■ KNOCK SENSOR (FLAT TYPE)

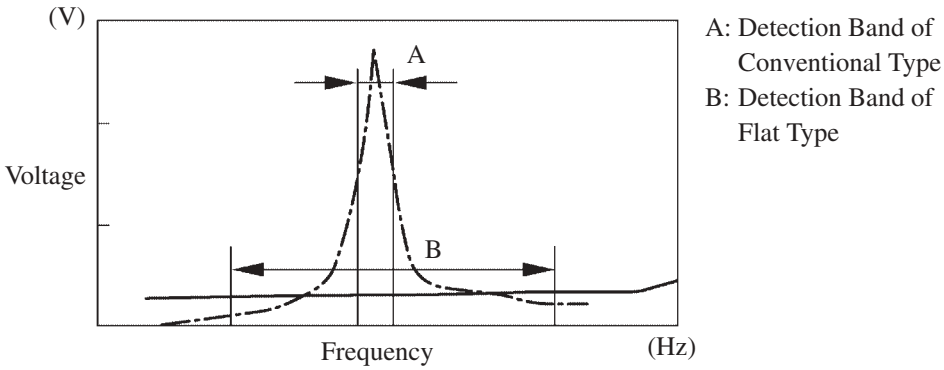
1. General

In the conventional type knock sensor (resonant type), a vibration plate which has the same resonance point as the knocking frequency of the engine is built in and can detect the vibration in this frequency band.
On the other hand, a flat type knock sensor (non-resonant type) has the ability to detect vibration in a wider frequency band from about 6 kHz to 15 kHz, and has the following features.

- The engine knocking frequency will change a bit depending on the engine speed. The flat type knock sensor can detect the vibration even when the engine knocking frequency is changed. Thus the vibration detection ability is increased compared to the conventional type knock sensor, and a more precise ignition timing control is possible.

—·— : Resonance Characteristic of Conventional Type

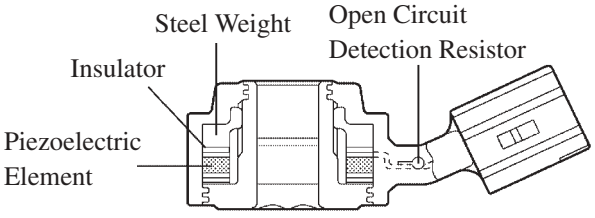
——— : Resonance Characteristic of Flat Type



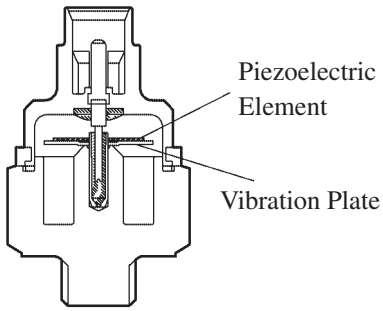
Characteristic of Knock Sensor

2. Construction

- The flat type knock sensor is installed on the engine through the stud bolt installed on the cylinder block. For this reason, a hole for the stud bolt is in the center of the sensor.
- Inside of the sensor, a steel weight is located on the upper portion and a piezoelectric element and is located under the weight through the insulator.
- The open/short circuit detection resistor is integrated.



Flat Type Knock Sensor (Non-Resonant Type)



Conventional Type Knock Sensor (Resonant Type)