TFN

CONTROL GAGING INCORPORATED

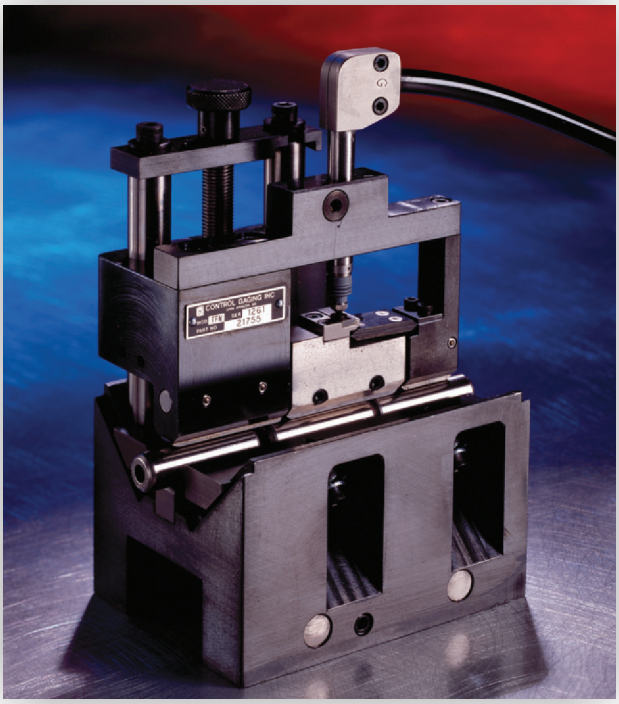
TFN Precision Gage Fixture for Thrufeed Grinding

Automatic centerless size control for small parts: spools, pins, needles, plungers, and rollers

The TFN is a high-accuracy dynamic gage fixture designed to measure parts at the small end of the thrufeed grinding range. The design appears simple, but the geometry has been diligently refined to assure precise measurement of parts as they flow off the workrest blade.

As a part enters the gage, pushed by parts behind, it slides onto a flat carbide anvil. Two side-guides on angled surfaces are adjusted inward and down to locate the part horizontally. A flat spring-loaded shoe floats on the parts' surface while a ruggedized probe measures the rise and fall of the shoe's upper face. The flat bottom anvil allows straightforward alignment with the surface of the machine exit guide during setup. The "floating" shoe bridges gaps or undercuts in the part up to 12mm/.5".

The TFN can be mounted to the workrest blade support or embedded in a conveyor. See the back page for more details.



TFN Specifications

Workrest Mount dia. range:
1.5 - 32mm (.06 - 1.3")

Conveyor Mount dia. range:
4 - 32mm (.16 - 1.3")

Length/Diameter ratio:
3:2 or longer for ODs < 19mm (.75")
2:3 or longer for ODs > 19mm (.75")

Thrufeed feedrates:
Up to 11.4m/minute (450"/minute)

Part tolerances down to .0038mm (.00015")



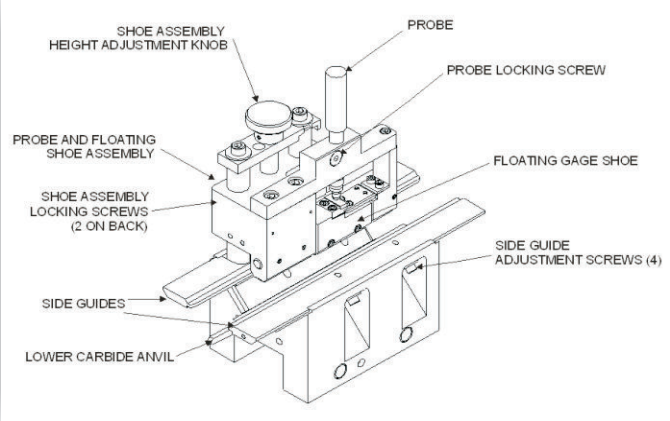
D500 Gage Controller

The D500 is a highly-configurable gage controller that is affordable for basic systems but has reserve power for demanding applications. There are several proven trend-based software packages to choose from. The IPC (Intelligent Process Control) Option outperforms all other compensation techniques and can control a grinder to its best possible operating capability.

