

# PRESSURE AND VACUUM GAUGE SELECTION GUIDE



## STEP 1: PRESSURE RANGE (PSI/Hg)

The first step in purchasing a pressure gauge is to determine what pressure range (pounds per square inch or inches of mercury is standard) you need. The accuracy of most pressure gauges is best in the middle third of a gauge, so you should select a gauge with a range that is about twice your normal operating pressure. For example, if you have an air compressor with a normal working pressure of 50 psi you should select a gauge with a 100 psi range.

If you cannot find a gauge at exactly twice your working pressure, you may need to round up to the next sized gauge. For example, if you want a 160 psi gauge and it is not in stock, a 200-psi gauge can be substituted. If the range is too low and the gauge is over-pressurized, it will break, but if you have chosen a gauge with a slightly higher psi and your pressure goes above normal, it won't damage the gauge.



## STEP 2: DIAL SIZE

Dial size refers to the diameter of the circular face of the gauge. The most effective way to choose a size is to measure the diameter of the gauge you are replacing. When selecting a gauge choose one that fits within the physical space available and a gauge size that is easy to read where you have it installed.

## STEP 3: CONNECTION

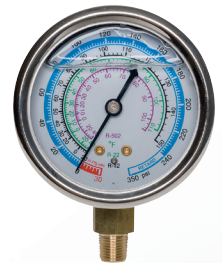
There are two basic connection types for mounting: back and lower. The back mount connection protrudes from the back of the gauge. In a lower-mount (sometimes called a stem mount), the connection is on the bottom of the gauge.

You also have to consider connection size. For 2½" dial sizes, a ¼" NPT (National Pipe Thread) is by far the most common size. If you're replacing a gauge, you want to be aware of the existing connection size. Other common connection sizes are ⅜" NPT (for 1½" and 2" dials) and ½" NPT (for 4" and greater dial sizes).

## OTHER CONSIDERATIONS WHEN CHOOSING A PRESSURE OR VACUUM GAUGE:

### ACCURACY

Accuracy span has the most influence on price, so it's important to pick a gauge that is accurate enough—but not more accurate than you need. Gauges are available with accuracies from ±3-2-3% to 0.25% of span (ASME grade B to grade 3A). Consider your application to determine accuracy needs. For example, if the gauge is for a residential swimming pool, precise accuracy may not necessarily be needed and a "3-2-3" gauge may be an acceptable choice. These type of gauges are accurate to ±3% in the bottom third and top third of their range, and within 2% in the middle third. If you require slightly higher accuracy, a gauge with 1.5% accuracy is a good choice for applications where small differences in pressure aren't critical. Gauges with 1.5% accuracy will give you a more accurate reading (±1.5% across the range) than a "3-2-3," but are still quite affordable.



### LIQUID-FILLED

There are two reasons to fill a gauge with liquid: liquid steadies the pointer and makes the gauge easier to read. The liquid also helps to lubricate the internal parts of the gauge, making it last longer. So if you have an application with a lot of vibration, or need longer life and durability from your gauge, choose a liquid-filled case. There are generally 3 options available: dry case, glycerine-filled and dry case-liquid fillable. Dry case gauges cannot be filled with liquid. Glycerine-filled gauges come already filled with liquid. Dry-case, liquid fillable models allow you to fill your own gauges.

### WETTED PARTS

The wetted parts of a gauge are the parts that come in contact with what is being measured (liquid, air, gas, etc). There are special materials available for unusual applications (such as highly corrosive liquids) but the most commonly used materials are brass and stainless steel. Brass is more economical and is an excellent choice for noncorrosive gases or liquids (air, water or gasoline). Stainless steel stands up better to acid and alkaline substances and is also more durable.

Source: [www.dfs-gauges.com/GaugeFinder.aspx](http://www.dfs-gauges.com/GaugeFinder.aspx)

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