BBQ PIT BOX®
Cabinet Smokers
professional barbecue-cookers

User manual
Side Firebox / Gravity-Feed models
(GF-S, GF-M, GF-L, GF-L plus)

About the BBQ Pit Box® Cabinet Smokers

- **The BBQ PIT BOX® Cabinet Smokers** (from now on: cabinet smokers, smokers or cookers) **are professional barbecue-cookers.**
- Recommended both for private and professional / catering use.
- The BBQ PIT BOX® Cabinet Smokers are originally designed for outdoor use, however it may be used indoors, in closed areas. Please read the chapter titled **The BBQ PIT BOX® Cabinet Smokers Indoor Use.**
- Two main product lines of the BBQ PIT BOX® Cabinet Smokers:
    - **Side-Firebox / Gravity-Feed charcoal smokers** (at present in 5 sizes)
    - **Bottom-Firebox / Reverse-Flow charcoal smokers** (at present in 4 sizes)
    - ➢ See up-to-date products range in the Appendix.
- The BBQ PIT BOX® Cabinet Smokers are charcoal-smoker constructions with the possibility of using smoking wood.
- The BBQ PIT BOX® Cabinet Smokers are excellent for preparing barbecue-style food, namely cooking for long hours in a low temperature range (100-140°C / 210-280 °F).
- Using a smoker requires both patience and experience. In case you have less experience with barbecue-style cooking techniques, please read literature in this topic and start using the smoker with patience and in small steps.
- Recommended reading material:
    - www.nyarspolgar.hu
    - Kócsa László – Adorjányi Máriusz: BBQ Expedíció (chefparade, 2016)
    - English language literature:
        - ➢ *Tim Byres: Smoke – New firewood cooking*
        - ➢ *Franklin Barbecue – A meat-smoking manifesto*
        - ➢ *Chris Lilly: Big Bob Gibson's BBQ Book*
        - ➢ *Meathead: The Science of Great Barbecue and Grilling*
        - ➢ *Adam Perry Lang: Serious Barbecue*
        - ➢ *Joe Carroll: Feeding the fire*

General technical features:

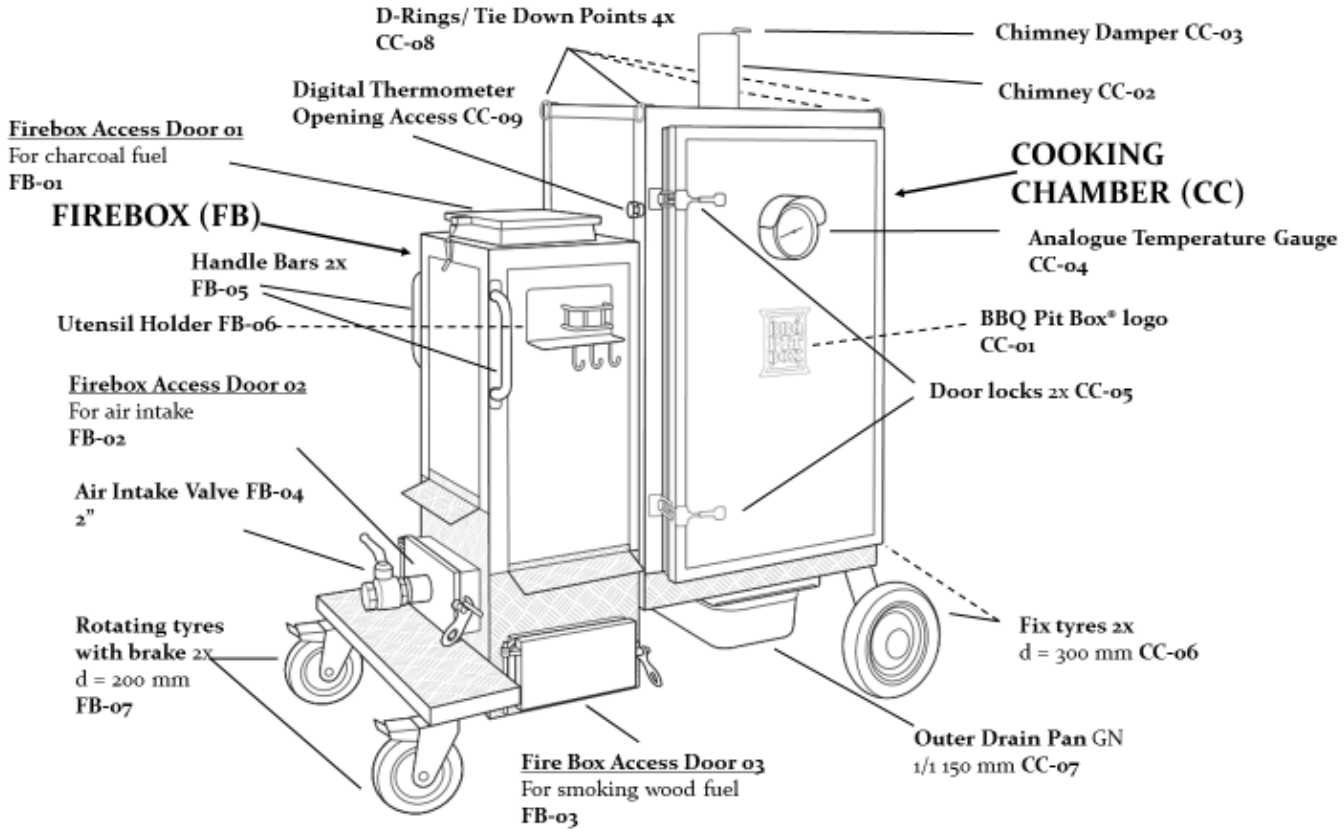
- Firebox and Cooking Chamber inner walls: LV4 sheet, S 235 material quality
- Combustion Chamber: LV10 sheet, S 235 material quality
- Hollow section frames: 30x30x2
- Hollow section braces: 30x15x2
- Coating: LV1,5 sheet, powder-coated paint
- Fire Grate Access Doors: sintered, heat-proof black paint
- Chimney Damper: Heat-proof, matte black paint
- Brushed aluminium edge protectors
- Hollow section frame, expanded steel cooking grills
- Heat-proof (up to 600 °C) fibreglass door insulation in the Cooking Chamber
- Heat-proof (up to 900 °C) ceramic door insulation in the Firebox
- Heat-proof (up to 1200 °C) rock-wool insulation between the inner walls and coating of the Cooking Chamber and the Firebox.
- Solid rubber tyres: 2x fix, 2x tyres with rotating brakes

Manufacturing background:

Every single BBQ PIT BOX® Cabinet Smoker is a unique piece, handmade by qualified metal-workers, with industrial background and technology.

