

APPLICATION GUIDE

Choosing a pressure range

How to size a gauge range so normal working pressure reads clearly and the movement lasts.

Instruments covered

Series P100, Series P150, Series P300, Series P700, Pressure transmitter

Why the range matters

A gauge reads best and lasts longest when your normal working pressure sits near the middle of the dial. A range that is too low leaves the pointer near the stop, where the movement wears and a pressure spike can damage it. A range that is too high crowds your reading into the first few marks, where small changes are hard to see.

The rule of thumb

- Pick a full scale value of about twice your normal working pressure.
- Keep normal working pressure between one quarter and three quarters of full scale.
- Check the highest pressure the line can reach, including start up and pump surges, and keep it under full scale.

Worked example

A line that runs at 45 psi and peaks at 70 psi suits a 0-100 psi range. Normal pressure reads just under half scale, and the peak stays well inside the dial. The same line on a 0-300 psi gauge would read in the first sixth of the scale.

Ranges in the catalogue

- 0-15 psi and 0-30 psi: low pressure air, filters and tank heads (Series P100, Series P150, Series P800).
- 0-100 psi: general plant air, water and process lines (most dial gauges).
- 0-300 psi and 0-600 psi: hydraulic and high pressure process lines (Series P300, Series P400, Series P500, Series P150).
- Custom range: Series P700 and Series P150 can be ordered with a custom scale.
- For a reading in your control system instead of on a dial, the Pressure transmitter covers 0-100, 0-300 and 0-600 psi with a 4-20 mA output.

Before you order

Note your normal working pressure, the highest pressure the line can reach and the connection size. Each specification sheet lists the ranges, accuracy and connection for that instrument.