

ALTERNATOR DATA SHEET

Frame Size

UCDI274K

CHARACTERISTICS

WEIGHTS

Wound Stator Assembly	454	kg	1001	lb
Rotor Assembly	273	kg	602	lb
Complete Alternator	727	kg	1603	lb

MAXIMUM SPEED

2250 rpm

EXCITATION CURRENT

Full Load 2 Amps

No Load 0.50 Amps

INSULATION SYSTEM

Class H Throughout

1 Ø RATINGS (1.0 Power Factor) (Based on specified temperature rise at 40°C ambient temperature)	60 Hz (winding no.)				50 Hz (winding no)			
	Double Delta (311)		4 Lead (06)		Double Delta (311)		4 Lead (05)	
	<u>120/240</u>		<u>120/240</u>		<u>110-120/220-240</u>		<u>110-120/220-240</u>	
125°C Rise Ratings kW/kVA	175/175		N/A		150/150		N/A	
105°C Rise Ratings kW/kVA	160/160		N/A		137/137		N/A	
3 Ø RATINGS (0.8 Power Factor) (Based on specified temperature rise at 40°C ambient temperature)	Upper Broad Range (311)				Broad Range (311)			
	120/208	127/220	139/240		110/190	115/200	120/208	127/220
	<u>240/416</u>	<u>255/440</u>	<u>277/480</u>		<u>220/380</u>	<u>230/400</u>	<u>240/415</u>	<u>254/440</u>
150°C Rise Ratings kW	243	250	265		212	212	212	N/A
kVA	304	313	331		265	265	265	N/A
125°C Rise Ratings kW	233	239	250		200	200	200	N/A
kVA	291	299	313		250	250	250	N/A
105°C Rise Ratings kW	214	220	229		183	183	183	N/A
kVA	267	275	286		229	229	229	N/A
80°C Rise Ratings kW	N/A	N/A	N/A		N/A	N/A	N/A	N/A
kVA	N/A	N/A	N/A		N/A	N/A	N/A	N/A
3 Ø REACTANCES (per unit ± 10%) (Based on full load at 105°C Rise Rating)								
	Synchronous	2.90	2.67	2.34	2.59	2.34	2.17	N/A
	Transient	0.14	0.12	0.11	0.12	0.11	0.10	N/A
Subtransient	0.09	0.08	0.07		0.08	0.07	0.07	N/A
Negative Sequence	0.12	0.11	0.10		0.11	0.10	0.09	N/A
Zero Sequence	0.02	0.02	0.02		0.02	0.02	0.02	N/A
3 Ø MOTOR STARTING	<u>Broad Range</u>				<u>Broad Range</u>			
	Maximum kVA (Shunt)	770			535			
(90% Sustained Voltage) (PMG)	920				678			
TIME CONSTANTS (Sec)								
	Transient	0.049			0.049			
Subtransient	0.020				0.020			
Open Circuit	1.270				1.270			
DC	0.018				0.018			
WINDINGS (@20°C)								
	Stator Resistance (Line to Line, Ohms)	0.0126			0.0126			
Rotor Resistance (Ohms)	2.0800				2.0800			
Number of Leads	12				12			

* Lower broad range 110/190 thru 120/208, 220/380 thru 240/416.