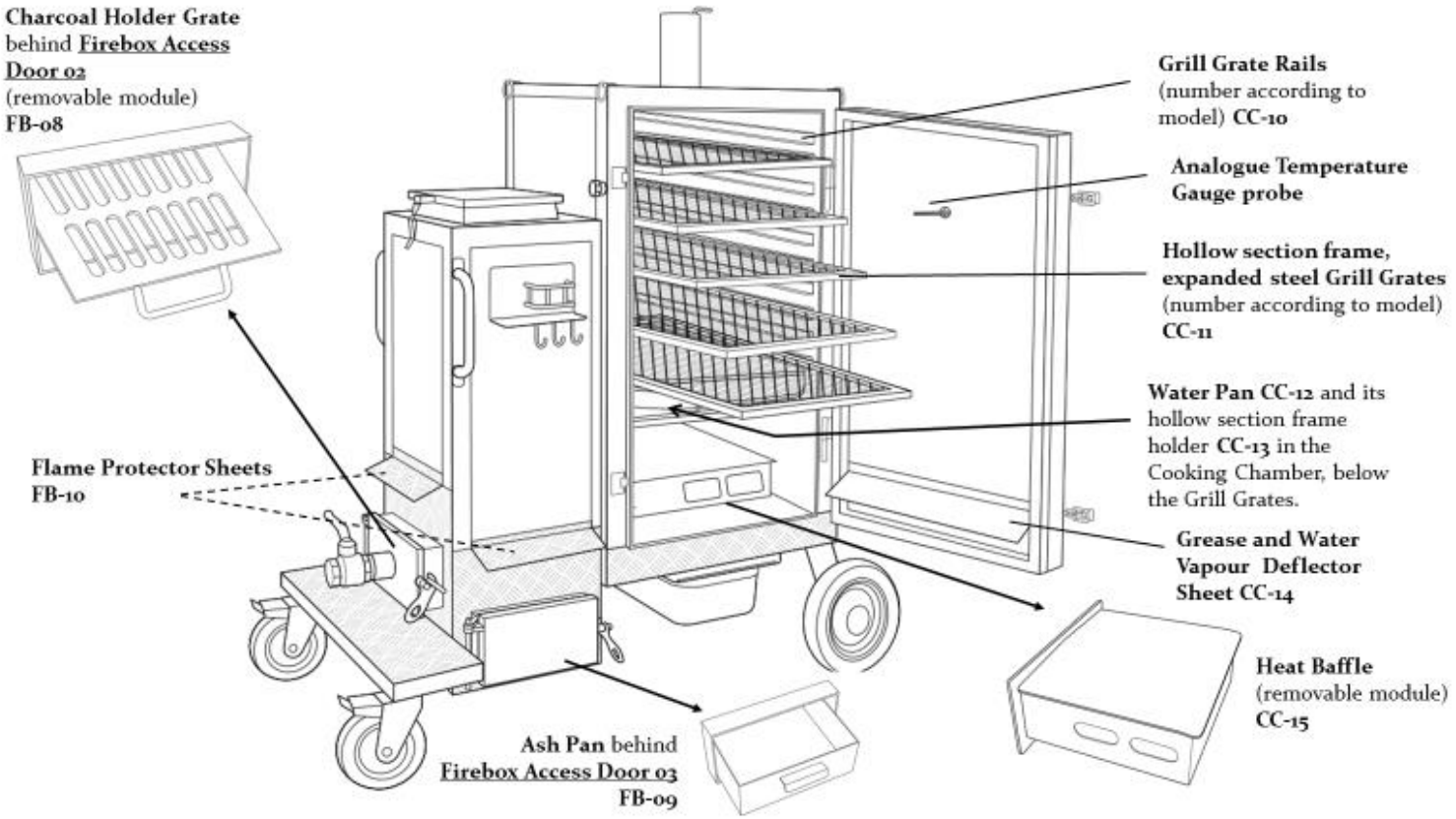
- Materials cut with plasma cutter
- Consumable metal electrode and AVI manual welding
- Walls bent with hidraulic bending-off press
- Detailed workmanship process

BBQ Pit Box® Cabinet Smokers structure/ **Side Firebox / Gravity-Feed models**



** The image above is based on Model GF-S.*

BBQ Pit Box® Cabinet Smoker structure/ **Side Firebox/Gravity-Feed models with open Cooking Chamber**



∗ The image above is based on Model GF-S.

FIREBOX (FB – *Firebox*)

Firebox Access Door 01 (FB-01)

- Access door for fuel - namely charcoal or charcoal-block - input.
  Lock tautness can be set with wrench nr. 8.

Firebox Access Door 02 (FB-02)

- Access door for air intake control. It is only open while heating up or regenerating Cooking Chamber temperature.

Firebox Access Door 03 (FB-03)

- Opens to Ash Pan, which can be taken out through this door. It is open while cleaning and adding smoking wood fuel.

Air Intake Valve (FB-04)

- Nr. 1 control of charcoal burning in the Firebox. When appropriately used it can stabilize and fine-tune the Cooking Chamber temperature and ventillation.

Handle Bars 2x (FB-05)

- Used for pushing and moving the smoker.

Utensil Holder (FB-06)

- Various grill utensils can be stored on the hooks. There is also a bottle opener.

Rotating tyres with brakes 2x (FB-07)

- Used for moving and braking the smoker. Standard size: d = 200 mm. Solid rubber tyres, bearing capacity: 500 kg/ tyre.

Charcoal Holder Grate (FB-08)

- Central part of the Firebox as the fuel is burning on it. Oxygen gets to the fuel from below, through the grates. Removable module.

Ash Pan (FB-09)

- Double function:
  1) Smoking wood fuel placed here is slowly igniting and burning by the dropping burning charcoal pieces from the above Charcoal Holder Grate.
  2) Cleaning pan: ash collector and can be taken out for cleaning when it is cold. Removable module.

Flame Protector Sheets (FB-10)

- In extreme cases (e.g. inappropriately open door) it can happen that small-sized flames get out from the bottom Firebox Access Doors. The Flame Protector Sheets prevent these flames to reach the powder-coated casing of the smoker.

COOKING CHAMBER (CC – *Cooking Chamber*)

BBQ Pit Box® logo (CC-01)

- We are proud that the BBQ Pit Box® smokers are made in Hungary. Therefore our logo is in the middle of the Cooking Chamber door.

Chimney (CC-02)

- The other main element in the heat ventillation of the Cooking Chamber apart from the Air Intake Valve (FB-04). The ventillation in the Cooking Chamber is sustained by the Chimney downdraft.

Chimney Damper (CC-03)

- Regulates chimney downdraft intesity.

Cooking Chamber Analogue Temperature Gauge (CC-04)

- Gives important information on the Cooking Chamber inside temperature.

Cooking Chamber Dook Locks (CC-05)

- Responsible for airtight closing of Cooking Chamber.
  Lock tautness can be set with wrench nr. 10.

Fix tyres 2x (CC-06)

- Used for moving the smoker. Standard size: d = 300 mm. Solid rubber tyres, bearing capacity: 500 kg/ tyre.

Outer Drain Pan (CC-07)

- Juice and grease from the meat while cooking partly arrives here. In case of cleaning the cooker with water, it also arrives here.

D-Rings / Tie Down Points (CC-08)

- Fastening the smoker while transporting.

Digital Thermometer Opening Access (CC-09)

- Various digital meat and grill grate thermometer wires can be entered through this into the Cooking Chamber.

Grill Grate Rails (CC-10)

- Grill grates are to be put here; they are variable.

Grill Grates (CC-11)

- Standard equipment, hollow-section frame, expanded steel grates.

Water Pan (CC-12)

- Double function:
    1) Collecting juice and grease from the meat while cooking.
    2) Heat-flow, heat-stabilizing.

Water Pan Holding Rail (CC-13)

- Water Pan goes here. Always put the empty pan on the grate and only then pour water in it.

Grease and Water Vapour Deflector Sheet (CC-14)

- Responsible for deflecting the water vapour and grease from the Cooking Chamber door inner side.

Heat Baffle (CC-15)

- The soul of the Cooking Chamber: it slows down the heat from the Firebox, releases it evenly into the Cooking Chamber.

Safety Instructions

- **Please read and follow these instructions before using your BBQ Pit Box® smoker.**
- **Cooking is dangerous and improper use may result in fire, serious injuries, accidents and even death.**

General Safety

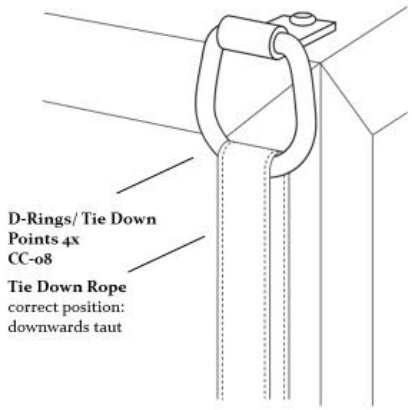
- Use the smoker carefully, in sober state and patiently every time.
- Using the smoker is recommended for people over the age 18.
- Only use this smoker on a hard, level and non-combustible surface.
- The smoker must not be used on any combustible and unstable surface.
- The weight of the BBQ Pit Box® Cabinet Smokers Charcoal models is 160-760 kg (350 – 1700 lbs) (See product specifications in Appendix). Only use them on statically suitable surfaces.
- Make sure there is at least 10 m clearance between the unit and any combustible materials such as bush, trees, wooden decks/fencing and buildings.
- Do not leave the smoker unattended and keep children and pets away from the unit at all times.
- Before using the smoker, brake the rotaring tyres at all times.
- Do not attempt to move the unit whilst in use.
- Use extreme caution when adding charcoal or wood.
- Wear closed shoes while using the smoker, especially when working with hot charcoal.
- Certain surfaces of the cooker can get very hot whilst in use, especially the 3 Firebox Access Doors. Therefore use BBQ/oven mitts at all times when touching them or setting the vents, etc.
- Only pour water in the Water Pan when the pan is already in place in the cooker. Never pour water in the pan first and then try to put it inside. The water might splash on the hot surface of the Cooking Chamber. Try to avoid this.
- **Never pour water on the charcoal for cooling purposes.** Instead close the Air Intake Valve and the Chimney and wait for the charcoal to burn down.
- Make sure that the charcoal ember and ash is cooled down after use and before emptying the cooker. Only leave the smoker unattended after this.
- It is recommended to keep a fire-extinguisher near the smoker.

