

ALTERNATOR DATA SHEET

Frame Size **P734B**

CHARACTERISTICS

WEIGHTS:

Stator Assembly:	2879 lb	1306 kg
Rotor Assembly:	2493 lb	1131 kg
Complete Assembly:	6085 lb	2760 kg

MAXIMUM SPEED:

2250 rpm

EXCITATION CURRENT:

Full Load 3.6 Amps

No Load 0.5 Amps

INSULATION SYSTEM: Class H Throughout

3 Ø RATINGS

(0.8 power factor)

(Based on specific temperature rise at 40°C ambient temperature)

60 Hz Voltage

(winding no)

		<u>220/380</u> (13)	<u>240/416</u> (13)	<u>220/380</u> (312)	<u>240/416</u> (312)	<u>254/440</u> (312)	<u>277/480</u> (312)	<u>347/600</u> (07)
163°C Rise Ratings	kW			1148	1304	1392	1448	1448
	kVA			1435	1630	1740	1810	1810
150°C Rise Ratings	kW			1116	1272	1352	1408	1408
	kVA			1395	1590	1690	1760	1760
125°C Rise Ratings	kW			1072	1220	1300	1352	1352
	kVA			1340	1525	1625	1690	1690
105°C Rise Ratings	kW			924	1132	1208	1260	1260
	kVA			1155	1415	1510	1575	1575
80°C Rise Ratings	kW			924	1048	1116	1164	1164
	kVA			1155	1310	1395	1455	1455

REACTANCES

(per unit ± 10%)

(Based on full load at 125°C Rise Rating)

Synchronous

Transient

Subtransient

Negative Sequence

Zero Sequence

	<u>220/380</u> (13)	<u>240/416</u> (13)	<u>220/380</u> (312)	<u>240/416</u> (312)	<u>254/440</u> (312)	<u>277/480</u> (312)	<u>347/600</u> (07)
Synchronous			4.47	4.25	4.04	3.53	3.08
Transient			0.28	0.26	0.25	0.22	0.19
Subtransient			0.20	0.19	0.18	0.16	0.14
Negative Sequence			0.29	0.27	0.26	0.23	0.20
Zero Sequence			0.04	0.04	0.03	0.03	0.02

MOTOR STARTING

Maximum kVA (90% Sustained Voltage)

	<u>220/380</u> (13)	<u>240/416</u> (13)	<u>220/380</u> (312)	<u>240/416</u> (312)	<u>254/440</u> (312)	<u>277/480</u> (312)	<u>347/600</u> (07)
Maximum kVA			4602	4602	4602	4602	4602

TIME CONSTANTS

(Sec)

Transient

Subtransient

Open Circuit

DC

	<u>220/380</u> (13)	<u>240/416</u> (13)	<u>220/380</u> (312)	<u>240/416</u> (312)	<u>254/440</u> (312)	<u>277/480</u> (312)	<u>347/600</u> (07)
Transient			0.130	0.130	0.130	0.130	0.130
Subtransient			0.010	0.010	0.010	0.010	0.010
Open Circuit			2.140	2.140	2.140	2.140	2.140
DC			0.020	0.020	0.020	0.020	0.020

WINDINGS

(@20°C)

Stator Resistance (Line to Line, Ohms)

Rotor Resistance (Ohms)

Number of Leads

	<u>220/380</u> (13)	<u>240/416</u> (13)	<u>220/380</u> (312)	<u>240/416</u> (312)	<u>254/440</u> (312)	<u>277/480</u> (312)	<u>347/600</u> (07)
Stator Resistance			0.00126	0.00126	0.00126	0.00126	0.00520
Rotor Resistance			1.85	1.85	1.85	1.85	1.67
Number of Leads			6	6	6	6	6

ALTERNATOR DATA SHEET

Frame Size P734B

CHARACTERISTICS

WEIGHTS:

Stator Assembly:	2879 lb	1306 kg
Rotor Assembly:	2493 lb	1131 kg
Complete Assembly:	6085 lb	2760 kg