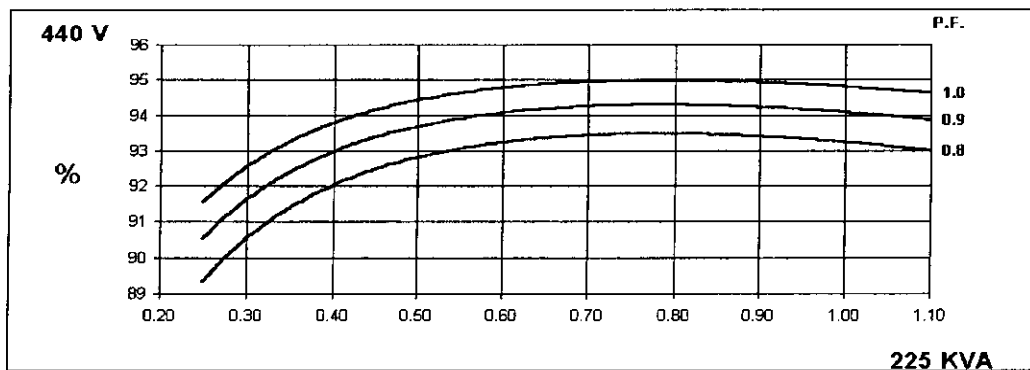
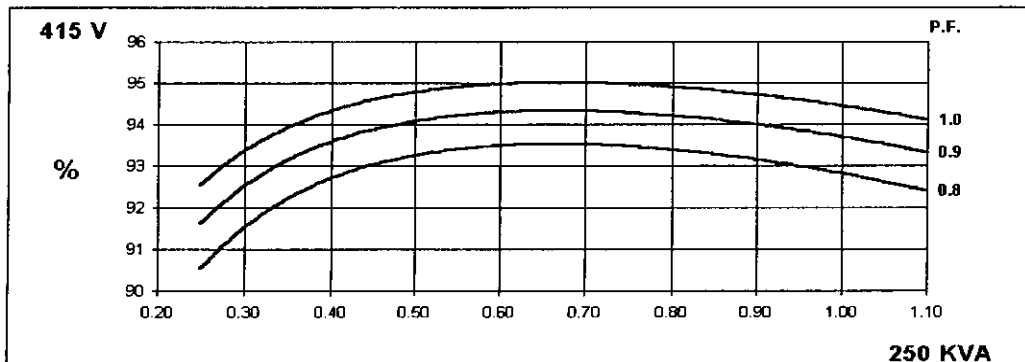
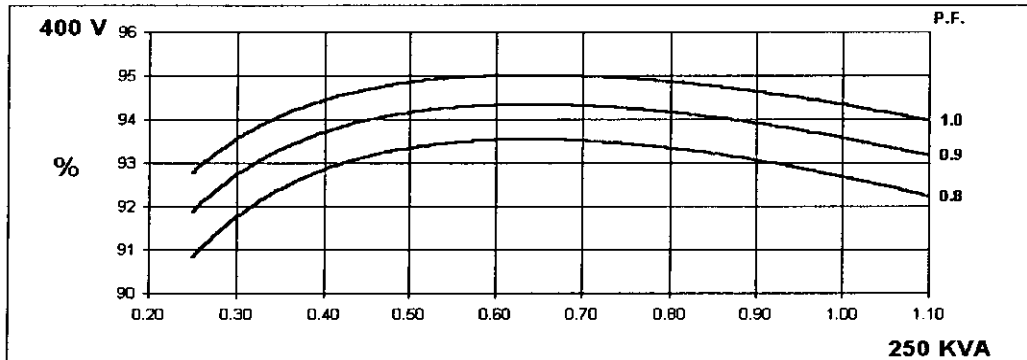
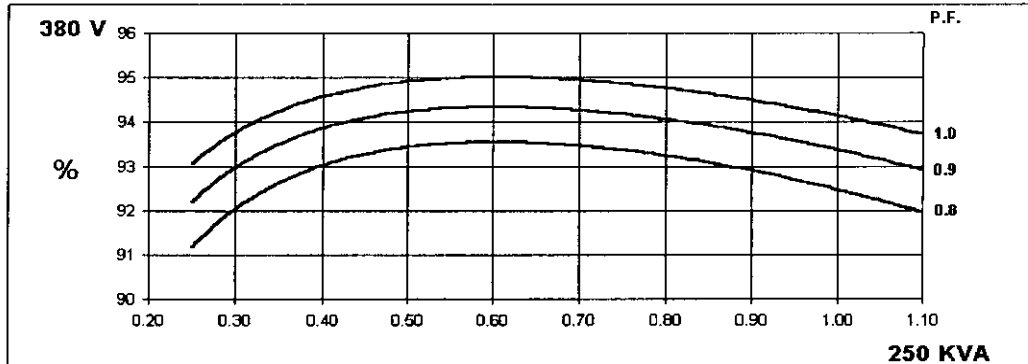