Moving the smoker

- Before moving the smoker make sure that the surface is appropriate for moving.
- Make sure that nobody stands in the way of the moving smoker.
- The smokers are rather heavy, so only move them if you consider yourself physically strong and healthy.
- The BBQ Pit Box® Cabinet Smokers are massive, heavy constructions. This is the key in their heat flow and cooking stability. However these features make the moving quite difficult. We recommend the followings:
    - In case you often move the smoker, e.g. taking it to events, etc., please prepare the necessary equipment and manpower to move it.
    - Do not get the smoker down from anywhere, e.g. trailer, in a way that it lands on the wheels.
    - Do not move the smoker on stairs so that any side of it would land on the wheels.
    - The smoker should be moved between levels by appropriate number of people or by forklift.

Transport and fastening

- The **D-Rings / Tie Down Points** on the four corners of the Cooking Chamber are for fastening.
- Do not lift the smoker with the D-Rings.



- Never fasten the smoker on the top of the Cooking Chamber, as you can damage the coating sheet.
- The BBQ Pit Box® Cabinet Smokers can be transported both on trailers or inside vans.
- Before leaving make sure that the smoker is securely fastened.
- Make sure that the tyre brakes are on.
- Make sure that no objects can damage the smoker coating during transport.

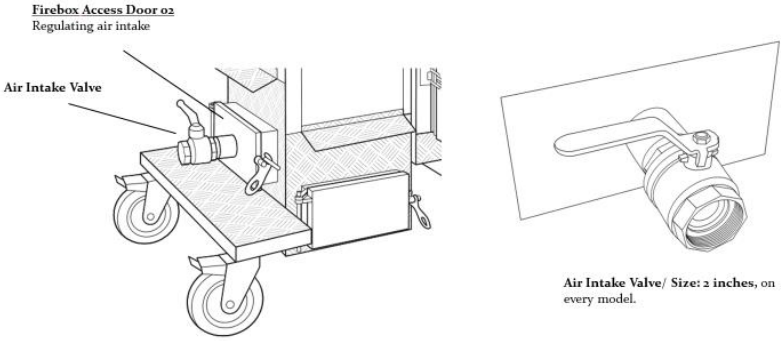
General Instructions

- The BBQ Pit Box® Cabinet Smokers are originally designed for outdoor use.
- Only use them indoors:
    - on your own responsibility, after consulting with experts,
    - with proper air ventillation and keeping all the fire safety regulations.
- Further information on this topic: **The BBQ PIT BOX® Cabinet Smokers Indoor Use** chapter**.**
- Do not use instant lighting charcoal, or flammable liquids.
- **We recommend using natural, winnowed – so called egalised - charcoal.** It is necessary to point out that the quality of the commercially available charcoal is very different. Please always read the description – especially the ingredients - on the packaging before buying charcoal. Make sure you use the best possible quality during cooking.
- **Certain charcoal-blocks and coir briquettes are also suitable for the smoker.** However, you need your own experience in using these and be familiar with their effects. In case you use a new fuel, please pay attention to the reactions and the operation of the cooker.
    - There are certain briquette types which burn fast even with smaller air intake, therefore they cause overheating or can be stabilized with more difficulty.
    - The BBQ Pit Box® Cabinet Smokers were developed by using large pieces of natural lumpwood charcoal. Such problems cannot happen if good quality charcoal is used.
- We do not recommend using any other fuel types.
- The BBQ Pit Box® Cabiner Smoker Side/Bottom and Back-Firebox / Gravity Feed models must not be operated by using wood. Barbecuing with wood burning requires a different structure, as wood works differently from charcoal.
- Do not overheat the smoker. Cooking Chamber temperature over 250°C (480°F) is strongly not recommended.

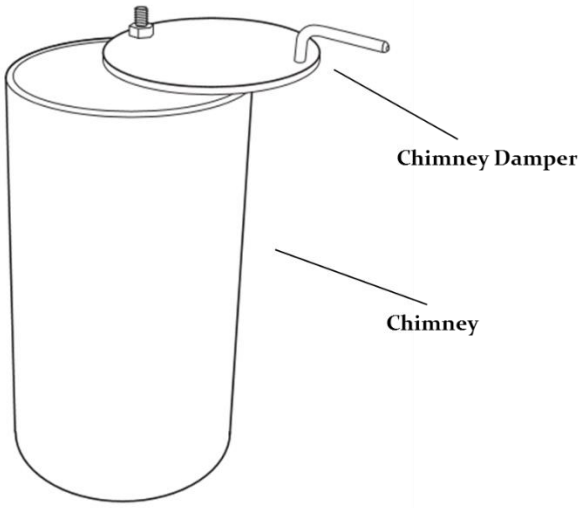
Basic information and instructions for cooking in the BBQ Pit Box® Cabinet Smokers

- **Heat-flow in Side-Firebox smokers. The Firebox and the Cooking Chamber are two different units** in these models**.**
    - The charcoal burns in the bottom part of the firebox, in the combustion chamber, right over the Charcoal Holder Grate. The necessary oxygen is coming from below, through the Charcoal Holder Grate via the Air Intake Valve on Firebox Access Door 02.
    - **The heat arrives through a grate, which is exactly on the border of the Firebox and the Cooking Chamber.**
    - The heat arrives in the **Heat Baffle (CC-15)** in the Cooking Chamber. This removable part slows down the heat from the Firebox and releases it evenly into the Cooking Chamber.
    - The **Chimney** opens from the middle of the Cooking Chamber in the Side Firebox models. It creates a unique flow mechanism with intense downdraft. **The heat and smoke arrives in the Cooking Chamber at the bottom.** Then it slowly and evenly spreads though the Heat Baffle and finally **leaves via the Chimney up and middle**.
    - The lit charcoal in the bottom of the Firebox gradually burns down and becomes ash. Then only the bottom layer of the later filled up unlit charcoal will burn on the holder grate. The unlit charcoal takes the place of the earlier burnt lumpwood as a result of weight and gravity. This is why the model is called: GF – gravity feed.

- **Air Intake regulation.** There is a **Firebox Access Door 02** on the Firebox of the BBQ Pit Box® Side-Firebox Cabinet Smokers. There is also an **Air Intake Valve**. The **Chimney** is on the top of the Cooking Chamber.
    - The inner temperature of the Cooking Chamber can be regulated by the Firebox Access Door 02 and the Air Intake Valve on the door.

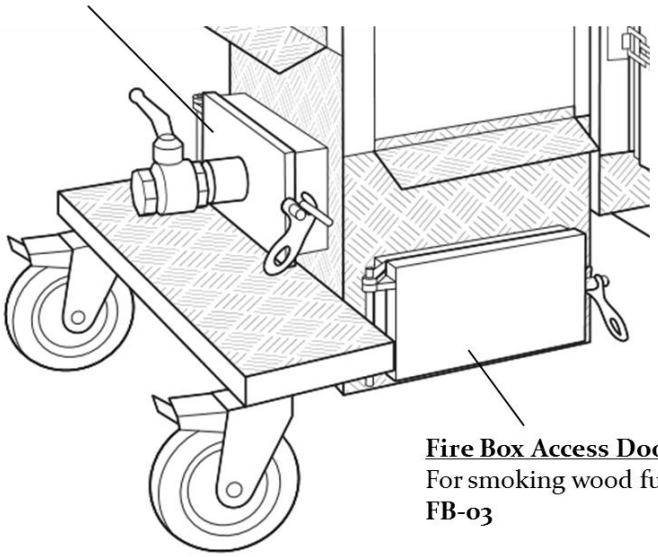


- The more open they are (either the door or the valve) the more oxygen flows into the Firebox and the temperature increases in the Cooking Chamber.
- The Chimney needs to be open while heating up. During the rest of the cooking, and in case of certain models to various extent, we can control the temperature by closing the Chimney to create the ideal heat and flow.



