

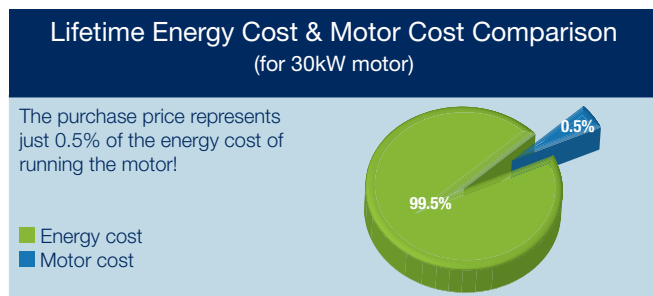
High Efficiency Ultra Series Motor Advantages...

Motors for Quality OEM's

Energy Consumption & Running Cost

Purchase price of any motor is generally insignificant when compared to its running costs over a 20 year life cycle. For example:

Typical 30kW, 4P Motor Price	\$2,370
Typical Motor Efficiency @ 100% F/L	91.6%
Estimated Annual Hours of Use	4000 hrs
Average Energy Price	\$0.14/kWh
Hence, Annual Cost of Energy Consumption at 100% Full Load	\$18,341
Cost of Energy Consumed over 20 Years Service Life	\$366,812



Efficiency Comparison

Motor efficiency is one factor that can significantly affect the running costs of any motor operating under a given set of conditions. Small improvements in efficiency can result in large savings in annual running costs. Consider the following comparison of running costs between a Minimum Efficiency motor versus a High Efficiency motor complying with MEPS 2006 (Minimum Efficiency Performance Standards as per AS1359:5)

Using a typical 30kW 4 pole motor as an example, the cost saving estimates can be as follows:

	Typical Motor	Ultra Series Motor
Power	30	30
Operating Hours (conservative)	4000 p.a.	4000 p.a.
Energy Cost	\$0.14/kWh	\$0.14/kWh
Efficiency (%)	91.6	94.8
Load Factor (%)	100	100
Annual Running Cost*	\$18,341	\$17,722
Annual Savings	—	\$619
Annual CO ₂ Saving (kgs)	—	4,070

*Running Cost = $\frac{\text{kW} \times \text{Load Factor} \times \text{Energy Rate} \times \text{Op. Hours}}{\text{Efficiency}}$

Thus,
LIFETIME COST SAVINGS* = \$12,380
LIFETIME CO₂ SAVINGS (kgs)* = 81,370 (for 20 year service)

Pay-Back

Typical Cost of Toshiba 30kW, 4P Ultra Series Motor	\$2,520
Price Difference between Ultra Series Motor & Avg. 30kW, 4P Motor	\$160
Yearly Power Cost Saving (at 4000 hrs)	\$619
Pay-Back on Premium for Toshiba Ultra Series Motor	3 mths

Conclusion

When evaluating motors for purchase, motor users should place a high value on the running cost savings advantages as compared to the purchase price. Any initial purchase price premium will be quickly recovered by the reduced running costs of Toshiba High Efficiency motors.

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 Leading Innovation >>>

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