

KNC Model 3540 Portable Pneumatic Gauge Tester



Product Description

The Model 3540 Portable Pneumatic Gauge Tester by King Nutronics Corporation is a compact, completely self-contained system designed for calibrating pressure gauges, transducers, controllers, and other pressure-sensitive instruments up to 2,000 psi with an accuracy of $\pm 0.1\%$ including hysteresis error. Two large, legible gauges, reading from 0 to 100 psig and 0 to 2,000 psig respectively, and controlled by an automatic transfer valve, permit precise stepless measurements over the entire range of the system. Other pressure ranges and units of measure (e.g., kPa) are available upon request.

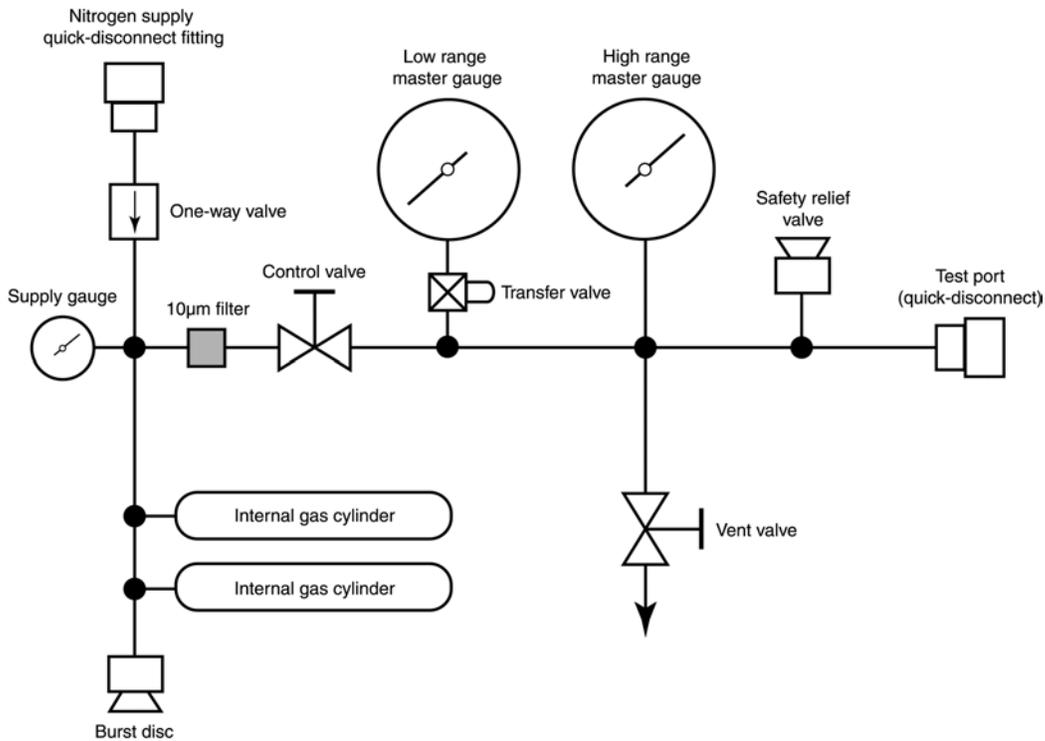
Two internal nitrogen cylinders, with a combined capacity of 180 cubic inches (14.2 std. cubic feet when charged to 2,250 psi at 70°F), permit the Model 3540 Portable Pneumatic Gauge Tester to be easily transported to remote locations—no external gas or power sources are required. The cylinders can be charged using any available high pressure nitrogen source, and are wire-wound for protection against impact. Additional safety features include “blow-out back” master gauges to protect the operator from glass breakage in the event of a malfunction, burst discs to guard against inadvertent overpressurization, and a relief valve designed to protect the test item and master gauges from damage.

During setup, the Model 3540 Pneumatic Gauge Tester is first connected to the item to be calibrated using a 5-foot-long Teflon-lined braided stainless steel test hose, which is terminated at one end with a 1/4" female swivel AN fitting. The other end is terminated with a quick-disconnect fitting that allows the test hose to double as a charging hose for the nitrogen cylinders.

To test an item, gas from the two nitrogen cylinders is metered into the test circuit via a precision soft seat control valve (see diagram below), and applies pressure simultaneously to the item undergoing calibration and the master reference gauges. This enables the operator to easily perform comparative readings.

As the pressure is increased during testing, readings are transferred automatically from the low range (0 to 100 psig) gauge to the high range (0 to 2,000 psig) gauge. A second control valve is used for venting, allowing precise downscale measurements to be performed. As the test pressure drops, the transfer valve automatically switches from the high range gauge to the low range gauge.





Precise readings are ensured by the use of Heise Model CMM master gauges as the reference standards. Each temperature compensated gauge incorporates a stainless steel multi-coil Bourdon tube with a tip bleeder for maximum accuracy, and a mirrored scale to eliminate parallax. Dual rotation of the scale pointer provides a 32-inch scale length, ensuring easy readability throughout the full range of each gauge.

All components of the Model 3540 Portable Pneumatic Gauge Tester, including the test hose, technical manuals, and other supplies, are housed in a weatherproof, compact, and rugged aluminum carrying case with a removable lid. A pressure relief valve built into the storage case protects the system from internal gas leakage during storage.

Specifications

Characteristics	Specifications
Range	0 to 2,000 psig
Accuracy	±0.1% including hysteresis
Inlet pressure	3,000 psi max
Operating media	Dry nitrogen or other inert gas
Master gauges	0 to 100 psig and 0 to 2,000 psig with expanded scale and automatic transfer. Other pressure ranges and scale units available upon request.
Control valves	Micro-metering with replaceable nylon seat
Internal cylinders	Two, 90 cubic inches each
Ports	Quick disconnect with tethered dust caps
Plumbing	All stainless steel
Hose	Teflon-lined, stainless steel wire braid, with quick-disconnect fitting and 1/4" AN swivel tube fitting. Length: 5 feet.
Case	Deep-drawn aluminum (0.060 in) with hinged lid, carrying handle, and case relief valve
Finish	Gray
Dimensions, inches (W x H x D)	18 x 12 x 11
Weight	36 lbs.