- The two doors on the bottom of the Firebox **(Firebox Access Door 02 & 03) must never be open at the same time!** In this case the heat energy leaves through one of the doors and the essential heat-flow will not be created.

Firebox Access Door 02
For air intake
FB-02



Fire Box Access Door 03
For smoking wood fuel
FB-03

About barbecue in general

Barbecue (BBQ) = it is first and foremost a food cooking technique. Long-time cooked meat on simmering fire with wood or charcoal generated indirect heat, traditionally in the 110-120°C (230-250°F) temperature range, but definitely below 150°C (300°F).

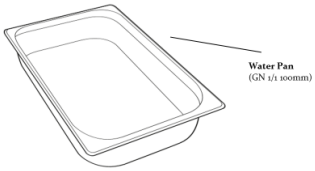
The manufacturer of the BBQ Pit Box® interprets the concept of barbecuing strictly according to the above stated definition, as it is accepted in the traditional barbecuing regions (south-east states of the USA).

Barbecue-cooking: The barbecue-style cooking can typically last between 3-14 hours, in a low temperature range (110-120°C/230-250°F). The temperature of all grill grates levels off in the Cooking Chamber, therefore we can cook on all grates with the same efficiency.

- The BBQ PIT BOX® Cabinet Smokers are extremely efficient barbecue-cookers.
- After heating up the cooker, the inner walls become hot and perfectly stable temperature and heat flow can be established with fine-tuning the Chimney Damper and the Air Intake Valve. This creates ideal environment for tender but superbly efficient cooking of meat in big quantity.

- **The meat is being cooked in intense flow on the grates.** Moreover, the thick walls adsorb the heat and as the Cooking Chamber is insulated and there is no heat egress, **the inner walls radiate the heat in every direction into the Cooking Chamber**.

- **Water Pan in the Cooking Chamber.** The Water Pan is set in the lower section of the Cooking Chamber in every BBQ PIT BOX® Cabinet Smokers.
  - **<u>Primary function of the Water Pan:</u> collecting juice and grease from the meat.** As the Cooking Chamber is vertical a lot of grease leaves the meat during barbecuing and using the Water Pan can help us to avoid the grease getting onto the bottom of the cooker and causing inconvenient smell and smoke.



- **<u>Secondary funtion of the Water Pan:</u> heat-flow and moisturizing.** The position of the Water Pan is between the meat and the hottest and lowest region of the cooker. Therefore it partly supports stabilizing the cooking temperature, cooling the smoke and moisturizing the cooking environment.

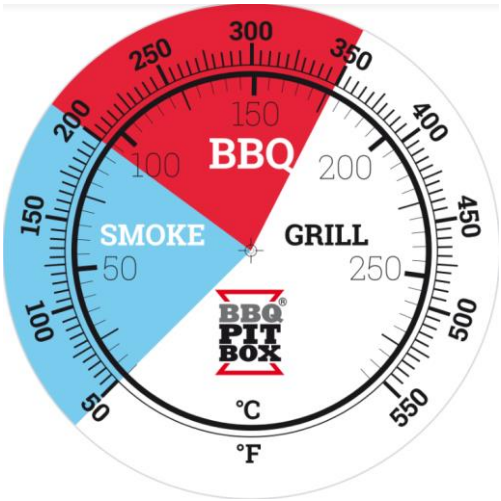
- **<u>Important note:</u>** contrary to the so-called water smokers, the role of the water and water pan is not primary in the BBQ PIT BOX® Cabiner Smokers. Due to their construction these smokers are stable enough without a water pan and there is no need for extra moisturizing in the Cooking Chamber. It has a secondary, minor effect on heat flow, but even with this, the primary function of the Water Pan is to collect juice and grease from the meat.

- It is recommended to put aluminium foil into the pan before pouring the water in. This makes the cleaning much easier.
- It is recommended to pour only ¾ part water in the pan in all smoker types. If you do it with hot water you save energy and it makes heating up faster.

- **Heat-flow role of the Water Pan:** the Water Pan is located above the **Heat Baffle** in the Side-Firebox models. The bottom-upwards flowing heat hits the Water Pan and gets into the upper regions to the Grill Grates by flowing around the pan. Therefore - above a certain heat-flow speed - the meat can be cooked with higher intensity heat-flow on the edges of the grates, which are not covered by the water pan. The **Air Intake Valve** and the **Chimney** settings can be fine-tuned to moderate the flow and as a result the heat-flow and temperature on the edges of the grates can also be moderated.
- **Filling up the Water Pan:** The water can evaporate during a 7-8- or more hour cooking. The pan needs to be filled-up once during a long cooking. Hot or cold tapwater can be added by pulling the pan halfway out and pouring the water from a bottle into it.
- If the water evaporates and the pan is not filled-up, the dripping grease will burn on the bottom. It can cause inconvenient smell and smoke in the Cooking Chamber.

Cooking Chamber Analogue Temperature Gauge:

- The thermometer of the BBQ Pit Box® Cabinet Smokers is a two-scale (°C/ °F) analogue temperature gauage.



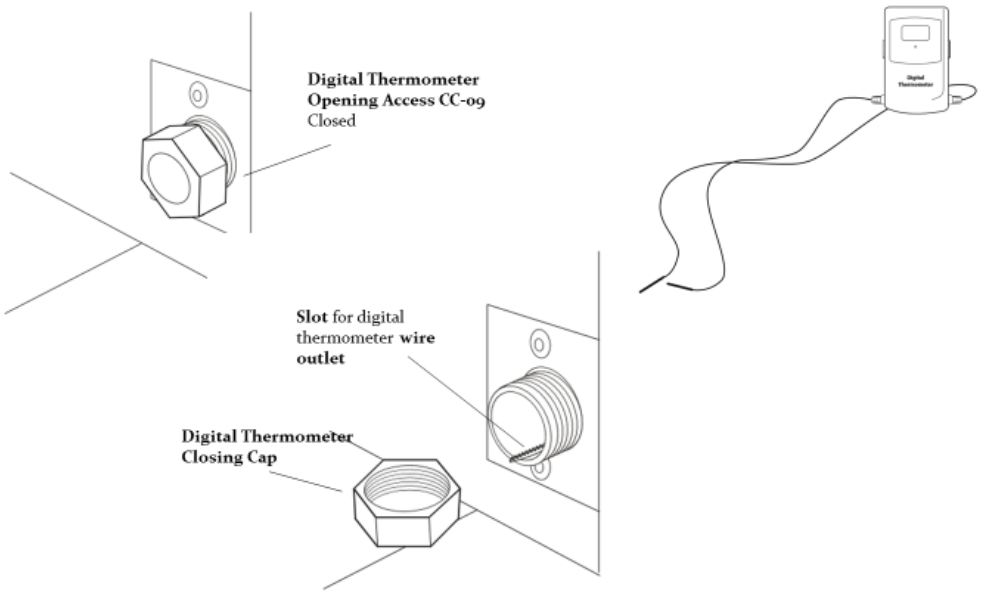
- Display diameter: 130 mm, probe length: 120 mm.
- It is covered with stainless steel sheet.

- The Analogue Temperature Gauge on the BBQ Pit Box® Cabinet Smokers is located in the top third section. Its probe is 120 mm long, therefore it goes deep into the Cooking Chamber.
- The temperature displayed is definately relevant but first and foremost it is informative. All analogue thermometers follow the temperature change slower than the digital ones.

- **<u>Important:</u>** The temperature gauge probe must not touch either the meat or the grates. If it does, it will show the meat surface or grate temperature and not the real heat-flow temperature. This could be misinforming when setting the cooker temperature.
- It is recommended to clean the probe from time to time because the burnt crust can decrease the gauge's efficiency, therefore giving false measurement.

<u>Using digital thermometers:</u>

- There is a wide variety of digital thermometers. They usually have two probes, one for measuring the grill grate temperature, the other monitoring the meat core temperature.



- The access opens by unreeling the hexagonal cap. It is recommended to fix the probes in the Cooking Chamber then lead the wires out through the outlet by putting them in the slot. After this the cap can be closed.
- Some smoke might come out through the slot but this does not influence the heat-flow in the Cooking Chamber.