MAXIMUM SPEED:

2250

EXCITATION CURRENT:

Full Load	3.6
No Load	0.5

INSULATION SYSTEM: Class H Throughout

3 Ø RATINGS

(0.8 power factor)

(Based on specific temperature rise at 40°C ambient temperature)

50 Hz Voltage (winding no)

		<u>220/380</u> (312)	<u>240/400</u> (312)	<u>240/415</u> (312)	<u>254/440</u> (312)
163°C Rise Ratings	kW	1164	1200	1200	1176
	kVA	1455	1500	1500	1470
150°C Rise Ratings	kW	1132	1168	1168	1144
	kVA	1415	1460	1460	1430
125°C Rise Ratings	kW	1088	1120	1120	1100
	kVA	1360	1400	1400	1375
105°C Rise Ratings	kW	1012	1044	1044	1024
	kVA	1265	1305	1305	1280
80°C Rise Ratings	kW	936	964	964	944
	kVA	1170	1205	1205	1180

REACTANCES

(per unit ± 10%)

(Based on full load at 125°C Rise Rating)

	<u>220/380</u> (312)	<u>240/400</u> (312)	<u>240/415</u> (312)	<u>254/440</u> (312)
Synchronous	3.50	3.26	3.02	2.64
Transient	0.21	0.20	0.18	0.16
Subtransient	0.16	0.15	0.14	0.12
Negative Sequence	0.22	0.21	0.19	0.17
Zero Sequence	0.03	0.03	0.03	0.02

MOTOR STARTING

Maximum kVA (90% Sustained Voltage)

<u>220/380</u> (312)	<u>240/400</u> (312)	<u>240/415</u> (312)	<u>254/440</u> (312)
3375	3375	3375	3375

TIME CONSTANTS

(Sec)

	<u>220/380</u> (312)	<u>240/400</u> (312)	<u>240/415</u> (312)	<u>254/440</u> (312)
Transient	0.130	0.130	0.130	0.130
Subtransient	0.010	0.010	0.010	0.010
Open Circuit	2.140	2.140	2.140	2.140
DC	0.020	0.020	0.020	0.020

WINDINGS

(@20°C)

