



***“Why is Nitrogen necessary for the selective soldering process”***

1) Without nitrogen the solder tends to bridge and form icicles on the component leads. Nitrogen reduces the surface tension allowing the molten solder to readily break away from the solder site.

2) In an open atmosphere dross formation will overwhelm the solder pump and nozzle causing undue cleaning and pump maintenance. Nitrogen displaces the air (O<sub>2</sub>) minimizing the oxidation effects.

3) Additionally, dross normally associated with pumped molten solder is minimized with the nitrogen atmosphere. Larger nozzles require more nitrogen flow but less purity (99.99 is often adequate). Conversely, for a Lead-Free process using the smaller nozzles (B-3mm) it is strongly recommended to upgrade the N<sub>2</sub> purity to five 9's (99.999% pure). This purity helps the solder flow through the smaller orifice. Without the inert atmosphere the solder nozzle will not remain “tinned” causing the solder wave to deteriorate. The process simply will not be satisfactory without a good reliable nitrogen atmosphere.....

# KNG

## Ultra Pure Nitrogen Generators

“modules designed to provide ultra pure nitrogen for the selective soldering process”

**DESCRIPTION:**

ACE Production Technologies has partnered with On-Site Gas Systems, Inc to produce the **KNG Family of Nitrogen Generators** to complement the KISS– Selective Soldering systems. These generators are tailored to ACE’s specifications to provide adjustable purity and flow specific to your process. The generator works on the principle of compressed air passing through a series of molecular sieves. The nitrogen molecules are harvested while the O<sub>2</sub> and other gases pass through. This process is completely automated requiring only compressed air.

The generators are turnkey requiring only 115VAC and compressed shop air. The controls are all solid state with a color touch screen interface. A digital oxygen meter (included) displays the PPM of oxygen so you can be assured of absolute purity.

The KNG generators are available in varying sizes to match the demands of single and multiple KISS machines. They provide continuous high quality nitrogen that is less expensive than cylinder service.

**SPECIFICATIONS:**

- Fully automatic with pressure switch
- Pre-filters and pressure regulator
- Control panel with gauges, hour meter, and power switch
- Built-in Oxygen Analyzer
- Three way Purity Exchange Valve
- ASME Stamped beds
- Includes maintenance filter pack

**FACILITIES:**

- Power 115VAC/1 Ph/60 Hz
- Air Supply Air supplied to the generator must be a minimum of 110 PSI and between 100°F/38°C and 33°F/0.5°C, with a water dew point of 40°F / 5°C or below.

Generator Size	Flow at 99.999 purity	Flow at 99.995 purity	Flow at 99.99 purity	Generator Footprint	Tank Size (gallons)	Weight
1 KNG-25 (for 1 KISS machine)	58	86	113	L= 16" W= 20" H= 66"	60	710
2 KNG-50 (for 2 KISS machines)	116	171	226	L= 24" W= 30" H= 93"	80	1050
3 KNG-75 (for 3 KISS machines)	174	257	339	L= 24" W= 30" H= 93"	120	1500
4 KNG-100 (for 4 KISS machines)	232	342	452	L= 24" W= 30" H= 93"	180	1800
5 KNG-125 (for 5 KISS machines)	290	428	565	L= 30" W= 34" H= 96"	240	2250