<u>Ways of using smoking wood in the BBQ PIT BOX® Cabinet Smokers</u>:

- **Smoking wood** – There are various forms of smoking wood: logs, cunks, slices or chips. Furthermore these can be purchased in different variations giving all kinds of aroma, ranging from apple to walnut.
- **<u>Basic method:</u> Logs placed in Ash Pan though Fire Access Door 03.** Optimal log length: 220 mm, d=50-70 mm.
    - The continuously falling ember from the Charcoal Holder Grate slowly ignites the smoking wood in the Ash Pan. The logs fully smoulder in 20-40 minutes and then burn. During this time the emitted smoke gets evenly into the Cooking Chamber due to the downdraft of the Chimney.
    - We can coordinate the smoke quantity with the smoking wood quantity during cooking.
    - **Important:** The role of smoking wood in a charcoal smoker is not more than seasoning, like with salt and pepper. They are only for giving taste. Make sure you do not over-smoke the meat.

- **<u>Additional method 01:</u> Mixing smoking wood into the still cold, unlit charcoal through Fire Access Door 01.** Optimal chunk size here: 40-50 mm.
    - 3-4 chunks are enough for 1 kg charcoal. Mix them into the charcoal.

- **<u>Additional method 02:</u> Chopped wood, wood chips used in Firebox.** This method only works with Side / Back Firebox modells.
    - We recommend using only dry wood chips.
    - We need to make pouches from double aluminium foil, airtight on the edges for the wood chips and make some holes on the top.
    - These pouches need to be put in the Cooking Chamber right on the top of the Heat Baffle. As this part gets very hot it will smoke the wood chips with optimal speed.

➢ The Additional Smoking Wood Methods can be especially useful when **cooking poultry.** They get ready in a significantly shorter time in the 110-120 °C (230-250°F) barbecue-heat range than beef or pork, therefore more intense smoke is needed to give them the characteristic barbecue-flavour.

Lighting and Heating Up

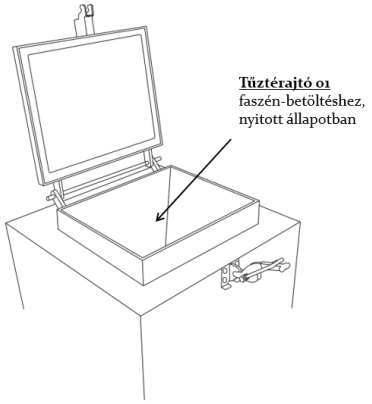
Properly lighting up and efficiently heating up all barbecue smokers, including the BBQ PIT BOX® Cabinet Smokers, must be a primary user skill.

Heating up speed and efficiency can be influenced by 2 outside factors:

- Weather conditions, mainly the outside temperature and wind direction.
- Quality of the charcoal.

Ligthing and heating up steps / Side Firebox cookers:

- Prepare the cooker, fix the tyres.
- **Make sure that the cooker is clean.** In case there is charcoal, ash from previous barbecuing, remove it and properly clean the Charcoal Holder Grate. The bigger, unburnt charcoal pieces can be used again.
- Make sure the Charcoal Holder Grate and Ash Pan are in their proper places before lighting up.
- Remove the Water Pan from the Cooking Chamber for the heating up.
- Fully open the Chimney Damper and the air-intake regulator **Fire Access Door 02.** Make sure all the other doors are closed.
- Pour an average charcoal starter chimney-quantity lit charcoal into the Firebox through the upper **Firebox Access Door 01.**



- After this put unlit charcoal into the Firebox, covering the lit charcoal, which is now sitting on the top of the Charcoal Holder Grate. The quantity of the unlit charcoal depends on how long and how much meat you wish to cook.
- Leave the upper **Fire Access Door 01** open for a few minutes then close it properly.
- Monitor the thermometer on the Cooking Chamber door.

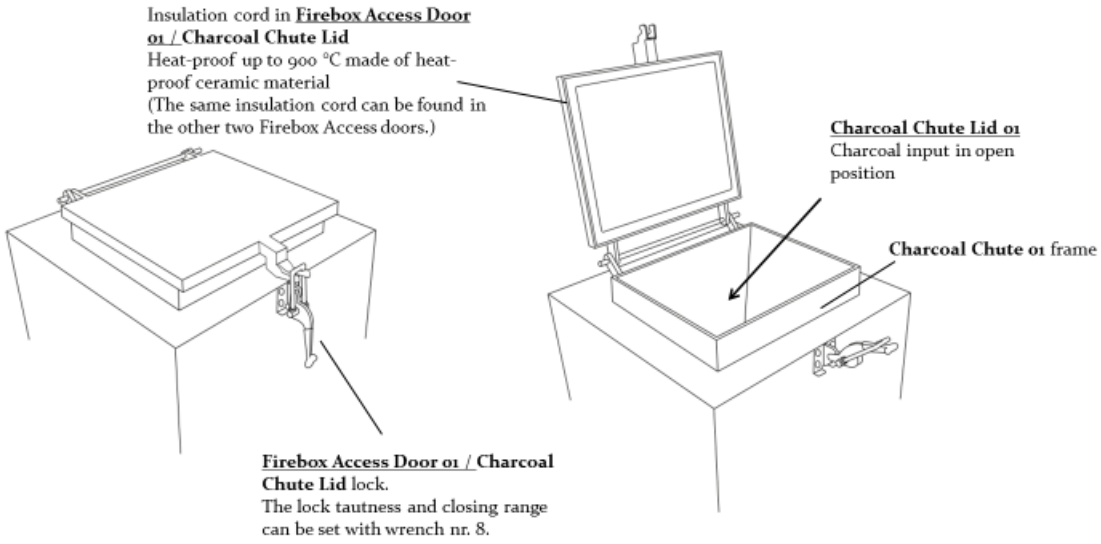
- As the targeted temperature is reached, close the air-intake regulator **Firebox Access Door 02**, and fully open the **Air Intake Valve**. The temperature will drop first but will increase after a while again.

➢ **Important:** If the **Air Intake Valve** is fully open even in case of a heated up cooker the temperature will continuously rise, despite big quantity of meat on the grill grates.

➢ The **Air Intake Valve** is usually half or one-third part open in barbecue-style cooking.

Firebox Access Door 01/ Charcoal Chute Lid for charcoal input

This is one of the most important part of the Side-Firebox cookers. **Make absolutely sure that this part is closed during cooking, it should be airtight and tightly closed.**



- In case the lock loosens or it is too tight optimal tautness can be set by using wrench nr.8.
- The insulation cord in the Firebox Access Door is changeable in case it does not insulate airtight.

Seasoning / First-run / Burnout

The cooker is made of steel elements. The first „empty" burnout is extremely important as this is the first-run of the smoker, when the unwanted factory material, oil, etc., burns out. Please follow these steps:

- Remove the Water Pan and Grill Grates, wash them with detergent in warm water, then rinse with clear water and dry them. Put them aside.
- Wipe all parts of the inside of the Cooking Chamber first with a wet then a dry cloth.
- Coat the inside of the Cooking Chamber evenly with cooking oil. Use a wide paint brush or an oil spritzer. Make sure to put oil in the Grill Grate Rails, as well.
- Heat up the smoker. When it reaches the 180-200°C (350-390°F) temperature close the **Firebox Access Door 02** and fully open the **Valve**. When the temperature in the Cooking Chamber reaches 180-200°C (350-390°F) again, half or 2/3 close the Valve. The smoker should run on 180-200°C (350-390°F) temperature for 4-5 hours.
- Meanwhile coat the Grill Grates evenly with cooking oil. After 2 hours of stable operation on 180-200°C (350-390°F) temperature put the grates back into the Cooking Chamber.
- Smoking wood can be put into the Ash Pan during Seasoning / Burnout.
- The Water Pan is not necessary for Seasoning / Burnout.
- Let the charcoal fully burn and the smoker to cool down. After this process the cooker is ready for the first real cooking.

➢ **Important:** The inner frame of the smoker, namely the part under the insulation and outer coating, is fully coated and painted with black, heat-proof stove paint. This paint gradually burns on the frame under the insulation during the Burnout. This may cause some smoke and faint burnt smell, so it is normal if you experience this during First-run. The first few cookings are necessary for this protection coat to fully burn on the inner frame. This does not influence the barbecuing.