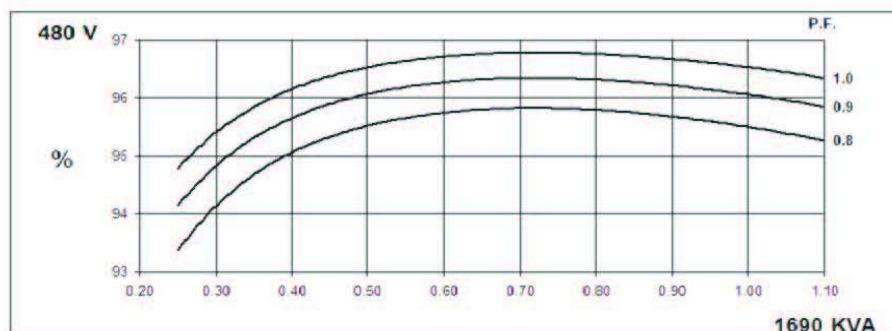
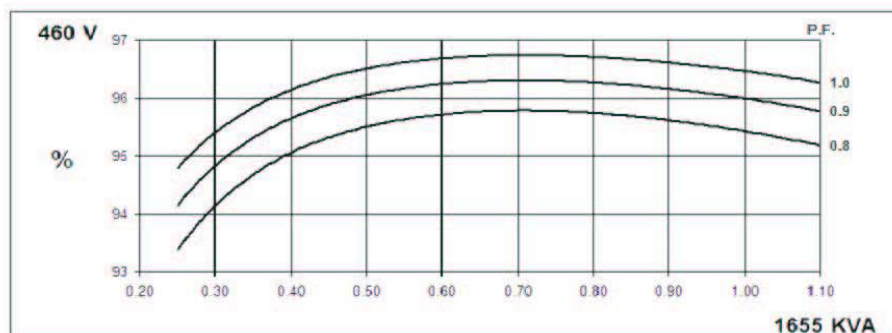
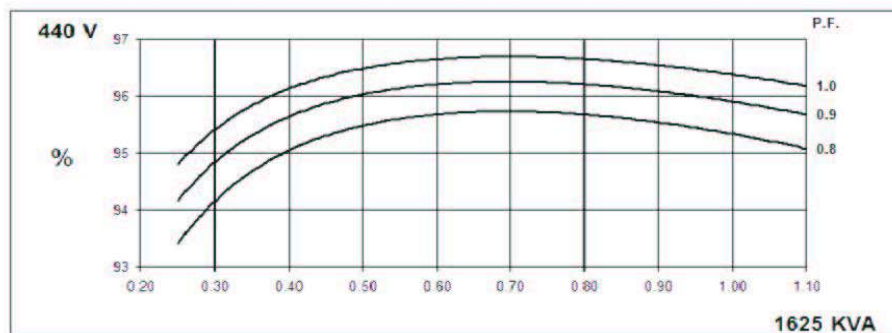
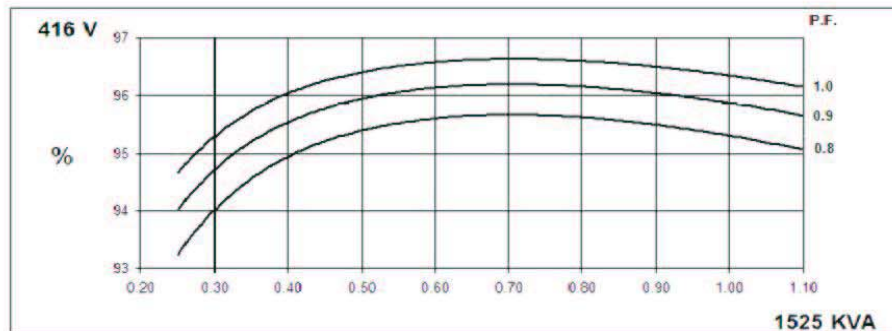
	<u>220/380</u> (312)	<u>240/400</u> (312)	<u>240/415</u> (312)	<u>254/440</u> (312)
Stator Resistance (Line to Line, Ohms)	0.00126	0.00126	0.00126	0.00126
Rotor Resistance (Ohms)	1.85	1.85	1.85	1.85
Number of Leads	6	6	6	6



