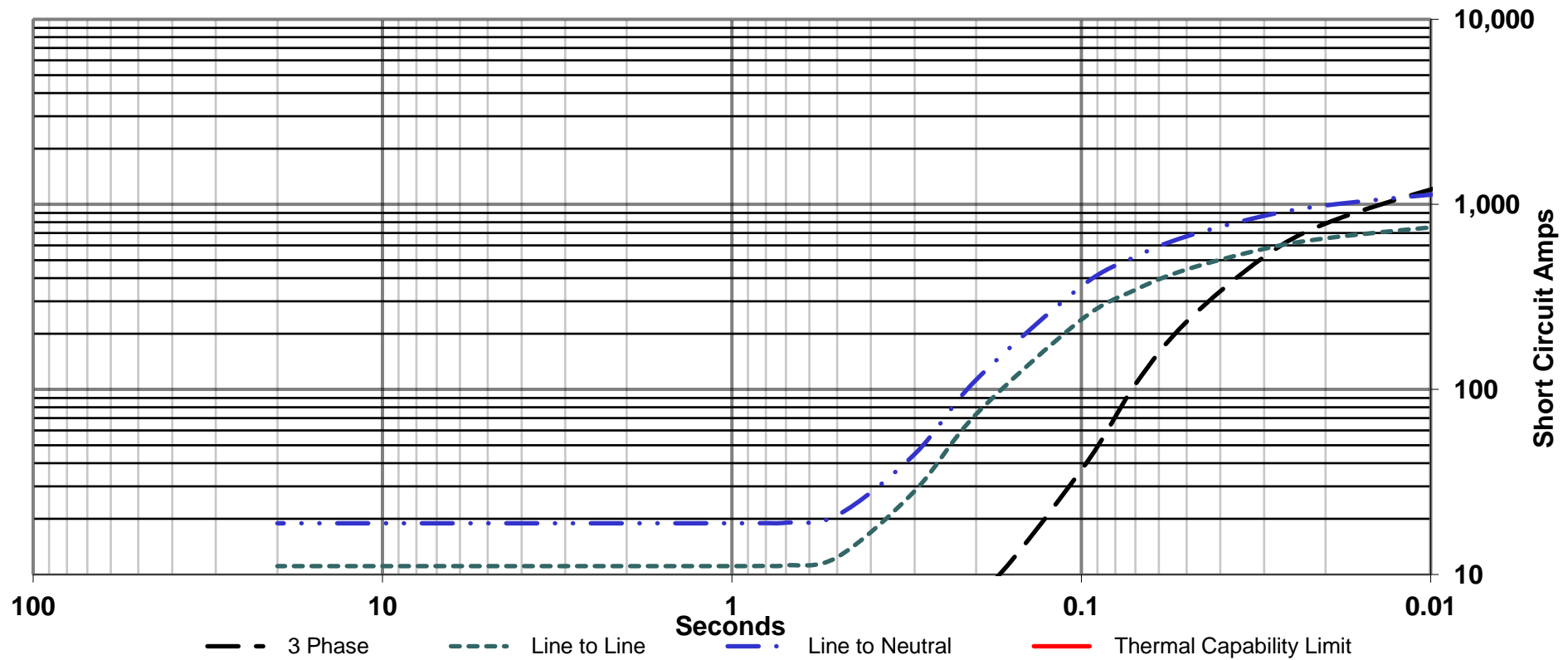
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Date : 03/16/22