➢ **Important: It is prohibited to leave the cooker alone and without attention during First-run / Burnout.**

- The Burnout process runs in a higher temperature range than the normal barbecue-style cookings, namely the normal use of the smoker.
- When we do the Burnout we do not know our smoker yet. Therefore we cannot be sure how the fuel behaves.
- It is important to get to know our cooker and realize how it reacts to various heat regulation techniques.

Seasoning

- The cabinet smokers are getting seasoned with every cooking. Their Cooking Chamber inner wall carries the aromas from earlier barbecues.
- It is recommended to cook simple food in it for the first few times, such as sausage, bacon, chicken, etc.
- By the third or fourth time the cooker will have a „taste character" and the smell will be nicely smoked.

Barbecuing in the BBQ Pit Box® Cabinet Smokers

As all the barbecue cookers in the world, the BBQ Pit Box® smokers also have a unique cooking style. It is worth paying attention to these unique attributes:

- As the cooker is insulated, the Cooking Chamber walls are continuously radiating heat towards the meat during cooking. Therefore the meat is being cooked with double efficiency in the BBQ Pit Box® smokers:
    - in intense heat-flow,
    - in radiating heat by the steel metal walls.

  As a result, cooking in the BBQ Pit Box® smokers is stable and really efficient. Cooking a brisket in certain uninsulated smokers can take up to 14-16 hours, while the same amount of meat with the same Grill Grate temperature can be ready in 10-11 hours in the BBQ Pit Box® smokers.
- Certain barbecue-meat types need to be finished wrapped into aluminium grill foil or baking paper in the last part of the cooking. The time when to wrap the meat mainly depends on the smoker type and heat flow. Wrapping features in the BBQ Pit Box® smokers:
    - Certain meat types do not need wrapping as they can be properly cooked without it.
    - It is recommended to wrap when the bark on the meat is in proper condition.
    - The ideal time of wrapping mainly depends on the bark condition rather than the core temperature of the meat. Wrapping can only come after proper bark formation.
    - Recommendation: we need to be patient to cook the meat (typically pork rib and shoulder, beef short ribs, brisket) until the bark is strong, stable and crusty without any moist. Wrapping can moisturize the bark so it is important that it keeps the nice crustiness after cooking. We should not think that delaying the wrapping can result in smokier meat. The smoke can really get into the meat until it reaches 60°C core temperature. Afterwards everything is about bark formation.

Smoke ring: A trademark of barbecue-technique. This is the 2-8 mm wide pink ring right below the outer meat crust. This comes as the result of long-term, low-temperature cooking with clean, properly handled and fed quality smoke.

The 110-120°C (230-250°F) temperature smoke starts an acidy reaction when it arrives on the meat surface. Technically the molecules released by the slow burning wood mix with the moist on the meat surface, coloring it and slowly permeating into the meat core.

Apart from the taste, consistency and juicyness, the smoke ring qualifies the value of the cooked barbecue meat. The smoke ring can only appear as a result of precisely built-up ember and long-hour wood smoking.

Wider smoke rings are not necessarily more valuable. They can appear easily by using more than necessary smoke or by smoking with water soaked wood chips. These methods result in impressive smoke rings. Smoke rings can even be more effectively created by rubbing meat-tendering mix (salt, sodium-nitrate etc) on the meat, but this is cheating and self-delusion. The only really valuable, elegant, though not so wide, smoke ring is the one that is created by just the necessary amount of smoke for cooking.

Bark: is a spice crust on the meat surface.

Bark is created, just like smoke rings, by using barbecue technique and constant 110-120°C (230-250°F) temperature heat-flow. The slowly surfacing moist from the meat melts the salt, sugar and other spices in the dry rub and gradually creates the bark character. This is supported by the smoking wood smoke. The bark will only be mahogany colour and less memorable on meat that are cooked on charcoal only, without smoking wood. Bark also appears if we only use the classical Texan salt-pepper-smoke method, the rub does not have to contain sugar as the natural sugar and protein dissolving from the meat is enough for a good bark.

The well-prepared bark gives the best bites of the barbecue, it makes the crust of the pulled pork and the burnt ends of the brisket great. It is a special delicacy, rich, complex and concentrated in flavours. Its colour is mahogany after 4-5 hours of cooking, while after an 8-hour session it is like liqourice.

Meat, Grill Grates, Heat-flow in the BBQ Pit Box®

- One of the most important rules of barbecuing is never to overload the cooker. General recommendation is to fill maximum 70% of the grates surface.
- Optimal ratio: 70-30%, namely the 30% of the grates should be left free. This surface use is ideal for perfect heat-flow. This is the best way to regulate the temperature and create proper intensity heat-flow inside the smoker. All meat surface is free and even cooking is ensured.
- If we go above 70% in a cooker it can result in uneven cooking so it is a compromise.
- The exceptional stability of the BBQ Pit Box® Cabinet Smokers can help with this problem. For the second part of the cooking the meat on the overloaded grates slowly shrinks during the roasting so much that it provides better heat-flow. However it is true that less meat on the grates results in more successful barbecue and more stable heat-flow.

Placing the meat on the Grill Grates at the start

- **The basic rule is that the meat must not touch the Cooking Chamber walls in any directions.**
- Never put a piece of meat of such size on the top grate near the Chimney opening that can close or narrow the outbound diameter and therefore blocking the heat-flow.
- You need to know that the volume of certain meat types significantly changes during barbecue-style cooking. For example, brisket and ribs shrink a bit in width, but swell and can rise 2-3 times their original height.
- The heat-flow can be established with more difficulty in an overloaded cooker. Therefore not enough heat can get to the meat on the top grates and it greatly influences cooking time.
- It can also happen, that a 100% loaded grate blocks the smoker and the necessary heat-flow is not created therefore the necessary temperature is not reached.

Meat preparation and heat-flow

- Fine-tuning the Air Intake Valve and the Chimney makes it happen that the burning charcoal radiates the necessary heat that flows around the meat in the classical BBQ heat-range (110-120 °C / 230-250°F) during cooking.
- This gets a role during preparation as well. The more even, homogenic surface the meat has, the more freely the heat can flow around it, resulting in an even cooking.

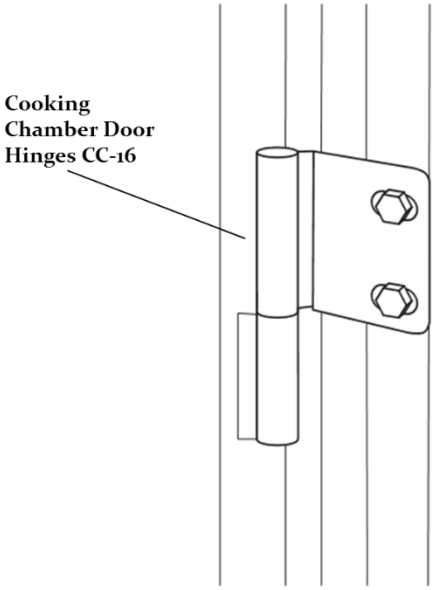
- It is important to create an even form from classical, big-sized meat (brisket, spare-ribs) and cut the uneven, hanging parts, as these would surely burn during a 6-hour cooking.

Cleaning and maintenance

- Take care of your oven in order it to have a long life.
- We especially recommend using **tarpaulins** to protect the cooker and make its lifetime longer. Tarpaulins can only be put on if the smoker is absolutely cold.
- Never use the top of the smaller sized, Bottom Feed models as table.

Cooking Chamber Door Hinges

- The hinges are lubricated before delivery.



- Please regularly check the condition of the hinges, lubricate them with grease from time to time.
- The hinges can be damaged if they are not taken care of.

