

Cycle9.com electric bike and hub motor comparison

example configuration:	BionX P-250, 24V NiMH, 26" wheel	Bion X PL350 Li-Ion, 26" wheel	eZee Li-Ion, 26" wheel	Crystalyte DC Motor, 26" wheel	Crystalyte 406, 26" wheel	Crystalyte 408, 26" wheel	Cycle 9 Dolores Bike - Li-Ion, 26" wheel
feature:							
Geared	—		✓	—	—	—	✓
Brushless	✓	✓	✓	—	✓	✓	✓
Front or rear wheel	rear (front optional)	rear (front optional)	front	front or rear (rear limited to 7 speeds)	front or rear (rear limited to 7 speeds)	front or rear (rear limited to 7 speeds)	rear, 7 speeds, Shimano Alivio shifter/derailleur
Nominal Power (watts)	250	350	400	250	400	400	350
Peak Power (watts)	450	700	700	750	750	750	600
Top Speed @ 36V, no load, miles per hour (MPH)	20	20	23	35	28	22	17
Top Speed @ 48V, no load, miles per hour (MPH)	N/A	N/A	29	47	39	29	N/A
Disc brake compatible	✓	✓	✓	requires optional add-on, tight clearance for some bikes	requires optional add-on, tight clearance for some bikes	requires optional add-on, tight clearance for some bikes	—
Regenerative braking	✓	✓	—	—	—	—	—
How much weight it adds to your bike (motor +controller+battery)	17 lbs	19 lbs	19	24*	24*	24*	52 (total bike weight)
Peak Torque/thrust, lbs	17	23	42	18	25	27	(not yet measured)
Throttle	optional	✓	✓	✓	✓	✓	✓ (must pedal first to activate)
Pedelec sensor	torque sensor	torque sensor	optional	—	—	—	pedal rpm sensor
Battery type	NiMH	Li-Mn	Li-Mn	battery not included	battery not included	battery not included	
Usable Battery capacity	8 Ah	9.5 Ah	9.5 Ah	battery not included	battery not included	battery not included	9 Ah
Wheel sizes available (we can build custom sizes for an additional fee)	700c, 26", 24", 20", 18"	700c, 26", 24", 20", 18"	700c, 26", 20"	700c, 26", 20"	26", 20" (700C available in 407 hub)	26", 20" (700C available in 407 hub)	26"
Warranty	2 years motor + control, 1 yr battery	2 years motor + control, 1 yr battery	2 years motor + controller, 1 yr battery	1 year all parts	1 year all parts	1 year all parts	1 year all parts (excluding wear items), 2.5 year pro-rated battery
Other Features	Disc brake capable, quick release, locking battery mount, integral control console to adjust power, monitor system, and monitor battery charge, can accommodate 8 or 9 speed rear freewheel	Disc brake capable, quick release, locking battery mount, integral control console to adjust power, monitor system, and monitor battery charge, can accommodate 8 or 9 speed rear freewheel	Comes with disc brake rotor, battery mounting bag (for rear rack), zip ties and all installation accessories, long cables for installation on cargo or recumbent bikes, battery gauge, included Schwalbe Marathon tire and tube	Capable of many different battery configurations	Capable of many different battery configurations	Capable of many different battery configurations	Headlight, tail light, 7 speed Shimano shifter, throttle and pedelec sensor, removable, lockable battery on integral rail mount, racks, fenders
Other options	Throttle, DC/DC converter, cable extension for long bikes, freewheel 7, 8 or 9 speed, disc brake	Throttle, DC/DC converter, cable extension for long bikes, freewheel 7, 8 or 9 speed, disc brake	Pedelec sensor, plug-in cycle analyst, thumb or twist throttle, can be run at 48V	Thumb or twist throttle, can be run with a variety of batteries and voltages	Thumb or twist throttle, 35A controller, 72V controller, plug-in cycle analyst, can be run with a variety of batteries and voltages	Thumb or twist throttle, 35A controller, 72V controller, plug-in cycle analyst, can be run with a variety of batteries and voltages	Cycle analyst can be added
Our Commentary on the system, positives	+ The BionX kits are the most aesthetically pleasing and unobtrusive when installed on the bike. This is a kit for someone who just wants to install it and then completely forget it is there. Also, longest distance range of any of our kits due to advanced system management	+ The BionX kits are the most aesthetically pleasing and unobtrusive when installed on the bike. This is a kit for someone who just wants to install it and then completely forget it is there. Also, longest distance range of any of our kits due to advanced system management	+This is the highest torque electric hub motor we sell. It is great for heavier people, or cargo bikes, or very hilly areas. The throttle control is smoothly activating. It is relatively easy to install, and easy to ride. Disc brake compatible. Designed to be waterproof. Presently our most popular kit.	+This is a very reliable, simple motor for a great price. It will give a moderate assist for those who want a faster commute, and who have moderate hills.	+This is a reasonably reliable, fast motor with good torque. It comes in both front and rear wheel versions. There are many options, such as choice of controller type, throttle type, battery voltage/chemistry, etc	+This is a reasonably reliable motor with very good torque, and high efficiency for non-g geared motor. It comes in both front and rear wheel versions. There are many options, such as choice of controller type, throttle type, battery voltage.	+Complete, integrated electric bike, no worries about add-ons or compatibility issues. Includes lithium ion battery at very good price point. Good power for a complete electric bike compared to others on market. Brushless, internally geared motor for good torque and low maintenance
Our Commentary on the system, negatives	- The BionX is a closed system, not interchangeable with other components. Also, this is an un-g geared motor, so has less torque than geared motors (but still plenty for most uses). The PL-250 is a relatively low power motor.	- The BionX is a closed system, not interchangeable with other components. Also, this is an un-g geared motor, so has less torque than geared motors (but still plenty for most uses).	- Front wheel only. The stock battery mounting bag is a bit flimsy, and can require tinkering to install so that it is out of the way of your feet (only a problem for those with small bikes or large feet). The finish on this kit is overall great, but there are little oddities like an extra switch on the battery gauge that has no purpose, and the wiring is not quite as clean as on the BionX.	-Brushes require occasional replacement (inside motor), 1-3 years. Not great for steep hills or really heavy loads, unless you want to pedal a lot. Heavier than eZee or BionX	-This is a heavier motor. When installed on front wheel, changes handling, simply due to weight. Wide profile of motor makes install with 8 or 9 speed gearing systems (rear) difficult. Likewise, clearance for disc brake option is limited, and requires additional parts. Finish and integration not as nice as for eZee or BionX.	-This is a heavier motor. When installed on front wheel, changes handling, simply due to weight. Wide profile of motor makes install with 8 or 9 speed gearing systems (rear) difficult. Likewise, clearance for disc brake option is limited, and requires additional parts. Finish and integration not as nice as for eZee or BionX.	-Not quite as powerful as Crystalyte 40X, eZee, or BionX PL-350 hub kits. Components are Shimano Alivio, reasonable but usually found on lower cost bikes. Bike contributes lots of power based on pedal sensor (but can be overridden for lower power by throttle). Only one frame size, suitable from about 5'5" up to about 6'2" tall riders.
Our price	\$1,050.00	\$1,695.00	\$1,250.00	\$310 (+\$500 Li-Ion battery or +\$250 Ni-Cad)	\$445 (+\$500 Li-Ion battery or +\$250 Ni-Cad)	\$445 (+\$500 Li-Ion battery or +\$250 Ni-Cad)	\$1,290.00