Full Load Current : 138.8 amps
Steady State S.C. Current : 6.94 amps

Max. 3 ph. Symm. S.C. Current : 1767 amps

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



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DECREMENT CURVE

BASE MODEL: 284PSL1742

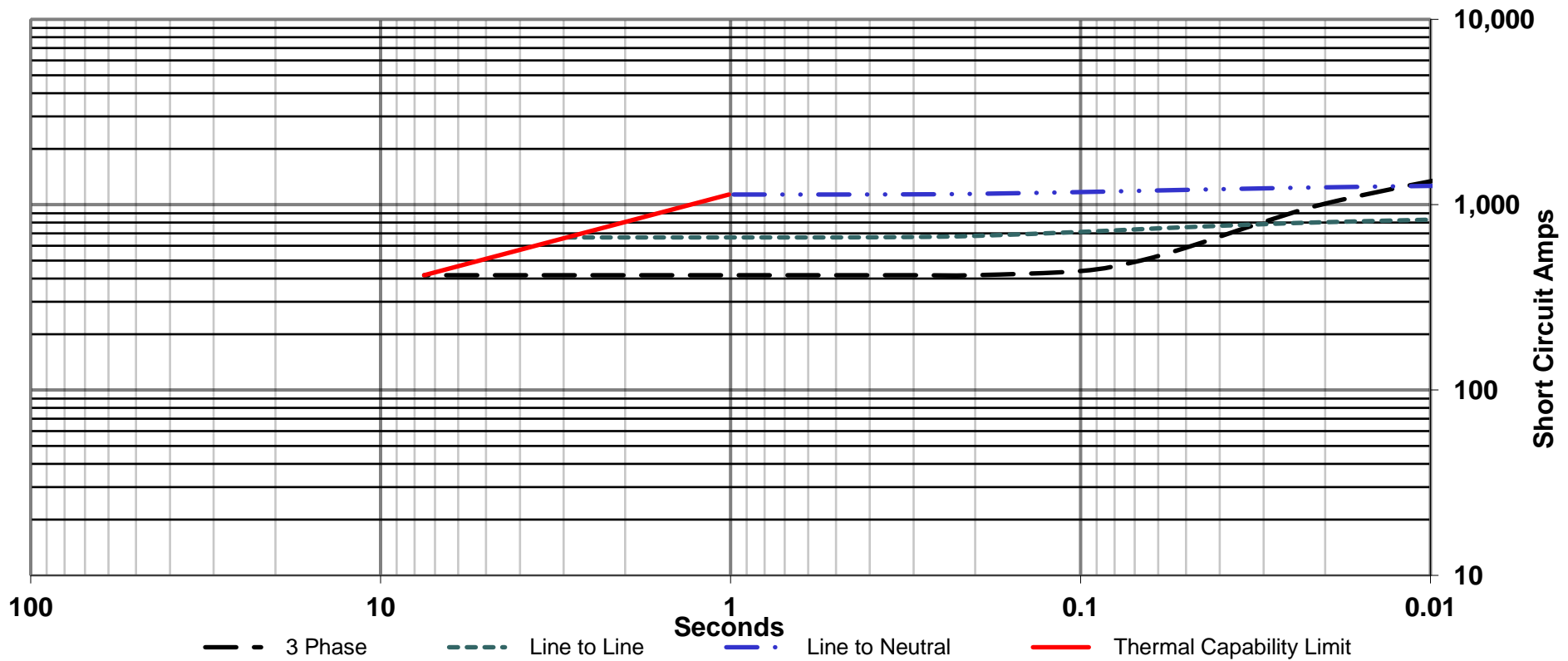
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Date : 03/16/22

Full Load Current : 138.8 amps
Steady State S.C. Current : 416.4 amps

Max. 3 ph. Symm. S.C. Current : 1767 amps
INCLUDES EXCITATION SUPPORT (PMG)

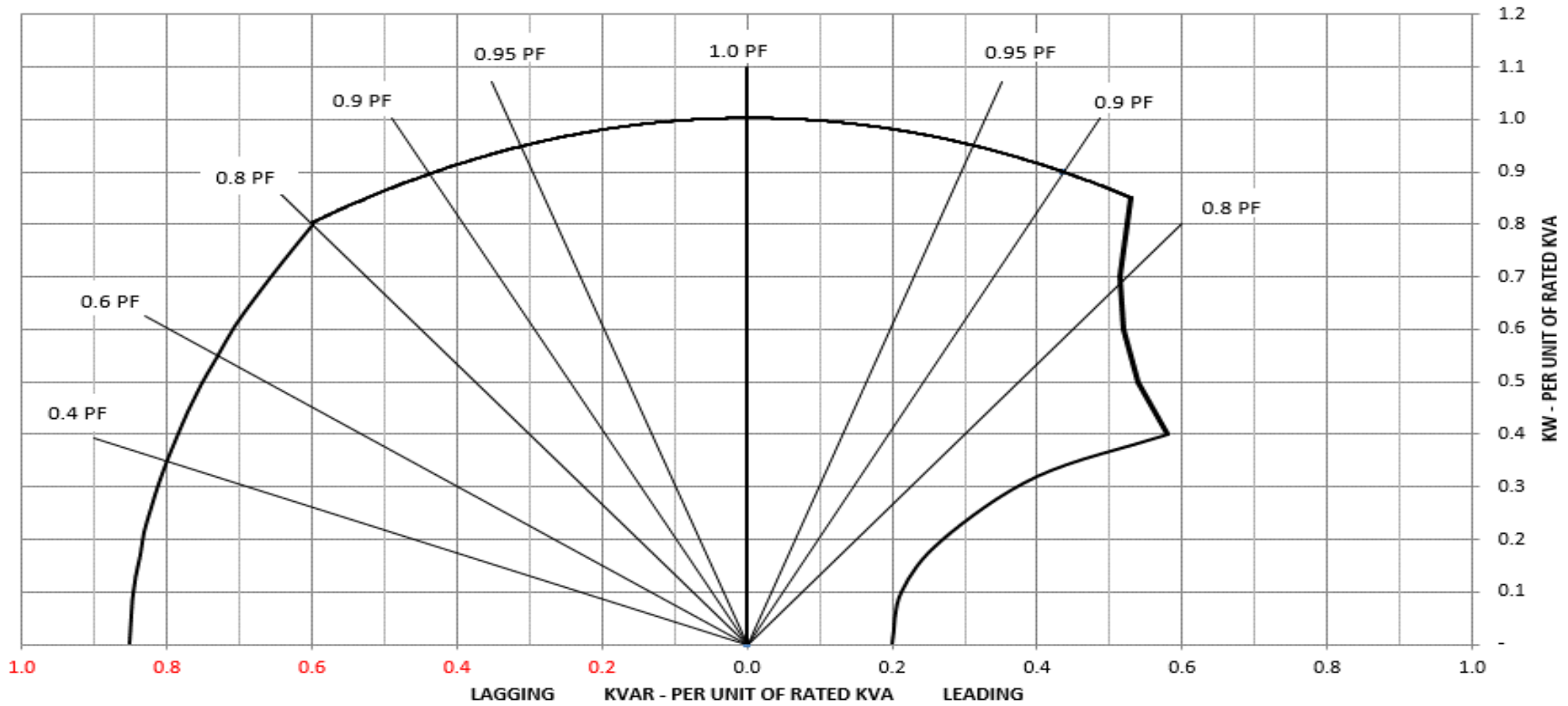
Symmetrical Component values, Maximum Asymmetrical Values Are 1.732 Times Symmetrical Values



