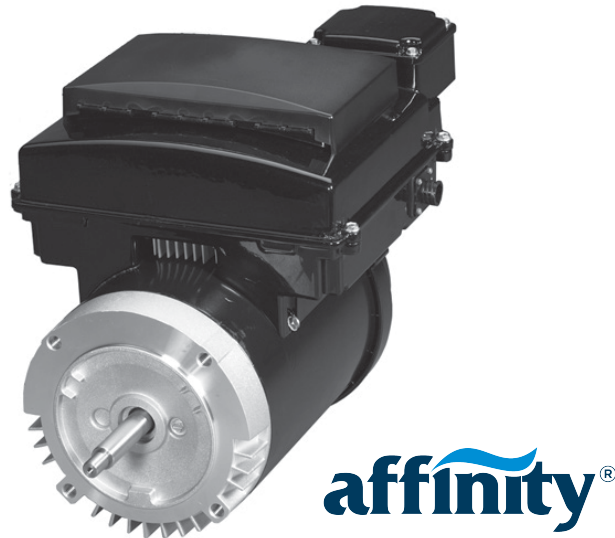


Affinity® Variable Speed Pool Motor and Control

Commonly Asked Questions



1. What is the minimum and maximum voltage required to power the motor?

- a. The motor is labeled 230 volts but there is a +/- 10% allowable variation in voltage.
- b. The acceptable voltage range is 207-253 Volts AC

2. Can I adjust the prime time and speed of the motor if the 4 minutes at 100% flow is not necessary?

- a. The priming time and motor speed is adjustable as follows:
- b. The control has to be in the OFF STATE (Green RUN LED OFF).
- c. Press and hold the EXIT key and the RIGHT → key for approximately two seconds.
- d. The screen will say PRESS ENTER TO CONFIRM. Press the Enter button.
- e. The screen now shows the current setting for priming. Press Up / Down to adjust the prime flow rate (from 30% to 100%).
- f. Then press RIGHT to get to the prime time minutes. Press Up / Down to adjust the prime flow time (from 0 minutes to 10 minutes).
- g. Press enter to save the data.

3. How long do the programmed settings last in the event of power outage?

- a. The program is saved in permanent memory so if the power goes out to the motor, your program settings are secure.
- b. The time of day and day of week settings are saved but only for 8-24 hours dependent upon the ambient temperature around the motor. The cooler the temperature, the less time the time and day are saved. Should these settings be lost, please follow the directions under the lid of the user interface to reset the time of day and day of week then press the Run/Stop button to run the pump.

4. When a button is pressed on the User Interface, how long does it take for the motor to respond to the command?

- a. The motor should respond within 2 seconds to the command entered onto the user interface.

5. How do I program my pump to run at the most energy efficient setting?

a. Go to this web site: <http://www.usmotors.com/Energy-Efficiency/Pool-Calculator.aspx>

The screenshot shows the 'Pool Pump Savings Calculator' page on the US Motors website. The page has a green header with navigation links like 'MotorBoss', 'Contact Us', and 'About Nidec Motor Corporation'. Below the header, there's a search bar and a sidebar with 'ENERGY EFFICIENCY' highlighted. The main content area is titled 'Pool Pump Savings Calculator' and includes a sub-header 'Calculate Energy Savings'. It features two tabs: 'Select a Motor' and 'Compare Savings'. The 'Select a Motor' tab is active, showing input fields for 'Motor Specification' (Catalog Number, OR Motor HorsePower, Power Cost, State Average, Hours of Usage) and 'Optimize your Savings Calculation (Optional)' (Gallons In Pool, Average GPM, Desired Turnovers). The 'Compare Savings' tab is also visible, showing '2EZ SPEED' and 'affinity' logos. The page is designed to help users calculate energy savings by switching to a more efficient motor.

b. Enter the current motor's horsepower & service factor range. Enter your State or for a more accurate measure, your Kwh cost, the hours per day you run your current pump and the number of months per year your pool pump runs. Enter in the number of gallons of water in your pool and the desired number of water turnovers. If you do not know, we recommend two water turnovers per day. Then press the Optimize button.

This screenshot shows the same 'Pool Pump Savings Calculator' page, but with specific data entered into the input fields. Under the 'Motor Specification' section, 'Catalog Number' is empty, 'OR Motor HorsePower' is set to '1.5', 'Power Cost' is empty, 'State Average' is set to 'California (CA)', 'Hours of Usage (Average)' is set to '14' hours per day, and 'Months/Year' is set to '11'. In the 'Optimize your Savings Calculation (Optional)' section, 'Gallons In Pool' is set to '26,500', 'Average GPM' is set to '87', and 'Desired Turnovers' is set to '2'. The 'Calculate' and 'Optimize' buttons are visible at the bottom right of the form.

- c. In the first column of the below section, you can see the estimated cost per year to operate your current pool pump. The far right three columns show the run options for the Affinity® product. Please ensure the number of Turnovers/Day is equal to the amount you specified on the previous screen. Please notice the program offers three choices of run time per day for the Affinity® variable speed pool motor and for each option, the program calculates your anticipated cost per year to operate your pool pump. You can also easily see your savings % per year of operation. Should you choose 18 hour per day operation, please ensure you check with your utility company to ensure you operate the pool pump during off-peak hours each day. For example, if your utility rate is higher from 12 to 6PM daily, you should set the user interface program to run the pump the 18 hours per day not including these hours. Enjoy the savings!

