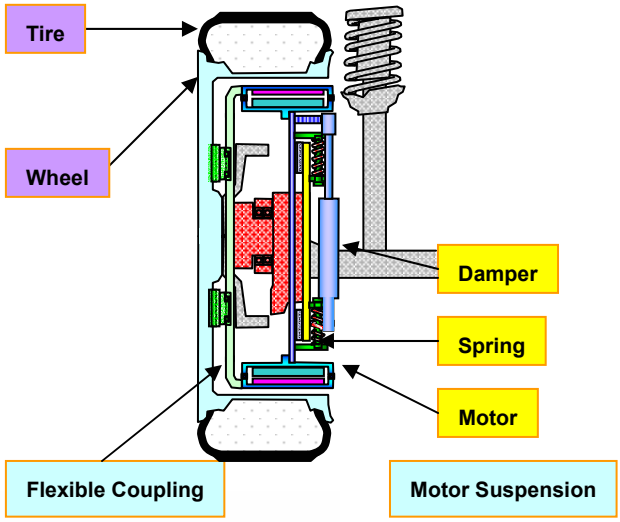
## Bridgestone Dynamic-Damping In-wheel Motor Drive System




Shaftless direct-drive motor

Flexible coupling

Motor suspension

1. Structure and Features

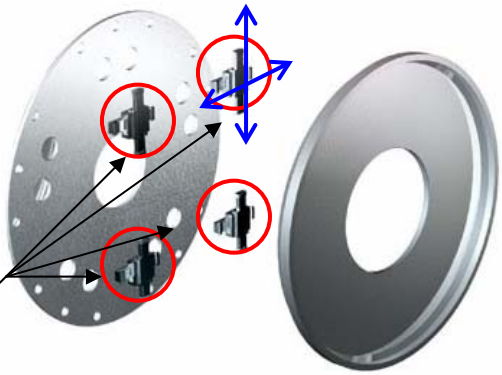
a. Dynamic dampers

Bridgestone suspends the shaftless direct-drive motors to insulate them from the unsprung mass. The motor vibration and the vibration from the road and tires cancel each other, which improves road-holding performance.

Motor suspension

b. Flexible coupling

Four cross guides convey the drive power from each motor smoothly to its wheel. The cross guides compensate for the continuous, subtle shifting in the rotational positioning of the motor and wheel.