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Typical Reactive Capability Curve

Date : 03/16/22



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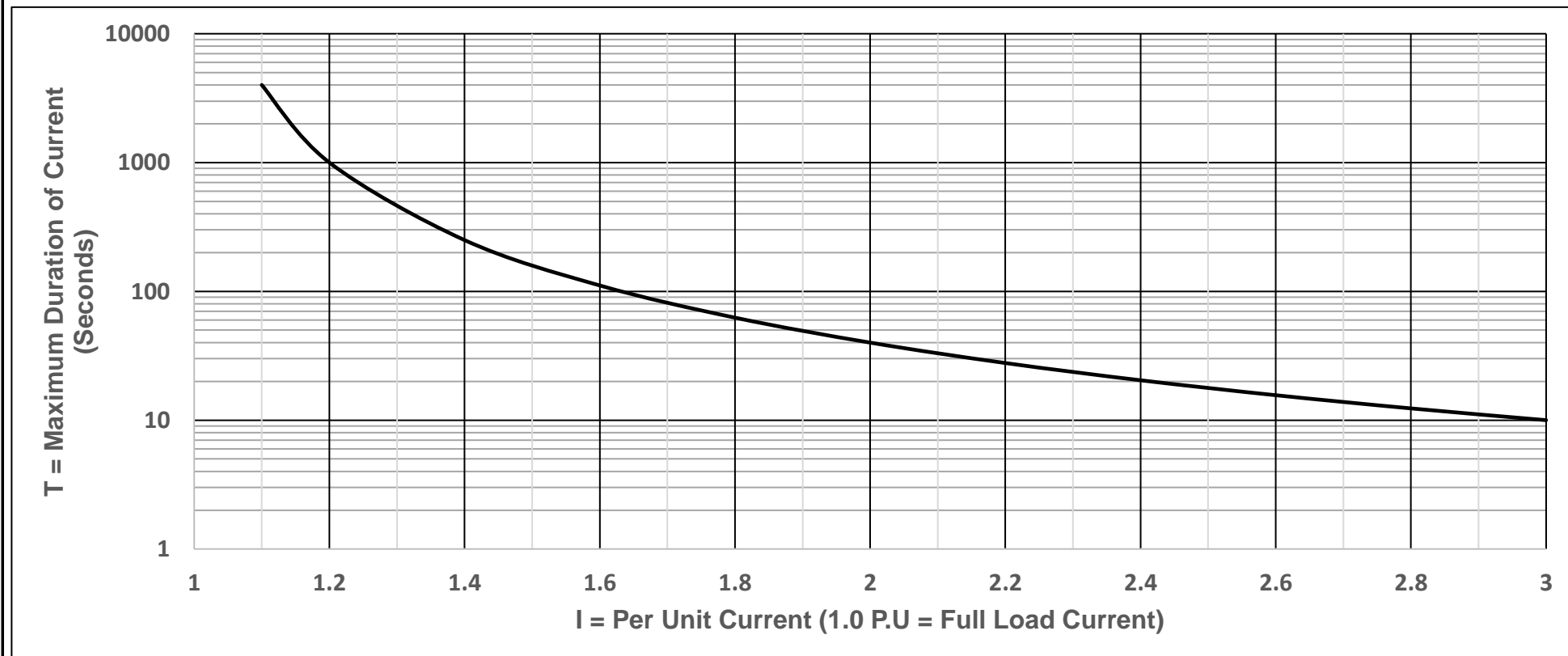
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THERMAL DAMAGE CURVE

Date : 03/16/22

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



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