Alternator Data Sheet

UCDI274K

Three Phase Efficiency Curves (Winding 311)

50 Hz



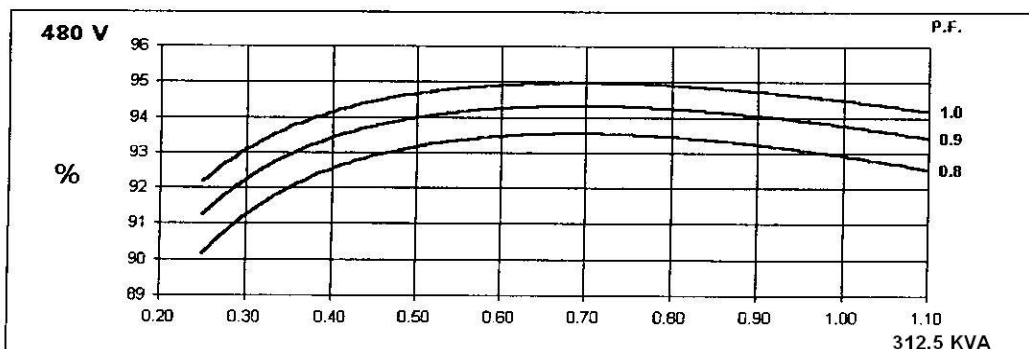
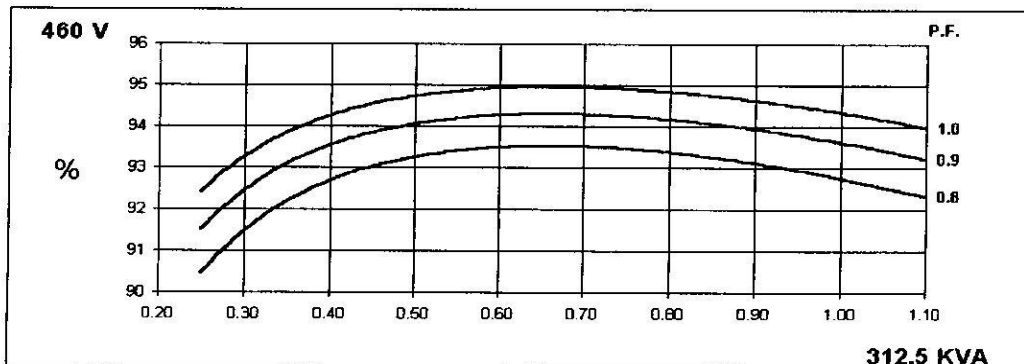
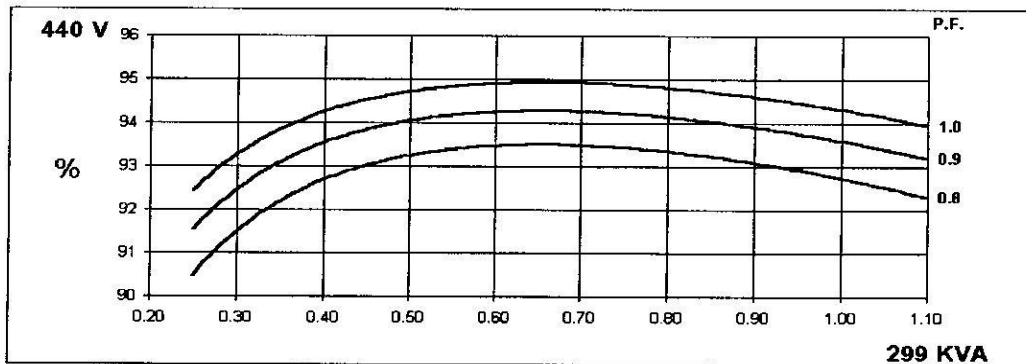
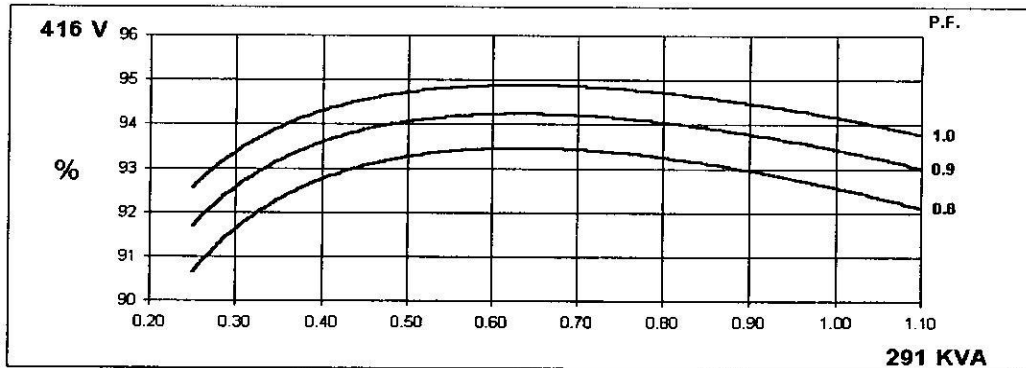