<u>Cleaning the outside of the smoker</u>

- It is recommended to clean the outside of the cooker with warm water, detergent and sponge, then dry it with a cloth.
- The use of abrasive cleaners or sharp objects will damage the coatings.
- Minor parts inside the Cooking Chamber is coated with heat-proof stove paint. These are:
    - Cooking Chamber Door Frame

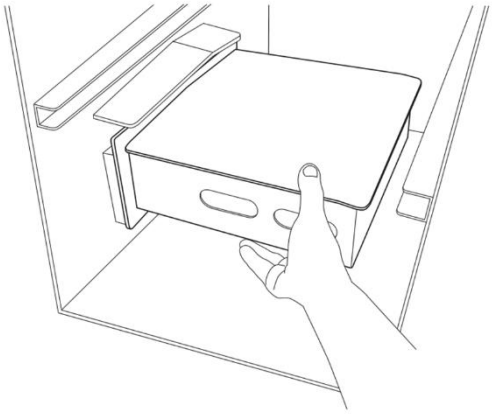
- Frames of the 2 bottom doors on the Firebox
- Chimney

➢ These surfaces are less weather resistant than the others, so it is recommended to paint them once or twice a year with some black, heat-proof stove paint.

Cleaning the Cooking Chamber

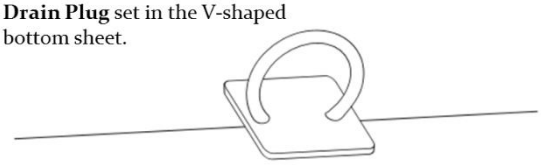
- **Cleaning the Grill Grates:**
  - Primary task when cleaning the Cooking Chamber is to clean the Grill Grates. After finishing the cooking and removing the meat from the grates it is best to heat up the cooker with the grates again to 180°C (350°F) and then properly clean them with wire-brush, as it is usually done with traditional grill grates.
  - After this, it will be much easier to clean them with detergent, warm water and scrub.
  - The clean grates should be coated with cooking oil again and burnt out again in the Cooking Chamber.
- **Cleaning the surface of the Cooking Chamber:**
  - After removing and cleaning the Grill Grates it is recommended to scrub the rails as well.
  - Scrub the soot (black, carbonaceous substance), preferably in a dry way, from the wall of the Cooking Chamber. In case of proper use there will not be too much of it.
  - **Full cleaning:** It is recommended to clean the inside of the Cooking Chamber regularly with **high-pressure washer**. Remove the Heat Baffle before washing. Do not touch it with your bare hands, unless it is cold. Otherwise use BBQ/oven mitts.

Removing the **Heat Baffle** from Cooking Chamber

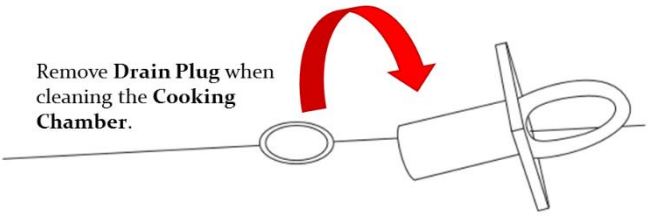


- There is a **Drain Plug** in the V-shaped bottom sheet of the Cooking Chamber. In case we remove it, the water from the high-pressure cleaner drains through the pipe to the **Outer Drain Pan**.

Drain Plug set in the V-shaped bottom sheet.



Remove **Drain Plug** when cleaning the **Cooking Chamber**.



- **Cleaning with cold degreaser:**
  - Both the inside of the Cooking Chamber and the Grill Grates can be cleaned with cold degreaser.
  - **Important:** after cleaning with cold degreaser the Cooking Chamber and the Grill Grates need to be burnt out and seasoned again.

Chimney sweeping

- The Chimney should be scrubed with a long wire-brush from time to time and remove the soot from it.

Cleaning the Firebox

- It is recommended to clean the Firebox after each cooking when it is cooled down.
- Remove the ash from the Ash Pan.
- Pull out the Charcoal Holder Grate through **Firebox Access Door 02**. The charcoal pieces remaning on the holder grate will fall into the Ash Pan and can be removed.
- In case ash or solid fuel is stuck in the grate remove it and clean it.
- **Regularly clean** (depending on the frequency and intensity of the cookings) **the grate between the Firebox and the Cooking Chamber**.
    - This can be done the easiest from the Cooking Chamber side after removing the Heat Baffle.

Typical mistakes/ What NOT TO DO with our Cabinet Smoker

- **DO NOT fire up an uncleaned cooker.** In case the remaining charcoal is left in the Firebox and the lit charcoal is poured on it we need calculate with difficulties in the heating up process.
- During running **never open Firebox Access Door 02 & 03 together at the same time**. In this case the bigger part of the heat energy disappears through one of the doors and the heat-flow is not created.
- **Never leave, especially not without any supervision, the Firebox Access Door 01, which is on the top part of the Firebox, open.** In case this door remained open for a longer time it could create serious downdraft which could cause flame outburst.
- Never remove the **Drain Plug** while cooking, only when cleaning. In case the plug is removed while cooking a significant part of the heat-flow would leave though the drain hole.
- **Side Firebox Smokers:** do not put meat on the top Grill Grate right under the Chimney. This can block the heat-flow and eliminate the downdraft. It is recommended to leave the middle part of the top grate empty.

Important tips

- In case you pour hot water into the Water Pan the smoker will reach the requested temperature quicker.
- Every time the Cooking Chamber door is opened the heat-flow is disturbed. Fortunately the BBQ Pit Box® Cabinet Smokers regenerate quite quickly but the less time the door is opened the better it is.
- Start by using small quantity of smoking wood as it is very easy to over-smoke the food.
- Significant experience is necessary to purchase and use the proper quality fuel (charcoal) and smoking wood, as they heavily influence the result.
- Only use wood appropriate and recommended for smoking. Too much tannin can be harmful for your health. Only use hardwood, as softwood, fir wood etc., is inadequate for smoking. Try to purchase wood without bark, as it can contain bugs, resin etc., which can be harmful for your health.
- Only buy good quality basic materials and meat as this means a lot in the end result.

- **Meat core thermometer for checking core temperature**– Basic equipment to determine whether the food is properly cooked or not. Wide-range of them is available.

  Stick the thermometer into the thickest part of the meat (be careful not to touch bone as it leads to false data) and read the data and see if the meat is at the required temperature or not yet. You can find many charts regarding this tpoic on the Internet.
- It is very important to practice. Try various types of wood, rubs and sauces until you find the perfect combination for you.

Grill, barbecue and health

- Nr. 1 danger with grilling is the charred layer on the burnt meat surface. This mainly happens with direct grilling not while using barbecue technique. **Properly applied barbecue-technique is an especially gentle food cooking method.**
- Do not over-smoke the meat.
- Do not make the sauce to sweet.
- If you use sugar for seasoning only add it towards the end of the cooking. Do the same with the sauce. In any other case the surface can be caramelised too much.
- Carefully select the smoking wood. Preferably use it without bark and make sure the wood was dried in natural conditions for at least 6 months.

Charcoal Starter Chimney user manual

The **Charcoal Starter Chimney** is not part of the cooker. It can be bought in various quality, range and size. Their operation principle is usually the same.

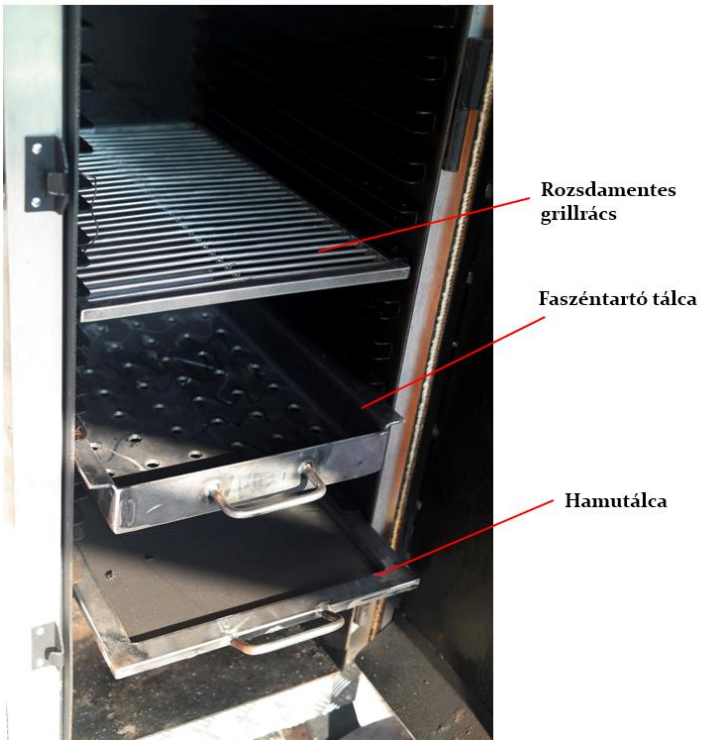
Using the Charcoal Starter Chimney is especially dangerous. You must use proper propection gloves to touch and move the chimney. **The chimney must be lit on solid, non-flammable surface.**