**60
Hz**

Winding 312

THREE PHASE EFFICIENCY CURVES



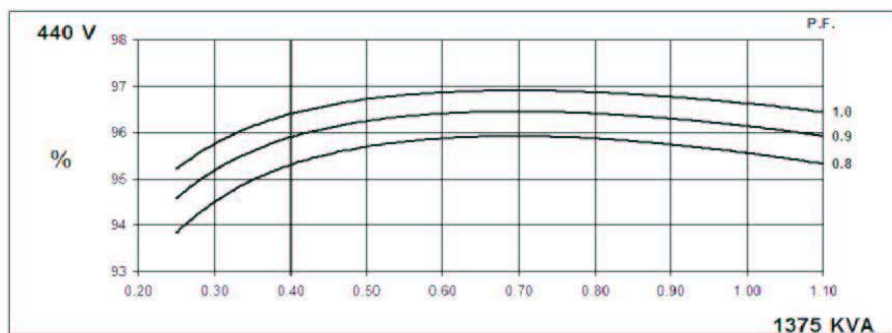
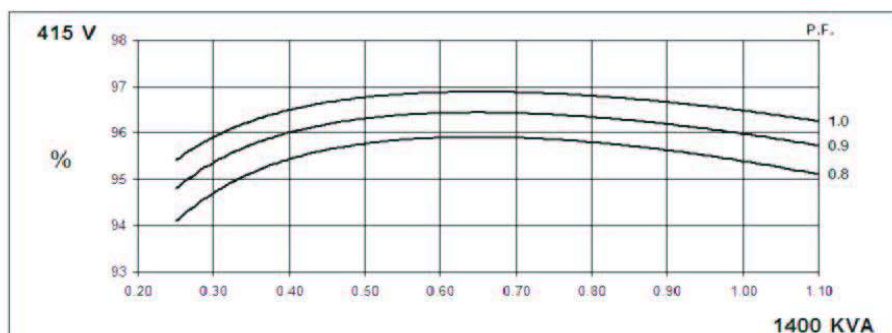
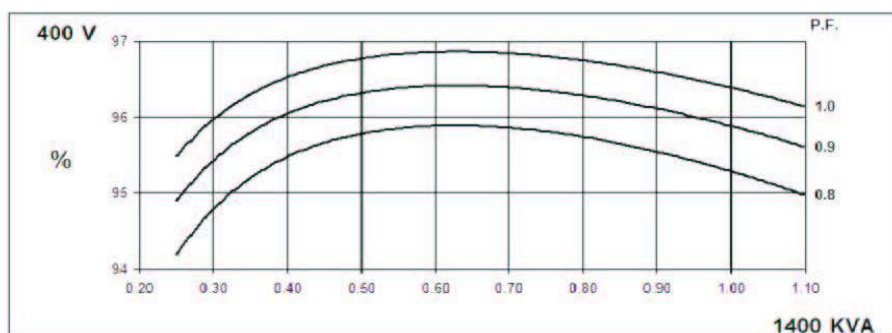
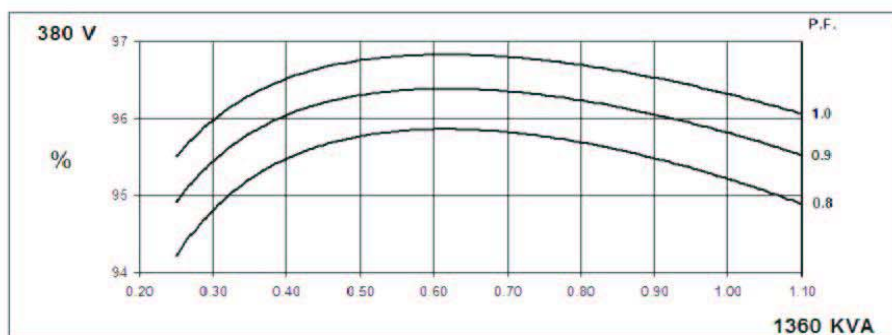


