

High-Efficiency AC Induction

These highly efficient AC Induction drive systems offer superior torque at low motor speeds and the greatest efficiency over a wide range of motor speeds. They involve fewer parts, need less cooling, and offer greater efficiency and reliability than other types of drive systems.

Features include an "electronic transmission" which eliminates the need for a multi-speed gearbox. These motors may be attached directly to the vehicle's wheel(s) with a direct fixed ratio, and will provide high torque at low motor speeds for hill climbing and rapid acceleration. Maximum torque is available up to nominal speeds, and though torque decreases as motor speed rises, adequate torque is produced for highway cruising.

Motor features:

- No brushes or magnets
- Sealed motor
- Compact design
- Ultra-low rotating loss
- Very low electrical resistance
- Low cost/high reliability

Controller features:

- Smooth, powerful regenerative braking
- Overload protection
- High peak power capacity
- Outputs can display battery voltage and current, speed and distance traveled
- Current-limited
- Compact design
- Torque controlled for smoothest driving response



AC12

ACgtx20

AC30

AC INDUCTION MOTORS

Specifications	AC12	ACgtx20	AC30
Nominal power	4 kW	7 kW	8 kW
Max. power w/AC200 (144 V)	14 kW	14 kW	14 kW
Max. power w/AC300 (144 V)	--	21 kW	21 kW
Max. power w/AC300-216V (216 V)	--	28 kW	28 kW
Nominal torque	12 Nm	20 Nm	30 Nm
Max. torque w/AC200 (144 V)	35 Nm	45 Nm	55 Nm
Max. torque w/AC300 (144 V)	--	55 Nm	70 Nm
Nominal speed	4,000 rpm	4,000 rpm	3,000 rpm
Maximum speed	12,000 rpm	12,000 rpm	9,500 rpm
Weight	51 lb.	66 lb.	93 lb.

Single-motor 144V systems range from 18-28 HP, dual motor systems 36-56 HP.
Single-motor 216V systems range from 18-34 HP, dual motor systems 56-68 HP.
Other system voltages and drive configurations are available; ask for assistance.

Applications

These motor and controller designs are particularly suited to commuter automobiles, trucks, buses and shuttles, industrial plant vehicles, airport service vehicles, and other applications where low-speed torque is an important requirement.

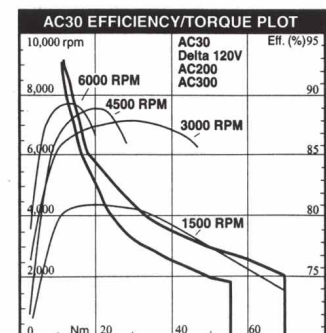
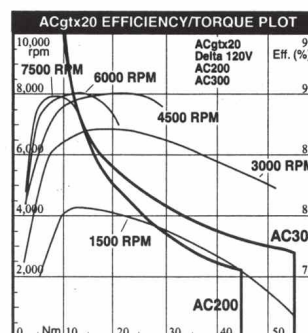
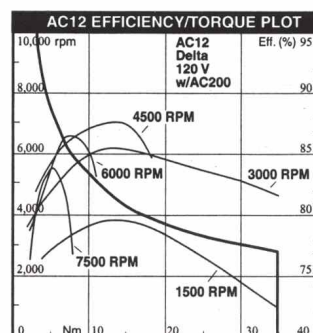
Maximum torque is available up to nominal speed, and decreases as speed approaches maximum speed (see graphs for details).

For higher-power systems, see table on Dual Drive Configurations (right).



Solectria AC induction motors and controllers are ideal in applications where low-speed torque is important.

MOTOR AND CONTROLLER EFFICIENCY GRAPHS



NEW AC INDUCTION MOTORS AND CONTROLLERS

Effective June 2, 1994

The following charts are to replace the information given in Solectria's 1994 Electric Vehicle Component catalog. We anticipate releasing higher power motor controllers this summer. Please call for more details.

CONTROLLERS

<u>Specification</u>	<u>AC200*</u>	<u>AC220</u>	<u>AC230</u>	<u>AC320</u>	<u>AC325</u>
Peak Power (kW)	15	25	34	34	42
Continuous Power (kW)	10	14	19	19	22
Nominal Voltage (V)	120-180	120-144	180-216	120-144	156-180
Safe Operating Range (V)	80-220	80-170	150-250	80-170	120-220
Maximum Mechanical Motor Output (HP)	18	27	37	37	45
Maximum Motor Current (A)	160	180	165	240	240
Maximum Battery Current (A)	120	180	165	240	240
Efficiency @ Nominal Power (%)	98	98	98	99	99
Efficiency@ Full Load (%)	94	95	94	95	95
Weight (lb.)	14	19	20	19	20
Dimensions(inches)	12x8x5	17x9x4	17x9x4	17x9x4	17x9x4
Price (\$)	3,990	5,890	6,995	6,480	7,450

*The AC 200 does not have any outputs for dashboard signals.

MOTORS

<u>Specification</u>	<u>AC12</u>	<u>ACgtx20</u>	<u>ACgu200</u>	<u>AC30</u>
Nominal Power (kW)	4	7	6	8.5
Nominal Speed (rpm)	4,000	4,000	5,000	3,000
Maximum Speed (rpm)	12,000	12,000	12,000	10,000
Weight (lb.)	51	66	66	93
Price (\$)	1,480	1,570	1,570	2,390
Dimensions (inches)	See catalog. ACgu20 has same dimensions as ACgtx20			

PEAK TORQUE OF VARIOUS DRIVE SYSTEM COMBINATIONS

<u>Specification</u>	<u>AC200</u>	<u>AC220</u>	<u>AC230</u>	<u>AC320</u>	<u>AC325</u>
ACgtx20	42 Nm	50 Nm	45 Nm	70 Nm	70 Nm
ACgu20	n/a	n/a	n/a	52 Nm	52 Nm
AC 30	54 Nm	65 Nm	58 Nm	91 Nm	91 Nm

SOLECTRIA CORPORATION
68 INDUSTRIAL WAY
WILMINGTON, MA 01887
USA

508-658-2231
FAX 508-658-3224