Alternator Data Sheet

UCDI274K

Three Phase Efficiency Curves (Winding 311)

60 Hz





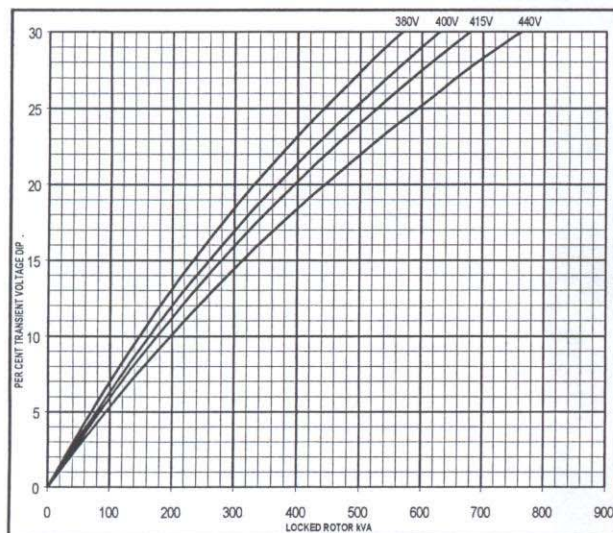
Alternator Data Sheet

UCDI274K

Locked Rotor Motor Starting Curve (Winding 311)