Alternator Data Sheet Frame Size: P734B

**50
Hz**

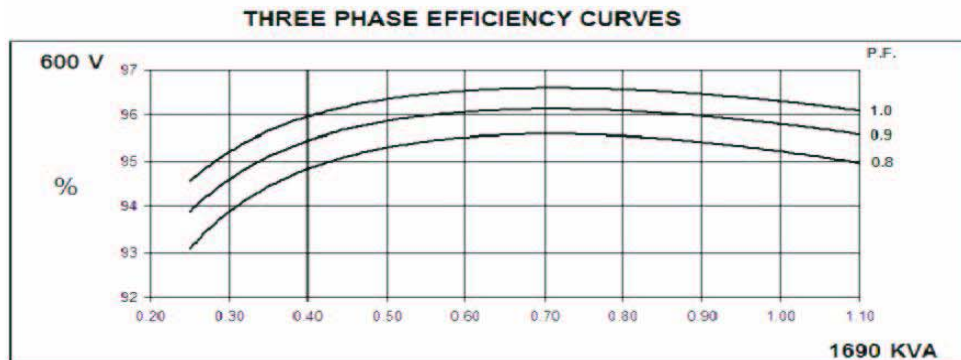
Winding 312

THREE PHASE EFFICIENCY CURVES



Alternator Data Sheet Frame Size: P734B

Wdg 7, 60Hz

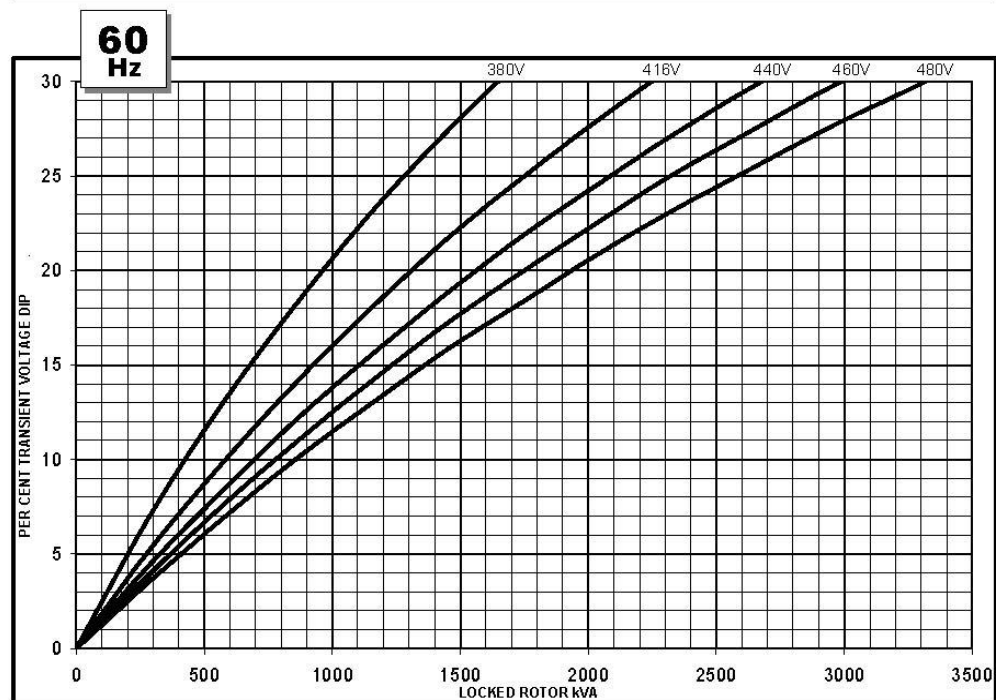
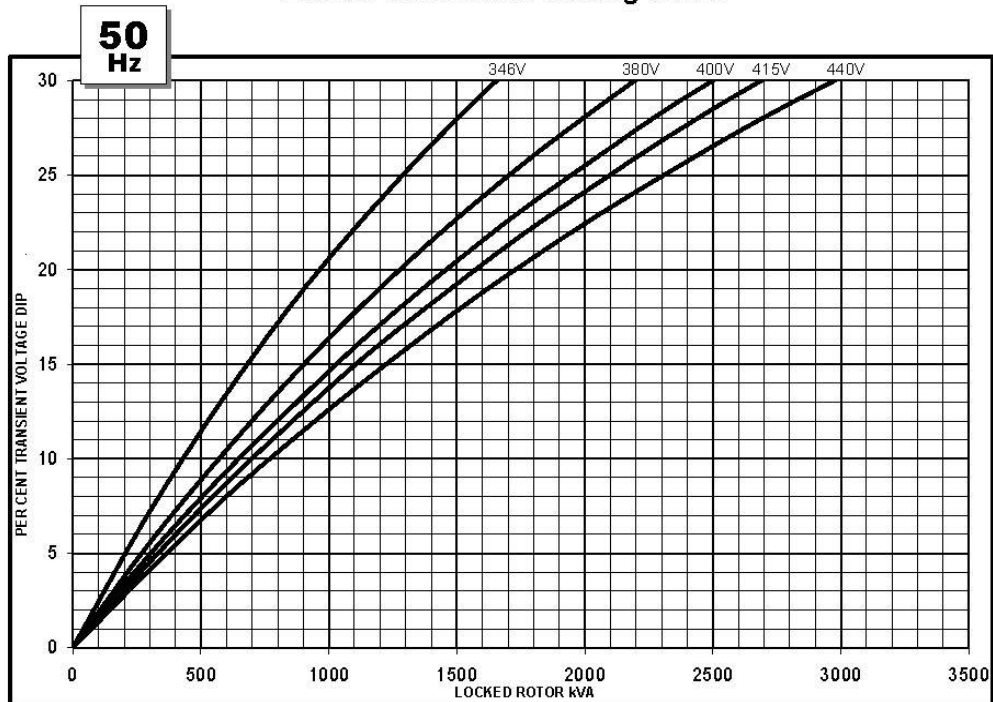