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HOME / ENERGY EFFICIENCY / POOL PUMP SAVINGS CALCULATOR

ENERGY EFFICIENCY
ENERGY EFFICIENCY CALCULATORS
EISA LEGISLATION
PREMIUM EFFICIENCY

Pool Pump Savings Calculator
How much can switching from a standard efficient, single speed pool motor to an Affinity® variable speed or a 2EZ™ energy efficient two speed design save you? Use the calculator below to find out! It's EZ!

Select a Motor Compare Savings

2EZ SPEED affinity

	Single Speed Pump - Existing Pump Motor	Single Speed Pump - Extreme E Pump Motor	2EZ Two-Speed Motor (230V Only)			Affinity® Variable Speed Motor (230V Only)		
Run Time/Day	14 Hours	10.2 Hours	8 Hours	18 Hours	24 Hours	8 Hours	18 Hours	24 Hours
Turnovers/Day	2.8	2	1.6	2.1	2.4	1.6	2	2
Hours/Day @ Speed 1	14 Hours	10.2 Hours	0 Hours at Low Speed	15 Hours at Low Speed	24 Hours at Low Speed	Run at 100% Flow Rate	Run at 55% Flow Rate	Run at 40% Flow Rate
Hours/Day @ Speed 2	N/A	N/A	8 Hours at High Speed	3 Hours at High Speed	0 Hours at High Speed	—	—	—
Savings/Day	—	\$1.35	\$1.99	\$2.60	\$2.96	\$2.12	\$3.36	\$3.68
Cost/Year to Operate	\$1398.74	\$948.20	\$734.05	\$530.41	\$408.22	\$689.40	\$275.50	\$167.39
Savings/Year	—	\$450.54	\$664.69	\$898.33	\$990.52	\$709.34	\$1123.24	\$1231.35
Savings %/Year	—	32%	48%	62%	71%	51%	80%	89%
Payback Period	—	Calculate	Calculate	Calculate	Calculate	Calculate	Calculate	Calculate
Catalog #	—	EB854	EB2977T	EB2977T	EB2977T	EVSJ3	EVSJ3	EVSJ3
56J Mount	—	EB841	EB2983T	EB2983T	EB2983T	EVSS3	EVSS3	EVSS3
Square Flg Mount	—	EB841	EB2983T	EB2983T	EB2983T	EVSS3	EVSS3	EVSS3

Costs and Savings results are approximate numbers as each pool's hydraulic system differs. The motor and pump's actual performance and energy consumption is dependent upon filter types, pipe sizes and lengths, and other special characteristics of the hydraulic system.

RETURN TO SEARCH PRINT SAVINGS REPORT

Click "Print Savings Report" to obtain a consumer ready sales tool like the below:



Energy Savings Report

Catalog Number	Horsepower	Power Cost	Usage Hours/Day	Usage Months/Year
EB858	1.5	\$0.172	14	11

Gallons In Pool	Average GPM	Turnovers
26,500	87	2

	Single Speed Pump - Existing Pump Motor	Single Speed Pump - Extreme E Pump Motor	2EZ Two-Speed Motor (230V Only)			Affinity® Variable Speed Motor (230V Only)		
Run Time/Day	14 Hours	10.2 Hours	8 Hours	18 Hours	24 Hours	8 Hours	18 Hours	24 Hours
Turnovers/Day	2.8	2	1.6	2.1	2.4	1.6	2	2
Hours/Day @ Speed 1	14 Hours	10.2 Hours	0 Hours at Low Speed	15 Hours at Low Speed	24 Hours at Low Speed	Run at 100% Flow Rate	Run at 55% Flow Rate	Run at 40% Flow Rate
Hours/Day @ Speed 2	N/A	N/A	8 Hours at High Speed	3 Hours at High Speed	0 Hours at High Speed	---	---	---
Savings/Day	---	\$1.75	\$2.44	\$3.55	\$4.21	\$2.62	\$4.31	\$4.75
Cost/Year to Operate	\$1817.65	\$1231.58	\$1000.98	\$630.51	\$408.22	\$940.10	\$375.69	\$228.26
Savings/Year	---	\$586.06	\$816.66	\$1187.14	\$1409.43	\$877.55	\$1441.96	\$1589.38
Savings %/Year	---	32%	45%	65%	78%	48%	79%	87%
Payback Period	---							
Catalog #								
56J Mount	---	EB796	EB2977T	EB2977T	EB2977T	EVSJ3	EVSJ3	EVSJ3
Square Flg Mount	---	EB842	EB2983T	EB2983T	EB2983T	EVSS3	EVSS3	EVSS3

Costs and Savings results are approximate numbers as each pool's hydraulic system differs. The motor and pump's actual performance and energy consumption is dependent upon filter types, pipe sizes and lengths, and other special characteristics of the hydraulic system.



6. Can I run the Affinity® pool motor for 24 hours per day?

- a. We recommend setting the program on the user interface to run the unit from 12:01AM to 11:59PM daily to avoid any kind of software issues when the unit changes the day of the week to the next day at midnight each night.

7. Do our motors communicate with 3rd party controllers?

- a. Yes with the purchase of our EZCOM™ interface adapter. Please see the Affinity® Interface adapter manual link from this web site:
 - i. <http://www.usmotors.com/Our-Products/Pool-Spa.aspx>

8. Do our motors have an input/output jack to link booster pump operation?

- a. This can be accomplished by using the EZCOM™ interface adapter output jack and a relay. Please see the link listed above in # 7 for the hot link to this user manual.

