



Metra offers accelerometers with three mechanical construction designs:

- Shear system (“KS” types)
- Compression system (“KD” types)
- Bending or flexure system (“KB” types)

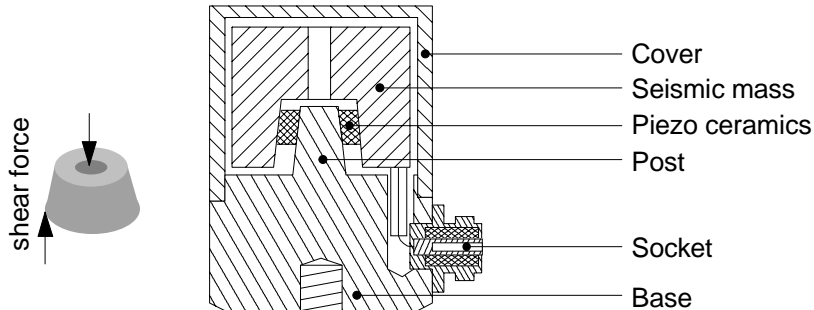
The reason for using different piezoelectric systems is their individual suitability for various measurement tasks and their varying sensitivity to environmental influences. The following table shows advantages and drawbacks of the three designs:

	Shear	Compression	Bending
Advantage	<ul style="list-style-type: none">• Low temperature transient sensitivity• Low base strain sensitivity	<ul style="list-style-type: none">• High sensitivity-to-mass ratio• Robustness• Technological advantages	<ul style="list-style-type: none">• Best sensitivity-to-mass ratio
Drawback	<ul style="list-style-type: none">• Lower sensitivity-to-mass ratio	<ul style="list-style-type: none">• High temperature transient sensitivity• High base strain sensitivity	<ul style="list-style-type: none">• Fragile• Relatively high temperature transient sensitivity

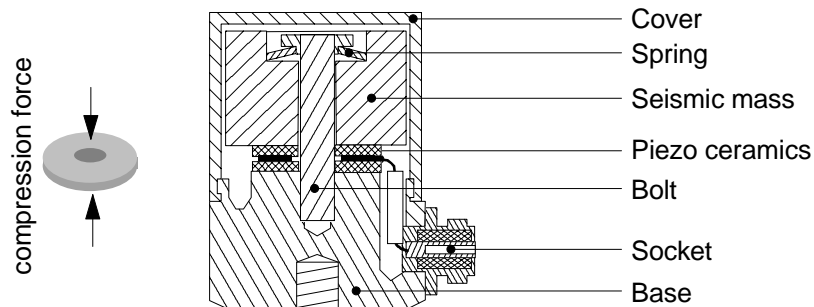
The shear design is applied in the majority of modern accelerometers due to its better performance. Compression and bending type sensors are still used in many applications, however.

The main components of these three accelerometer designs are shown in the following illustrations:

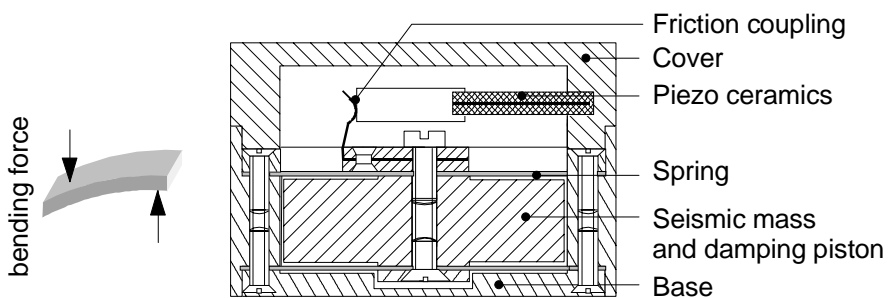
Shear Design:



Compression Design:



Bending Design:



(shown example: KB12)