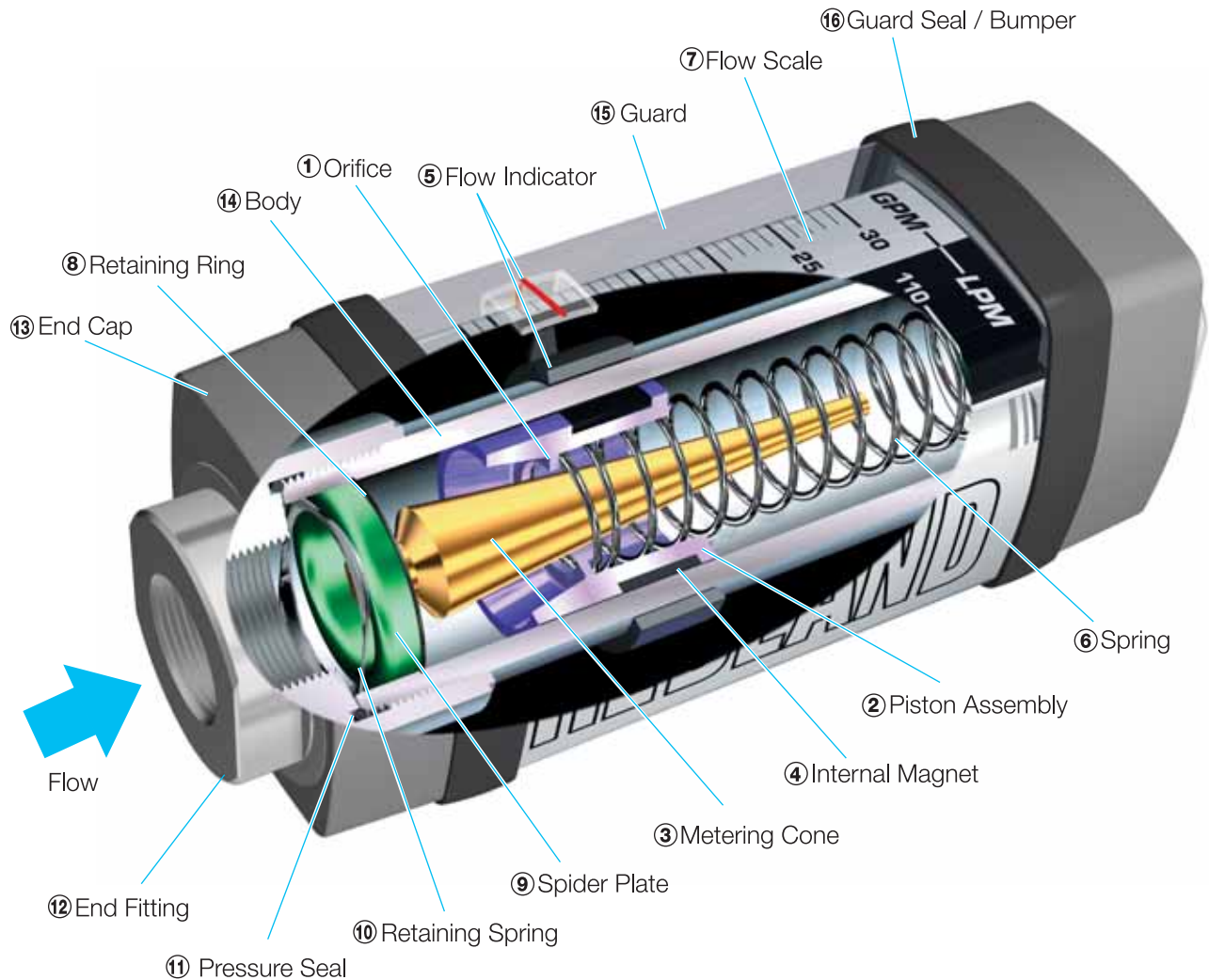


# General Design Features



## OPERATING PRINCIPLE

The Hedland flow meter is a variable area instrument. A precision machined, sharp-edged Orifice ① located within the Piston Assembly ②, forms an annular opening with the contoured Metering Cone ③. The Piston Assembly carries a cylindrical PPS/Ceramic Magnet ④ that is magnetically coupled to an external Flow Indicator ⑤ that moves precisely, in direct response to movement of the Piston. A calibrated Spring ⑥ opposes flow in the forward direction. This spring decreases viscosity sensitivity and allows the flow meter to be used in any position, including inverted.

**Bi-directional flow capability:** If required, a reverse flow by-pass option is available and is depicted on individual product pages. Note that flow is measured in the forward direction only.

**Operates in any position:** The Hedland in-line flow meter's unique spring-loaded variable area design allows meters to be installed in any position without affecting accuracy. An optional inverted flow scale is also available.

**Easier to read linear scale:** This flow meter is the most readable product in its class. Brightly colored indicators move over the graduated, linear Flow Scale ⑦ which contains bold, easy-to-read numerals and gauge marks. This enhanced resolution virtually eliminates parallax problems associated with competitive, direct reading flow meters.

**360° Rotatable guard/scale:** Hedland's unique design allows the meter to be installed in any orientation without regard to scale direction. Once the meter is permanently installed, the guard/scale can be rotated 360° to optimize readability.

**Rugged construction:** Flow meters are available in anodized aluminum, brass, T303 and T316 stainless steel, with SAE, NPTF, BSPP, and Code 61 and Code 62 4-bolt flanged ports. This easy-to-read flow meter is a reliable and trouble-free flow rate indicator, monitoring a variety of liquids and gases (including aggressive chemicals), under a wide range of pressures, temperatures and rigorous conditions encountered in industrial applications.

**No flow straighteners or special piping:** The Hedland design does not require special plumbing or accessories to stabilize turbulent flow. Flow meters can be installed immediately adjacent to 90-degree elbows or other components to provide greatest system design flexibility, while saving installation time and money.

**Relatively insensitive to shock and vibration:** This unique design is inherently less sensitive to shock and vibration than other variable area flow meters. The new, improved coupling forces between the internal and external magnets greatly reduce the chance of decoupling the flow indicator under high flow and pressure transients. The magnetic coupling also eliminates the need for mechanical linkages that wear, loosen and leak over the functional life of competitive meters.