Alternator Data Sheet Frame Size: P734B

Winding 312

Locked Rotor Motor Starting Curve





**Winding 07
LOCKED ROTOR MOTOR STARTING CURVE**

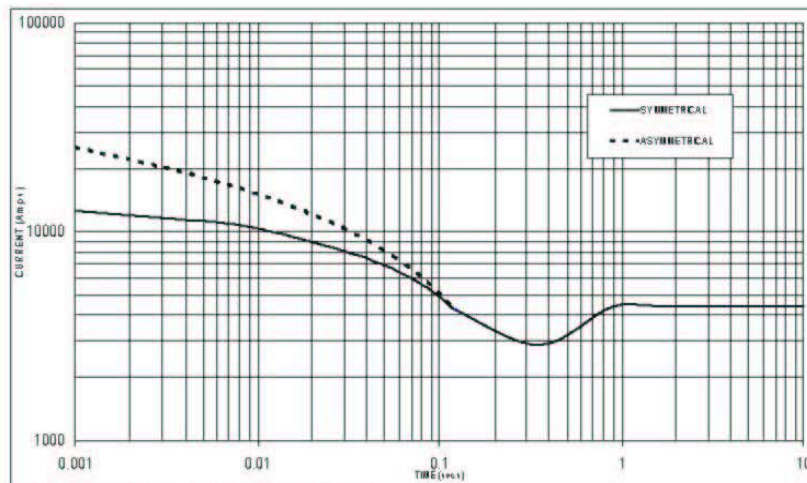




Alternator Data Sheet Frame Size: P734B

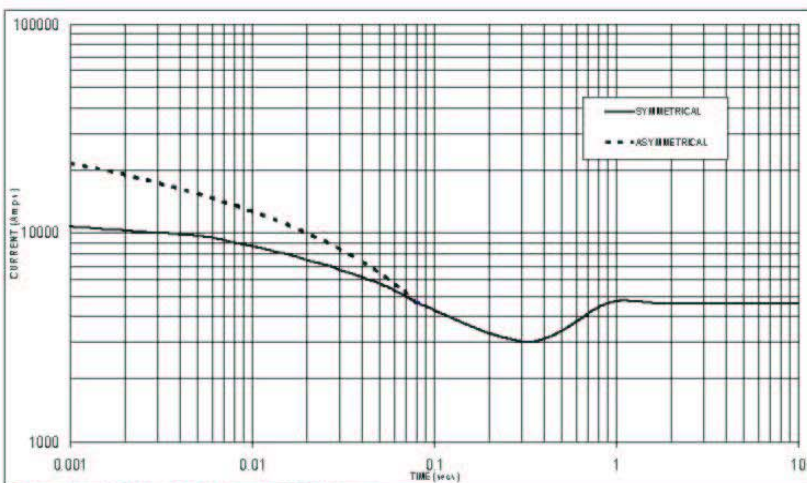
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.**

**50
Hz**



Sustained Short Circuit = 4,400 Amps

**60
Hz**



Sustained Short Circuit = 4,650 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380v	x 1.00	416v	x 1.00
400v	x 1.05	440v	x 1.06
415v	x 1.09	460v	x 1.10
440v	x 1.16	480v	x 1.15

The sustained current value is constant irrespective of voltage level

Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3

Curves are drawn for Star (Wye) connected machines.

Alternator Data Sheet Frame Size: P734B

