

Model 7990 & 7990C Vacuum Station Inlet Tester

Instrument Description

These instruments are designed to test the pressure and flow capability of a vacuum station inlet. When used properly, the 7990 gauge reading will indicate the pressure and flow capability of a suction inlet.

NFPA 99 - 5.1.12.3.5.3 states that hospital minimum static pressure requirement for a vacuum station inlet in service is 12 inHg (305 mmHg) and 5.1.12.3.3.2 states that new installations must achieve a pressure of no less than 20 inHg (510 mmHg).

The Tester has a two-position switch for measuring STATIC (non-flowing) and DYNAMIC (flowing) vacuum pressure. When switched to the 'VAC' position, the gauge measures the non-flowing vacuum pressure directly. Typically this will be between 18 and 24 inHg for most hospitals. In the second position, 'NFPA', the gauge responds to the airflow and vacuum pressure collectively to provide a direct indication of the supply capability of the vacuum station inlet.

Directions for Use - NFPA Standard

1. Attach the appropriate fitting to the hose on the 7990. The fitting should be of 'New Quality'.
2. Connect the Tester to the vacuum station inlet to be tested.
3. Turn the switch to the 'VAC' position and read the gauge. This is the 'static' vacuum pressure of the system. It may change over time (several minutes) as the system bleeds down and then pumps up. This reading must be greater than 12 inHg for service outlets and 20 inHg for new installations. Note the static pressure.
4. Turn the switch to the 'NFPA' and read the gauge. Note that there will be an audible air leak through the orifice during this stage of testing. **Caution: Do not occlude this orifice when taking readings.**
5. Correlate the gauge readings from the "VAC" and 'NFPA' switch positions, to the vacuum station inlet performance chart below.

Static Pressure ('VAC')	Minimum Dynamic Pressure ('NFPA')
12 inHg	10 inHg
16 inHg	12 inHg
20 inHg	14 inHg
24 inHg	15 inHg

Interpreting Instrument Readings

If the static (VAC) reading is in the yellow (below the NFPA standard) or the dynamic (NFPA) pressure is below the minimum value, one of two situations are possible.

- 1) The most likely scenario is the pump is working properly, but that the inlet in question may be occluded. If the static reading, with the switch in the 'Inlet Vacuum' position, indicates a fairly high reading (>20 INHg), the pump system is probably OK and just the inlet is occluded and needs cleaning. Check other inlets nearby and compare readings. Clean/Replace the outlet until code flow / pressure drop can be obtained.
- 2) The pump may not be 'strong' enough to generate the minimum vacuum pressure at that inlet at that point in the day. Take readings at different times during the day. Also verify this reading at other inlets.

Fittings

The Tester is calibrated with a non-restrictive fitting such as a DISS. If other fittings are used with this Tester, they may restrict flow as much as 20%. ***The reading obtained with any fitting is valid.*** The NFPA states that minimum vacuum pressure must be maintained 'at the station inlet'. Neither standard gives an allowance for different fittings. When the Inlet Tester is used with more flow restrictive fittings, it may indicate a station inlet that is below the standard.

Calibration

The Inlet Tester is calibrated at the factory.

To maintain the factory calibration, the orifice on the instrument should be kept clean and free of debris. The instrument should be sent back to the factory for calibration every two years. Call 800-642-4945 for more information.

Instrument Specifications

Materials: Hard Anodized Aluminum, Polycarbonate, Silicone, Delrin

Inlet Fitting: 1/8-27 NPT

Measurement Accuracy: $\pm 5\%$ Flowing and Non-Flowing

Weight: 0.8 lbs

Size: 1½" Ø x 5¾" H (without hose or fittings)