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# Agtron E20-CPIII




**Improved Linearity:** The Agtron E20CPIII uses the same chemistry based analysis strategy as the E10CP but roast scores now correlate more exactly to the sensory assessment of roast development. The E20CPIII has a correlation tolerance to the related compound group of 0.50%. The E10CP that it replaces had a 4.0% correlation tolerance.

**Solid State Lamps:** The E20CPIII uses substrate-based solid-state NIR illumination eliminating the need to replace lamps. This new illumination features electronic regulation. As a result, the analyzer is extremely stable and impervious to line voltage fluctuation and transients. The design MTBF of the light source is 100,000 hours.

**Fully Automated Calibration:** The E20CPIII features display prompted two-point Bulk Calibration. The two-point method improves long-term control over both the analyzers slope and span compared to the E10CP's single-point strategy. Bulk Calibration is required only once every 24 hours and takes less than one minute. Between Bulk Calibrations, the analyzer self-calibrates whenever the operator opens the sample drawer. This automatic self-calibration feature ensures the highest accuracy for every sample tested and requires no attention from the operator. A "RE-CALIBRATE" reminder appears on the display ever 24 hours to prompt Bulk Calibration, inspiring correct calibration practice.

**Expanded Scale Display:** When the Scale Expansion function is selected (F1,F2,F3) the analyzer's normal fullscale reading limit of 99.9 is expanded so that the analyzer can read scores over 100.0.

For example, if a multiplier of 2.00 is specified by the user in the Scale Expansion mode, and the root Agtron product score is 69.4, then the analyzer without this function would display 99.9 (full scale limit). With this function, the analyzer will display 138.8(69.4 x 2.00).

**Calibration Flexibility:** The E20CPIII can be calibrated to either of two Agtron industry standard scales; The Commercial Scale or the Gourmet Scale. It is easy to move from one scale to the other. In addition, either scale can be expanded or compressed using an operator defined factor invoked by a special function key. Three such factors can be stored in computer memory. Users may also define their own "Custom" scale by assigning desired scores to product samples. This may be desirable when setting Q.C. windows of acceptability for certain product groups.

**Data Storage Capability:** This allows the user to store 300 product readings in non-volatile memory and download the data to Windows based spreadsheet.

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**Keypad Entry of Calibration Values:** All inputs and commands are now entered using a keypad. There are no finicky knobs to turn or complicated procedures to follow, a vast improvement over the E10CP.

**High Contrast Backlit LCD Display:** Can be viewed in any ambient light.

**Dual Microprocessor Design:** The E20CPIII has an all-new computer and interface board. By incorporating dual microprocessors, maximum flexibility for application/software development is accommodated. Future upgrades can be performed quickly and cost-effectively.

**Non-Volatile Memory:** The E20CPIII stores calibration values or customer selected configurations even when power is disconnected.

**Super-Regulated Solid State Power Supply:** The E20CPIII power supply is an all-new design. Super line-load regulation allows the analyzer to function normally and accurately even in "brown-out" supply line conditions. As an example, the 120VAC, 60Hz version of E20CPIII will operate within specification at line voltages as low as 100V or as high as 140V. Electrical isolation protects the analyzer from the types of line voltage transients common to industrial environments that can cause damage to sensitive electronics.

**High Resolution A/D Converter:** The E20CPIII uses a 12bit A/D converter with over 4000 useable increments for data conversion. With a resident incremental conversion resolution of 0.025% and a system resolution of 0.10%, extreme accuracy is inherent.

**Excellent Agreement with other E20CPIII's:** One of the design priorities of the E20CPIII was to improve the "analyzer to analyzer" agreement within the E20CPIII family and over indefinite periods. Specifications require an inter-instrument product correlation of 0.40% and long-term correlation of 0.80%. This is an order of magnitude improvement over the E10CP. Combined with the two-point Bulk Calibration, a high level of inter-instrument agreement can be maintained, even with analyzers in remote locations.

**Non-Critical Internal Calibration Standard:** Each time the Bulk Calibration procedure is completed, the internal computer reestablishes the auto-calibration reference. This means that internal calibration disk used for auto-calibration is no longer critical to performance as with the E10CP. Even if the disk gets scratched or chipped during periodic cleaning, it will not affect automatic calibration or analytical accuracy. The E20CPIII's internal standard can also be replaced in under a minute with an "off the shelf" standard stocked item

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