Lighting options:

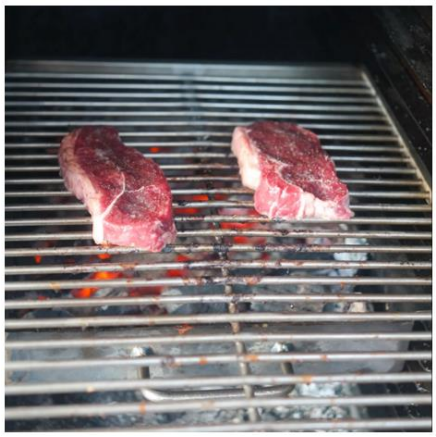
- **01:** Place losely creased paper on the bottom of the chimney then fill it up with charcoal above the grate. Put the chimney on solid, non-flammable surface (e.g. grill charcoal basket) and light the paper on the bottom. By the time the paper is burnt, the bottom part of the charcoal will have been lit as well. After 15-20 minutes the charcoal in the chimney will properly burn.
- **02:** Put charcoal on the chimney grate, about 1/3 height. Place a fire starter cube on the top and light it. By the time the cube is burnt the charcoal will have been burning on a palm-sized area. Then fill up the chimney. After 15-20 minutes the charcoal in the chimney will properly burn.
-

Direct grilling in the BBQ Pit Box® Cabinet Smokers

- **The BBQ Pit Box® Direct Grill App** is a great additional application for the cabinet smokers: **Charcoal Holder Pan + Ash Pan + stainless steel Grill Grate**.



- **In this case the burning charcoal is in the Cooking Chamber.**
- Use the smoker with closed door in this mode, so the insulation and inner heat-flow supports the end result.



Automated heat control

- Applying automated heat control with various devices (e.g.BBQ Guru) is widespread in competition barbecue.
- Three main parts of the automated heat control devices: mini computer, vent and digital themometer probes.
- These systems can be applied to all BBQ Pit Box® Cabinet Smoker models.
- The vent can be attached to the Air Intake Valve with a 2 inch connecting element. These parts can be purchased from the heat control device manufacturers.

Bottle opener

- Central function of the Utensil Holder.

The BBQ PIT BOX® Cabinet Smokers Indoor Use

- The BBQ PIT BOX® Cabinet Smokers are originally designed for outdoor use, however they may be used indoors, in closed areas.
- **Establishing the indoor use conditions and safe operation is always the responsibility of the user.**
- **Consult with fire safety experts before setting up the system.**
- **Possible options for smoke outlets:**
  - **Chimney outlet**
  - **High capacity exhauster**
- **You must not operate a charcoal fuel smoker indoor without proper and intense ventillation of the place or without a ventillation system**.

- **Capacity data for indoor use:**

➢ **Capacity** = **6,5 kW**, with the following parameters:
  - Average calorific value = ***7000*** kcal/kg with charcoal
  - 8 kg charcoal use during an appoximately 10-hour cooking
  - average 110-120 °C Cooking Chamber inside temperature

➢ **Flue gas / Waste gas temperature:** 90-250 °C (190-480°F) depending on cooker use

➢ Ideal use range: 110-150 °C (230-300°F).

Important warnings for indoor use:

- As soon as the permissions for indoor use arrive and all conditions are given for safe use we recommend discovering the cooker thoroughly.
    - Map the various suppression options, position and grade of the Chimney. Discover how this extra air flow influencing factor affects your smoker.
    - The final installation may cause different partial effects with each cooker.

- Light up the smoker with extreme caution.
- It is typical of cookers attached to chimney outlets that the **chimney provides a much bigger downdraft than their outdoor counterparts**, where the chimney only operates with its natural downdraft.
- Due to the increased downdraft the cookers indoor heat up faster than outdoor. It is important not to let the smoker heat up too quickly. It is necessary to suppress the chimney up to that point **where the heating up to 120-150 °C (250-300°F) Cooking Chamber temperature happens in about 60 minutes.**
    - In case we let the smoker heat up in 15-20 minutes, as it is possible with the increased downdraft, certain parts of the Firebox can seriously be damaged in time.
    - The reason for this is that the downdraft effect heats up the charcoal with such energy and pace that can burn the thickest steel.

➢ This can only be prevented by heating up in the normal, slow outdoor way. Please pay attention to slow heating up.

About barbecue-meat

The essence of barbecue-technique is cooking for long hours on slow fire and gently adding smoke. The barbecue-technique, due to the smoke, dries the meat. Therefore the range of possible meat types for classical barbecue is limited.

We can group the meat types suitable for barbecue from different points of view. These are the following:

- Fat ratio and type
- Meat type: suitable for fresh roasting or long cooking
- Animal type

We can generally state that meat with at least 20% fat content should be chosen for barbecue. Lean meat does not really work with barbecue and definitely not with smoking. The fat carries taste therefore fatty meat is always more tasty, especially if cooked on the bone.

The fat tissue between the meat parts can be categorised differently. From barbecue point of view the 2 most important and different fat parts are:

- **Covering fat:** The covering fat is a thicker fat layer, typically between the meat and the skin. After removing the skin this layer covers the meat. Typical example is the duck-breast, where the meat and the covering fat sharply divides.

- **Fat within the tissue:** this fat type is in unity with the meat, it goes through and through the meat, sometimes thicker sometimes thinner. These marbled meat types are very valuable for any kind of cooking, so they are great for barbecue.

Great pieces of meat where the two fat types are together, for example a full lamb chop or beef rib, where the meat is nicely marbled and covered with fat, as well.

Fresh roasting vs. slow & long cooking

Key meat types for barbecue, especially the fatty ones, are those which can be cooked for hours on low temperature.

Outstanding BBQ pork meat parts:

- Shoulder (20-30% fat ratio), typical basic material for BBQ pulled pork.
- Spare rib (20-30% fat ratio), equals with the shoulder. It is used together with the shoulder in the USA.
- Rib (30-40% fat ratio), emblematic BBQ food.
- Pork belly (40-50% fat ratio), needs to be used with the whole fat. Without the fat it is not recommended.

About beef:

Non-matured meat is much better for barbecuing than aged one, as during aging it loses moist. Any part of a good quality, fat woven, marbled beef is excellent for barbecue. The American breeds are outstanding, especially those which are not fed but pastured.

Recommended beef parts for BBQ:

- brisket (BBQ master category)
- rib (favoured by many)
- clod (tied in shape)
- shin (tied in shape)
- rump (cooked extremely tender to preserve juice)
- ox tail (smoked for 4 hours, then braised on stew base)
- flank steak
- cheeks
- shoulder

Meat types recommended for BBQ / summary:

- TOP-BBQ meaty types and parts: Fatty pork part for long cooking: shoulder, spare rib, rib; fatty beef parts for long smoking: brisket, ribs. Though not used in the USA great BBQ meat can be (the fatty parts): lamb, veal, goat, boar etc.,
- Soft meat for fresh roasting: poultry breast; all part of aged beef possibly in big chunks and on the bone.
- Whole roast chicken or turkey.
- Meat types that need testing and solutions: game shoulder, game ribs, wild duck, guinea-fowl, etc.

Warranty

In case you have any complaints, remarks please let us know:

- info@bbq-expedition.hu
- +36 70 429 2173

- For two years from date of purchase, BBQ Expedition Ltd warrants the BBQ Pit Box® against defects due to bad workmanship or faulty materials to the original purchaser.
- The warranty does not cover damage due to rust, dashes, dents, improper use, loss of spare parts, improper setting, surface scratches and deformation due to high temperature.
- Furthermore this warranty does not cover smokers that have been unofficially altered by anyone.
- The BBQ Expedition Ltd./ BBQ Pit Box® Hungary may elect to repair or replace damaged units covered by the terms of this warranty.
- The warranty extends to the original purchaser only and is not transferable or assignable to subsequent purchasers.