

Combustion



Hybrid

# Explore our Technologies

## DualTronic™ Dual Clutch Modules

for Passenger Cars

# DualTronic™ Dual Clutch Modules

A dual clutch transmission equipped with BorgWarner's DualTronic™ Technology delivers fuel economy that rivals single clutch automated gearboxes and shift quality that rivals the best conventional automatic transmission ... all in a package that is compact and price competitive.

## How it Works

Engine output can be coupled to either of two transmission input shafts of an automated dual clutch transmission (DCT). Each clutch functions as both a launch clutch and a dynamic shifting clutch, enabling clutch-to-clutch shifts without torque interruption. The DualTronic Technology features tunable launch characteristics and scalable torque capacity in a compact, modular design.

## Technical Features and Advantages

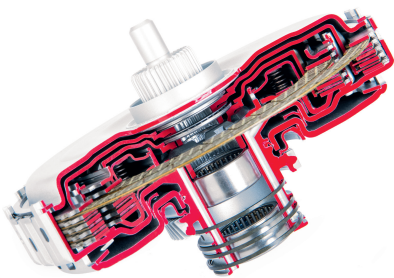
BorgWarner's DualTronic wet-clutch technology exceeds customer expectations by providing:

- Optimized for improved transmission efficiency to support CO<sub>2</sub> reduction
- Reduced torque interruption
- Superior hill hold and creep performance
- Smooth vehicle launch performance
- Better shift feel
- Enhanced convenience
- Adaptive performance
- Improved durability and reliability

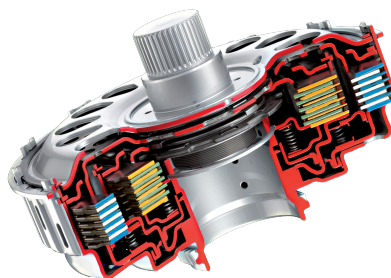
## Module Characteristics

- High energy wet composite friction material
- High slip energy capacity for launches compared to dry clutch systems
- Stable friction and damping characteristic over lifetime and temperature
- Engine input speed capability >9000 rpm
- Engine torque capacities to more than 1500 Nm
- Flexible clutch architecture for all different pressure levels, actuation by oil feedthrough or concentric slave cylinder with engage bearings
- Compact package optimized for short axial or minimum radial dimension

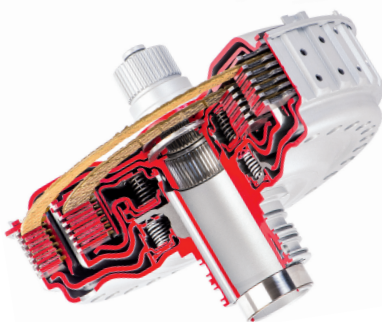
Concentric Dual Clutch



High RPM Concentric Dual Clutch



High Torque Concentric Dual Clutch



High Pressure Dual Clutch

