

Western Instruments

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Reaching Pit Gauges

Reaching Pit Gauges have a multitude of uses, from that of an effective Pit Gauge, to Weld Inspection and Fabrication Fit-up. Western manufactures 3 models; the Reaching Pit Gauge (N88-5) and the Reaching+ Pit Gauge (N88-6), both of which are available as Magnetic Models (illustrated at the bottom of this page). The third, the Tubing Gauge (N88-TI), was designed specifically for fit-up of small diameter tubing such as hydraulic lines on Aircraft and other critical fabrications.



The main reason for this article is to outline the differences between these 3 models, and the features of a *Reaching* configuration. The most obvious difference is the blade length;

Tubing Pit Gauge	2.375" (60mm)
Reaching Pit Gauge	4.750" (121mm)
Reaching + Pit Gauge	6.0" (152mm)

The blade length determines how far the Pit Gauge can Reach or Cantilever into an area of corrosion, and still maintain a reasonable contact and reference to parent material.

The second item of note is the length of the 'Cut-Away' (Nose), immediately under the Dial indicator. In the case of the *Reaching* (and *Plus*) Pit Gauge, the cutaway is a large 1½"

(37mm), to allow it to be used around taller and wider Welds, while on the *Tubing Inspection Gauge* it is just 0.550" (14mm), for tubing's smaller Weld reinforcement.

Having the cut-away at the one end of the blade, and the Dial Indicator mounted there, gives a big advantage by allowing the Dial Indicator to rotate by 90°. This rotation (illustrated to the right) provides a minimum clearance between the Gauge, and the end of the Blade, allowing Reaching type Pit Gauges to measure right up to a Riser, Repad, Gusset, Web, etc., even with a Fillet Weld in the right angle.

Another benefit of the cut-away on all of the Reaching Models, is the ability for the Gauge to reach over the Weld reinforcement (cap) from one side of the weld. This reach serves two purposes; first to measure weld misalignment, and the second to measure undercut on both sides of the weld without repositioning the gauge.



The two Reaching Pit Gauge's in the picture to the right and above are Magnetic models (N88-5M and N88-6M) as evident by the Magnets viewed on the knife edge of the blade. The adjustable Magnets help the inspector during Vertical and Overhead work, and when they are not needed they can be rotated up and out of the way in knife edge.