Cross guide

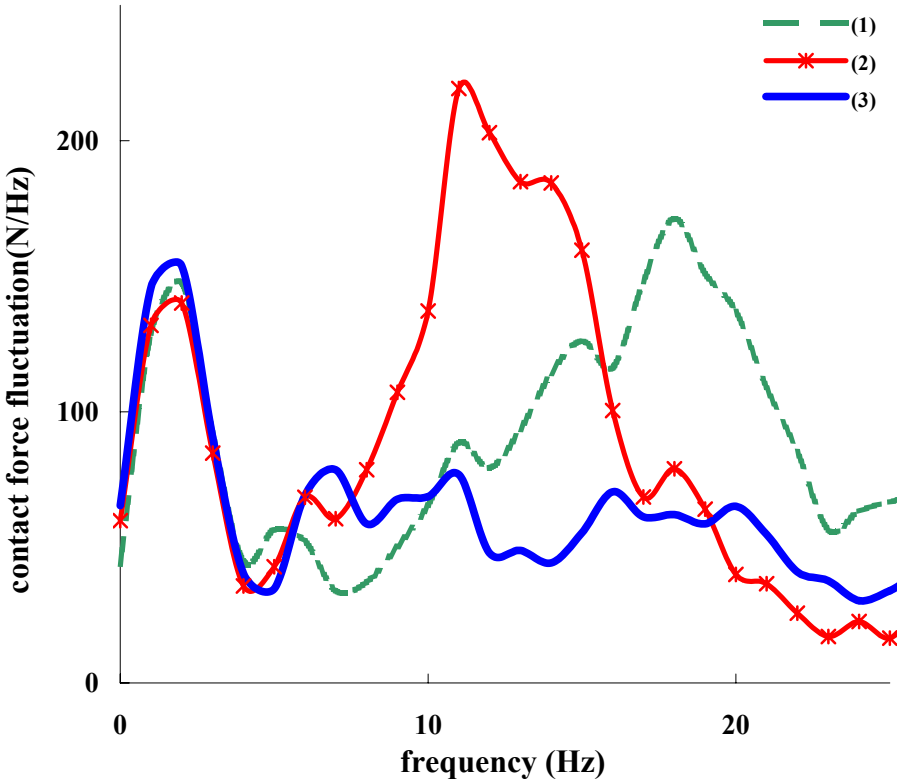
Flexible coupling

2. Advantages

Here are analytical comparisons of the performance of (1) a conventional electric vehicle equipped with a single motor (2) an electric vehicle equipped with conventional in-wheel motor drive and (3) an electric vehicle equipped with Bridgestone's dynamic damping. The comparisons highlight differentials in road-holding performance (contact force fluctuation) and ride quality (vertical acceleration frequency) on a rough road surface.

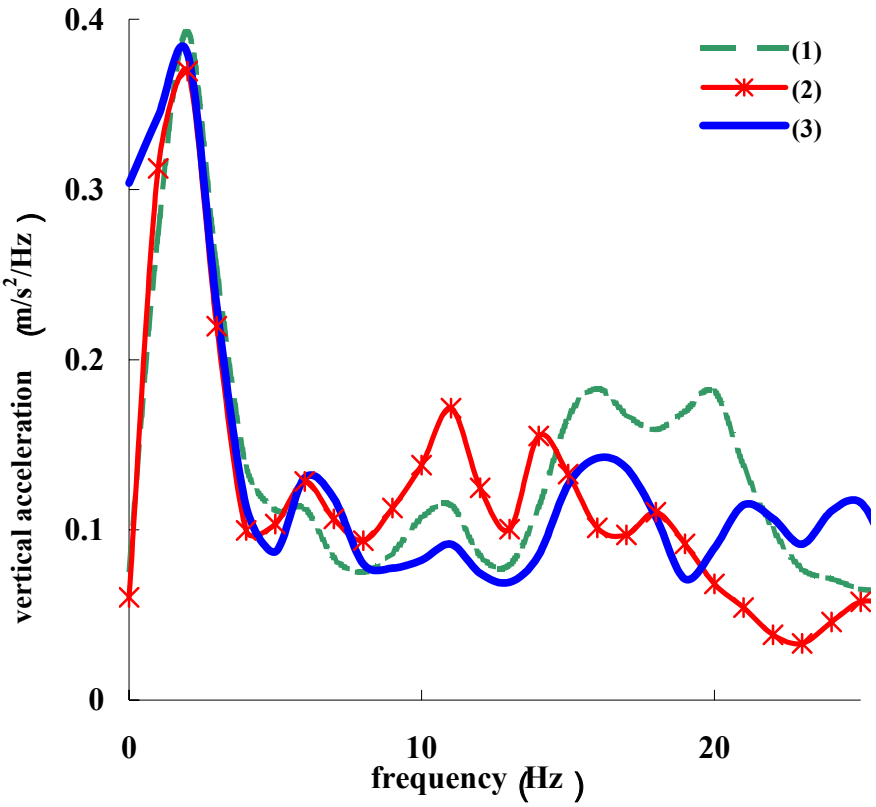
a. Improved road-holding performance

Contact force fluctuation when rolling over a bump 10 mm high and 20 mm wide at 40 kilometers per hour



b. Improved ride quality

Vertical acceleration frequency when rolling over a bump 10 mm high and 20 mm wide at 40 kilometers per hour




Bridgestone's dynamic-damping in-wheel motor drive system results in better road-holding performance and a more comfortable ride than are possible with conventional in-wheel systems. It also offers advantages over conventional, single-motor electric vehicles in safety and comfort.