TAKE CONTROL & SAVE MONEY

Control Gaging Incorporated
5200 Venture Dr. Ann Arbor, Michigan 48108 Phone: +1 734.668.6750 Fax: +1 734.994.1335
www.controlgaging.com Email: sales@controlgaging.com

TFN

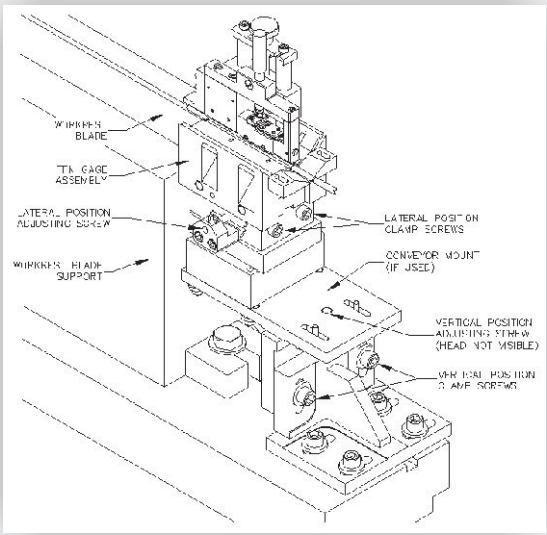


TFN Gage Assembly

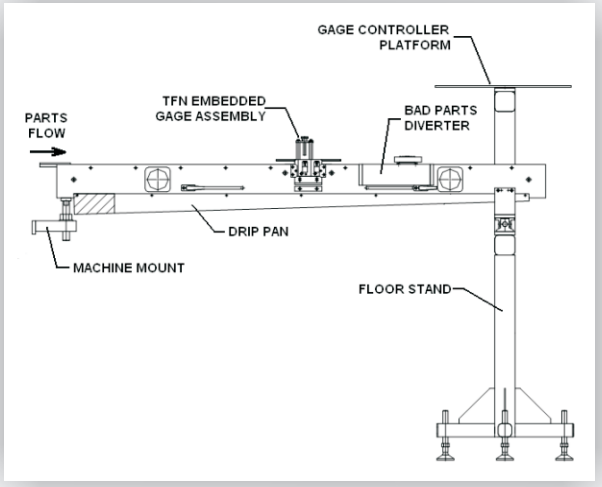
The TFN is especially well-suited for high-volume, dedicated-size parts, or applications with sizes within a narrow range. A version of the TFN called "the needle gage" is designed specifically for very small diameters (below 9.6mm/.38") such as bearing needles or small precision pins.

The TFN can be mounted directly to the workrest support (see drawing at right) or, if backpressure from the line of ground parts on the blade or through the gage is a concern, it can be embedded in a conveyor (below).

For on-machine mounting, the TFN is supported by a bracket mounted to the workrest blade support. The bracket includes horizontal and vertical adjustments for alignment to the work blade. It may also include attachments for mounting a transfer conveyor for moving the parts away from the grinder or further on in the production line.



TFN mounted to workrest blade support



TFN in twin-belt conveyor

The TFN can also be mounted to a conveyor attached to the workrest blade. This eliminates problems with backpressure on the parts flowing out from between the grinding wheels. If the machine is designed so the workrest blade moves during compensation, a linear bearing supports the conveyor and allows it to move laterally with the machine slide.

The conveyor can also include one ("Bad Part") or two ("Over" and "Under") diverters to segregate non-conforming parts from the parts stream.

The TFN "snaps" into a base assembly so it can be easily removed for repairs or cleaning, or it can be replaced by another unit that is already set up for a different size.

Control Gaging Incorporated
5200 Venture Dr. Ann Arbor, Michigan 48108 Phone: +1 734.668.6750 Fax: +1 734.994.1335
www.controlgaging.com Email: sales@controlgaging.com