

CPS®

VG200

DIGITAL VACUUM GAUGE

Owner's Manual



VG200

The **VG200** is the state of the art digital electronic vacuum gauge designed to accurately monitor the entire evacuation process from start to finish. The VG200 has been designed to be rugged and reliable. The VG200 incorporates 2 keys and an LCD display. One key simply turns the unit ON and OFF. The other key allows the user to change between MICRONS, MILLIBAR, TORR and INCHES HG VAC any time during the operation of the unit. An advanced ambient compensating design automatically compensates for varying temperature conditions with no manual adjustments needed.

INCLUDED: gauge hook, adapter "T-fitting" and a padded vinyl case.

VACUUM LEVEL INDICATORS

Atmospheric Pressure to 25" hg vac

-Indicated by the top bars are energized.

Pressure between 25" hg vac to 100,001 microns

-Indicated by the top, middle bars are energized.

Pressure between 100,000 and 76,001 microns

-Indicated by the top, middle and bottom bars energized

Pressure between 76,000 to 50,001 microns

-Indicated by the middle and bottom bars are energized.

Pressure between 50,000 and 25,001 microns

-Indicated by the bottom bars energized

Pressure between 25,000 microns and 0 microns

-Displayed as a number on the LCD display

OPERATION

The versatility of the VG200 design allows the technician to attach the unit in the following configurations:

- a) **Connect directly to the service manifold gauge set** (using the included "T-fitting").
- b) **Connect directly to the refrigerant system service ports** (using the included "T-fitting").
- c) **Connect directly to one of the two of the refrigerant systems service ports.**
- d) **Connect directly to the vacuum pump** (using the included "T-fitting").
- e) **Mount directly on to a 4 or 5 valve manifold.**

After attaching the VG200 in one of the above recommended configurations, depress the ON key to activate the unit. Upon start up, the LCD will display the software version number. Once the LCD displays a moving cursor or vacuum level, depress the unit's key until the desired units or measure are shown. Next, initiate the evacuation process (start vacuum pump) and monitor the VG200 until the desired micron level is achieved.

BATTERY INDICATOR

(with BAR GRAPH power level indicator)

The battery indicator is shown on the LCD as a battery shape with a 3 segment Power Level Bar Graph:



100% (3 segments) of Bar Graph-	Battery at 100% to 80%
67% (2 segments) of Bar Graph-	Battery at 80% to 60%
33% (1 segment) of Bar Graph-	Battery at 60% to 20%
0% (0 segments) of Bar Graph-	Battery at 20% to 5%
Dashes across the Display-	Battery below 5%, replace

Note: If the Low Battery indicator cannot be resolved with a new battery, See Sensor Maintenance section.

VACUUM PUMP CHECK

Contaminants quickly form in the oil of a vacuum pump. The contaminated oil can severely inhibit the performance of a pump and eventually cause damage to the pump itself. The VG200 incorporates a unique vacuum pump check designed to test the performance of a vacuum pump **BEFORE** it is used to evacuate a system. Simply attach the VG200 directly to the vacuum pump and watch the display as it measures the performance of the vacuum pump.

Note: Different sizes and brands of vacuum pumps will experience varied results. Check the specifications published by the manufacturer of your vacuum pump to determine the ultimate vacuum level your pump can achieve. Many published specifications state that pumps rated between 2 & 8 CFM should experience an ultimate vacuum between 15 and 50 microns.

SENSOR MAINTENANCE

Note: If the Low Battery indicator does not de-energize after replacing with a brand new battery, the VG200 sensor is saturated with Oil or other contaminants. Please proceed with the cleaning processing below.

The VG200 incorporates an easy to clean thermistor sensor, which cannot be damaged from exposure to positive pressure or oil mist. To clean the VG-200's thermistor sensor, simply invert the unit and pour approximately 1 tablespoon of **100% DENATURED ALCOHOL** directly into the sensor housing. Gently shake the unit to produce a swirling effect of the cleaning solution in the housing. Then, pour the remaining cleaning solution out. Repeat this procedure until the alcohol appears to be clean and clear of oil when removed from the sensor housing. Then, allow the sensor to air dry (**DO NOT BLOW DRY**). Check the gasket located inside the nut during sensor maintenance. If the gasket appears to be torn or deformed, replace it with a new gasket (CPS P/N:HXG, includes 10 replacements).

SPECIFICATIONS

SENSOR:

TYPE: Self-heated thermistor bridge with integral temperature compensation from 0 to 50 °C (32 to 122 °F).

OPERATING PRESSURE RANGE: Atmospheric pressure to 0 microns
Maximum Working pressure: 600 PSIG

BURST PRESSURE: 3000 PSIG

OPERATING RANGE: Atmospheric to 0 microns

ACCURACY: +/- 10% of Reading.

OPERATING TEMPERATURE RANGE: Compensated (accuracy as stated):
0°C TO 50°C (32°F TO 122°F) Non-compensated (add +/- 0.5% error for every °C outside compensated range): 0 to 50°C (-22 to 158°F)

OPERATING & STORAGE HUMIDITY: 0-95%, non-condensing.

STORAGE TEMPERATURE: -40 to 85°C (-40 to 185°F)

POWER SOURCE: One 9 volt alkaline battery (ANSI 1604AC – IEC 6LR61)

BATTERY LIFE: 20 hours of continuous use. Instrument shuts itself off after 5 minutes of operation.

WEIGHT: 153 g. (5.5 oz.) excluding the battery.

DIMENSIONS: 68 mm. diameter by 40 mm. deep by 124 mm. overall height (2.7" dia. by 1.6" deep by 5" overall height).

MECHANICAL CONNECTION: Standard 1/4" female SAE refrigerant hose type with core depressor.

BATTERY INDICATOR: Battery symbol with 3 segment Power Level Bar Graph.