

# Contribution to Environment by Product Development

## Product Development for Low CO2 Emission

Our competitiveness in-product development field is generated from originality and initiative spirit to take the lead of our age.

Living up to customers' needs of low CO2 emission, Dynax always contributes to the development of society with its unique technology.

## Environmental Technology - History of Development

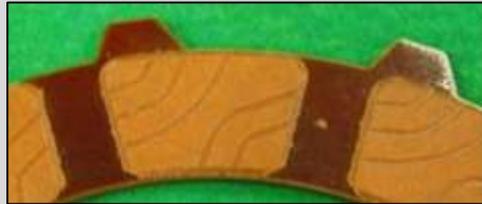
1980's Developed the first domestically produced asbestos-free friction material to meet the laws and regulations. With much better performance and durability than the earlier developed materials, our products had contributed to the spread of automatic transmission and better fuel consumption in Japanese car market.



1990's This was the era when people began to pay much more attention to future depletion of fossil fuels and environmental problems on a global scale. The market share of automatic transmission exceeded 70% in Japan and further improvement of fuel consumption was required. To meet this need Dynax started to develop and produce high heat-resistant materials contributing to more compact transmissions and lower fuel consumption. Not only in Japan but also in North America and Europe, major car makers began to adopt our materials for their compact and fuel-efficient transmissions.

2000's Hybrid vehicles and electric vehicles came into the market. Fuel cell vehicles began to be tested on public roads. Environmental technics started to get diverse and the customers' needs started to be very complicated. We had expanded our product lineup in order to meet any kind of fuel-efficiency technology for cars.

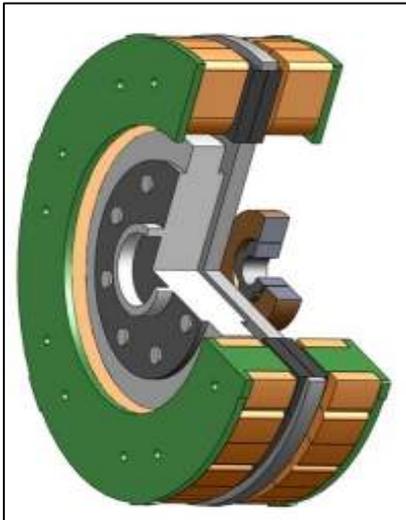
2010 - Progress of environmental technology for vehicles was unstoppable. Clean diesel engine, more fuel-efficient gasoline engine, the growth of hybrid vehicles and electric vehicles etc. Today, our product development covers a wide range of transmissions from Automatic Transmission(AT), through Continuously Variable Transmission(CVT) and Dual Clutch Transmission(DCT) to Hybrid Vehicle(HEV).



## Our Environmental Technology - Product Development for the Electric Vehicles

Dynax is developing now drive motors to get ready for the coming era of electric vehicles.

We have already developed 5-31kw motor and started R&D for other application possibilities except of electric cars.

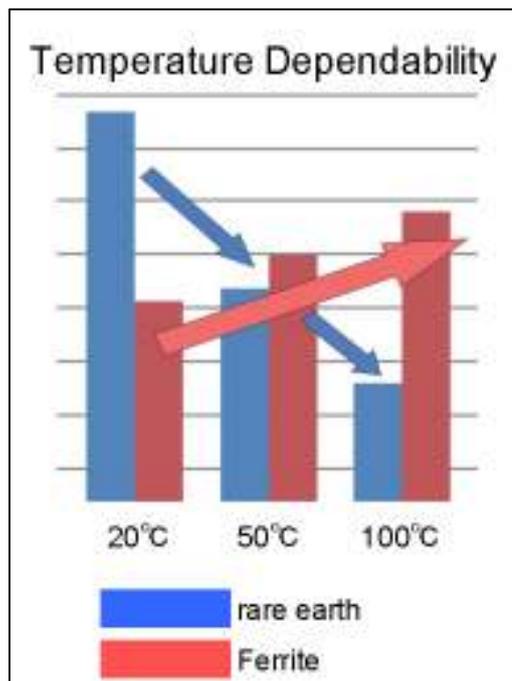
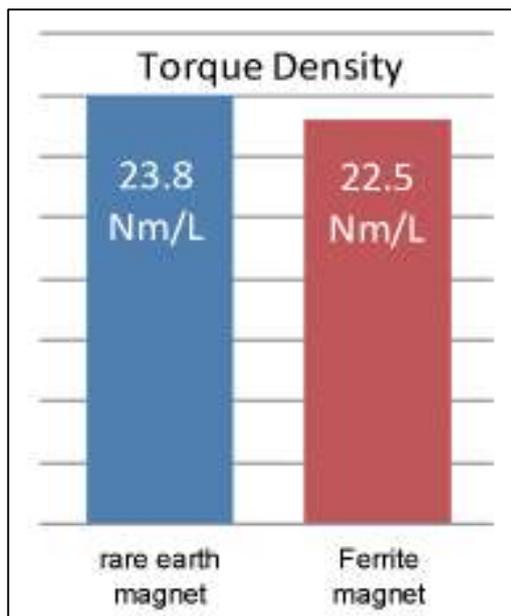


### Outline

- \* Drive Motor for EV/HEV
- \* Usage of Ferrite magnet
- \* Similar performance to rare earth magnet
- \* Possibility of industry use

### Features

- \* High efficiency (especially under high rotation condition)
- \* Potential of cost saving
- \* Axial gap and flat motor
- \* Low dependability on temperature



Development Test Car  
Dynax motor mounted