50
Hz

MX

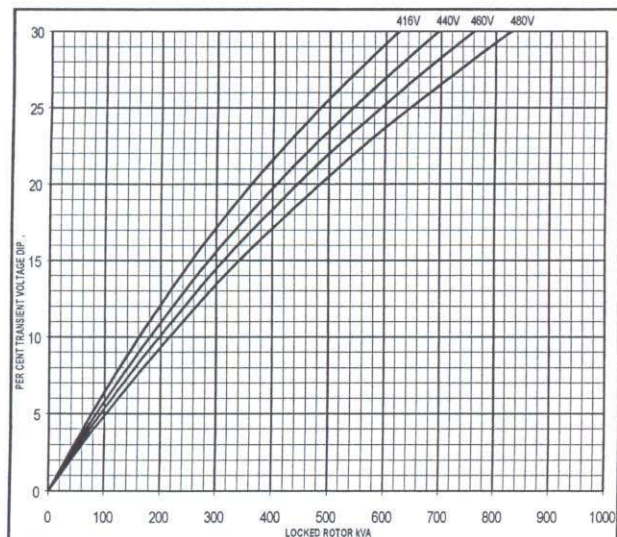


SX

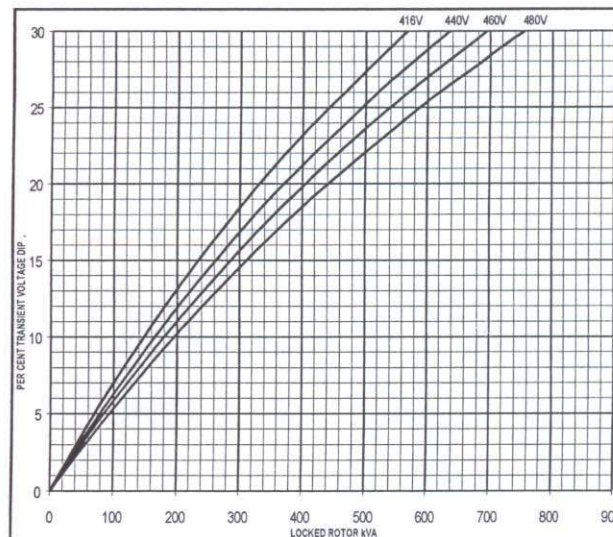


60
Hz

MX



SX



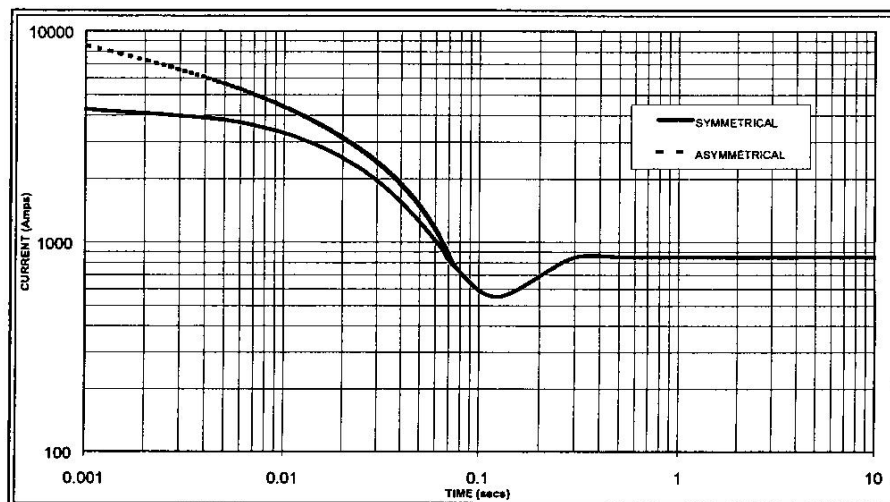


Alternator Data Sheet

UCDI274K

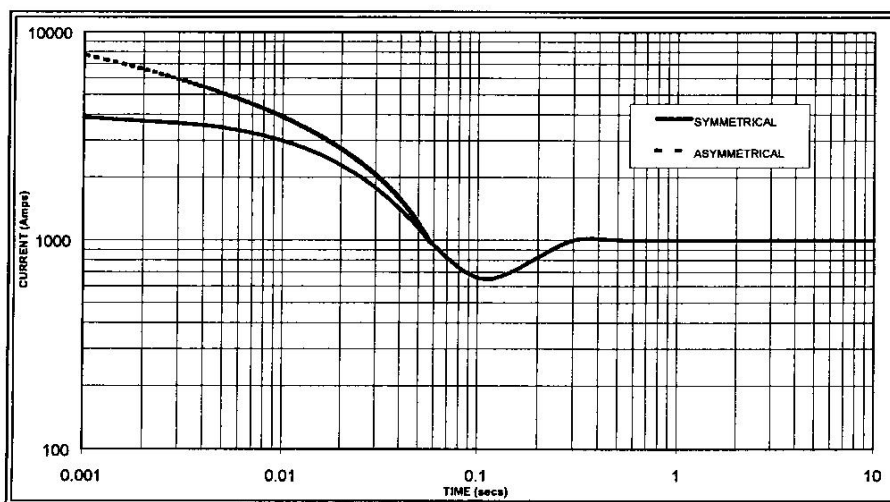
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

**50
Hz**



Sustained Short Circuit = 850 Amps

**60
Hz**



Sustained Short Circuit = 1,000 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 1.07
415v	X 1.10	460v	X 1.12
440v	X 1.16	480v	X 1.16

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. For other connection the following multipliers should be applied to current values as shown :

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732