

Brand Comparison for Electric Programmable Pressure Cookers

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Introduction:

Electric Programmable Pressure Cookers (EPPCs) have increased in popularity the last few years. Pressure cookers have been noted for their ability to decrease cooking time (Rocca Poliment et al. 2011) and reduce energy consumption at high altitude (Neinhuys, 2009), and the nutrient quality of pressure cooked food is equal to or higher than that of foods cooked by other methods (Vallego et al. 2002).

When choosing a pressure cooker, the consumer has many different options available as well as conflicting guidelines on what to look for (Consumer Search, Good House keeping, Galtech). EPPCs are referred to as the third Generation of pressure cookers and are promoted as being safer and easier to use than the traditional stovetop models (Carter, 2012). They typically have a pre-set pressure regulator with multiple pressure settings.



Methods:

Four different brands of EPPCs, Cuisinart, Deni, Fagor, and Nesco were tested using five different foods, at four different altitudes. A HITemp Autoclave temperature data logger was used to determine the pound pressure per square inch (psi) in each EPPC. (Proctor, Serfustini, Haws, Hunsaker & Allen, 2013). The four different brands were compared for cost, wattage, cord, pounds of pressure (psi), safety warnings, venting system, safety valve, regulator valve instructions, use and care manual, panel readability, cleaning, maintenance, storage recommendations, and special features. These features were evaluated using 4 = excellent, 3 = good, 2 = fair, and 1 = poor for descriptors.

Results:

Electric Programmable Pressure Cookers	Fagor 6-quart Plus Series Model: 670040230	Cuisinart 6-quart Model: CPC 600	Deni 5-quart Model: 9700	Nesco 6-quart Model: 9700
Cost	\$99.95	\$93.99	\$96.90	\$73.99
Wattage	1000	1000	900	900
Cord	Hard Wired	Removable	Hard Wired	Removable
Use & Care manual	Trouble-shooting limited	Comprehensive trouble-shooting and safety	Trouble-shooting limited	Not as thorough or well outlined, some basic
psi as listed in the care manual	9 High, 5 Low	Not in use & care	10 High, 5 Low	Not in use & care
top temperature psi from Data logger	5 psi	15 psi	5 psi	7 psi
Panel Readability	Easy to read	More options Sometimes confusing	Easy to read	Easy to read
Storage Recommendation	None	Do not store with lid on tight	None	None
Special Features	Warm, brown, steam, slow cook	Warm, brown, steam, High/Low	Warm, brown, steam, slow cook	Warm, brown, steam, slow cook
Cleaning & Maintenance*	3	3	3	3
Safety Warnings*	4	4	4	4
Vent System for Quick Release*	4	1	4	2
Safety Valve*	3	4	3	3
Regulator/Valve Instructions*	4	2	3	4
Overall Rating*	3.6	2.8	3.4	3.2

*Key: 4=Excellent 3=Good 2=Fair 1=Poor

Electric Programmable Pressure Cookers

Conclusions:

The Instruction booklets varied widely in the information included, and on the amount of detail in the instructions given. Based on our trials, all four of the Electric Programmable pressure cookers performed well when following Manufacturers instructions at elevations less than 3000 ft. We found that cooking times need to be increased for many foods, including meats, at elevations over 5000 feet (Proctor, Serfustini, Haws, Hunsaker & Allen, 2013). Surprisingly, the effects of altitude were only addressed in one of the instruction manuals, and only two of the instruction manuals list the actual psi for "high" and "low" settings. Considering how important this information is to determine how long to cook many types of foods, the actual operating psi was determined using a HiTemp Autoclave Temperature Data Logger thermometer. The differences in the listed psi (from the owner's manual) and the actual psi (based on data logger measurements) are given in the previous table. The testing indicated that the higher the altitude, the lower the actual psi in all of the EPCCs. The Cuisinart reached the highest psi 15 and functioned better than the other brands at higher altitudes. The Nesco reached a psi of 7, while Deni and Fagor only reached a psi of 5 as recorded by the HiTemp data logger. Because none of the EPCC manuals gave practical and accurate information for high-altitude cooking, we recommend using a thermometer to confirm that meats have reached a safe temperature. At elevations 5000 feet or above, only EPCCs with a high pressure setting of 15 psi should be used (Proctor, Serfustini, Haws, Hunsaker & Allen, 2013).

Despite having the best high-altitude performance, the Cuisinart received the lowest overall ratings. The electronic panels, although different on each of the EPCCs, were easy to use with good instructions on use. The locking lid safety features worked well, making the EPCCs appliances safer to use. The venting systems had the greatest variation in the appliances. The Deni and Fagor used spring loaded venting systems and were the easiest to use, while the Nesco and Cuisinart used a drop slot system. The slot system allowed steam to escape if not completely secured, and needed adjustment when building pressure during use. The appliances had various added features in that some steamed, browned, and/or could be used as a slow cooker. The Cuisinart did not list a slow cooker, but used a high and low setting. All tested EPCCs were fast and convenient, but considering the cost of these appliances we recommend selecting a model carefully. Based on our experience, the following features are the most important to consider before purchasing an EPCC that will be used at high altitude:

1. Safety Valve - Look for a safety valve that locks the appliance while still under pressure.
2. Vent System for Quick Release - Spring loaded venting systems deliver the best and most consistent performance.
3. High pressure setting of 10psi or above - When purchasing a EPCC check the booklet or call the manufacturer for the psi information. Altitude will impact cooking times, for higher elevations a 15 psi EPCC is recommended.
4. Detailed trouble shooting/safety sections in User's Manual - EPCC manuals should be complete with thorough instructions on use and care.

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