

Bellows Gauge FAQs

Q: What components make up a bellows gauge?

A: The 1120 consists of a high and a low pressure bellows connected to each side of a center plate. The bellows are enclosed in end housings which in turn are bolted to the center plate. The interior of the bellows and center plate is completely filled with a clean, low freezing point, non-corrosive fill fluid. As differential pressure is applied, this fill fluid moves between the bellows through a field adjustable dampening valve in the center plate. Other external dampening devices are not required for measurements of pulsating differential pressure. Also, the Meriam 1120 incorporates a special design which completely isolates the process fluid from the center plate.

Q: How does a bellows gauge measure differential pressure?

A: When differential pressure is applied to the high and low pressure connections, the high pressure bellows contracts, forcing fluid through the center plate into the low pressure bellows which expands. The resulting linear motion of the low pressure bellows is converted to a 6° rotary motion of the output shaft through temperature compensating linkage. Over-range protection up to the pressure rating of the housing is provided by two fluid shut off valves located on this linkage. The output shaft is part of a low friction, "O" ring sealed shaft and bearing assembly which carries the rotary motion to the external area of the bellows unit and into the instrument case.

Q: Can I prevent someone from resetting the gauge once it is configured?

A: Yes. The lockout setting prevents inadvertent resetting of the gauge.