Billy Smoker

OPEN FIRE COOKERS

INSTALLATION GUIDE

Designed & Manufactured in Australia by
Plant | Grow | Prosper

NATA

Revision 3

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Information in this manual may be updated without notice, please check online for latest version

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WARNINGS AND CAUTIONS

- **WARNING: THE APPLIANCE AND FLUE SYSTEM SHOULD BE INSTALLED IN ACCORDANCE WITH AS/NZS 2918 AND THE APPROPRIATE REQUIREMENTS OF THE RELEVANT BUILDING CODE OR CODES**
- **ANY MODIFICATION OF THE APPLIANCE THAT HAS NOT BEEN APPROVED IN WRITING BY THE TESTING AUTHORITY IS CONSIDERED TO BE IN BREACH OF THE APPROVAL GRANTED FOR CONFORMANCE WITH AS/NZS 4012 & AS/NZS 4013**
- **WARNING: ANY MODIFICATION OF THE APPLIANCE THAT HAS NOT BEEN APPROVED IN WRITING BY THE TESTING AUTHORITY IS CONSIDERED NOT CONFORMING TO AS/NZS 4013**
- **WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS TO START OR REKINDLE THE FIRE**
- **WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHEN IT IS OPERATING**
- **WARNING: DO NOT STORE FUEL WITHIN HEATER INSTALLATION CLEARANCES**
- **WARNING: WHEN OPERATING THIS APPLIANCE AS AN OPEN FIRE USE A FIRE SCREEN**
- **WARNING: THE ENCLOSURE SHIELDING SYSTEM (OTHERWISE KNOWN AS SHIELDIT) IS NOT A ZERO-CLEARANCE BOX AND CANNOT BE USED IN AN ENCLOSURE MADE FROM COMBUSTIBLE MATERIALS.**
- **WARNING: DO NOT BURN WOOD THAT IS PAINTED; OR IS COATED WITH PLASTIC; OR HAS BEEN TREATED WITH ANY CHEMICAL**

- CAUTION: MIXING OF APPLIANCE OR FLUE-SYSTEM COMPONENTS FROM DIFFERENT SOURCES OR MODIFYING THE DIMENSIONAL SPECIFICATION OF COMPONENTS MAY RESULT IN HAZARDOUS CONDITIONS. WHERE SUCH ACTION IS CONSIDERED, THE MANUFACTURER SHOULD BE CONSULTED IN THE FIRST INSTANCE
- CAUTION: CRACKED AND BROKEN COMPONENTS, FOR EXAMPLE GLASS PANELS OR CERAMIC TILES, MAY RENDER THE INSTALLATION UNSAFE
- CAUTION: DO NOT OPERATE THIS APPLIANCE IF GLASS IS CRACKED OR BROKEN
- CAUTION: THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS

Keep these instructions for future reference

BILLY SMOKER

It is no new philosophy that cooking brings people together. Across time, across cultures, bringing family and friends together involves – perhaps requires – food. Favourite family dishes become famous family dishes, replicated and re-imagined for generations to enjoy. While new ways of cooking have and will be engineered, fire offers more. Fire is primal, has supported our very existence like nothing else and offers a genuine charm, warmth and romance.

The wood crackles in our ears as we find ourselves mesmerised by the flame and are filled with a smoky aroma that foreshadows the good food yet to come. Our senses are fully engaged with the simple and ancient phenomenon. We have been perfecting the art of cooking on flame for centuries, however our generation seems to be loosing this knowledge, opting for convenience over substance. We believe in bringing food back to its roots. It is there you will find flavours and textures unachievable by others means.

Billy Smoker is owned and made in Australia. Many local families are involved through the products' lifecycle; research, development, design, engineering, machining, fabrication, blasting, painting, integration, assembly, marketing, sales, distribution, logistics, installation and customer support. PGP Enterprise's goal is to build a sustainable and thriving ecosystem which delivers long term value to Australian communities.

BILLY SAFETY

To get the most enjoyment and longevity out of your Billy Smoker product, there are a few things to keep on top of. Caring for your Billy also keeps it safe. Remember this manual needs to be kept somewhere accessible near Billy.

Getting to know Billy. If you are a new user or introducing someone to Billy, be sure to understand the information in this manual. Cooking with fire is fun but should also be done with the upmost respect. Take the time to point out any hot spots and how handles and mechanisms work before lighting. Children must be supervised when handling a Billy.

Feeding Billy. Billy prefers to burn dry wood, especially hardwood as it burns cleaner and longer. Do not over fire Billy, if parts of Billy turn red, remove any fuel that is safe to do so and let combustion reduce down.

Billy's hot and tough. Be conscious of handles that may be hot when operating, we recommend you use oven mitts or welding gloves when touching Billy's doors. Billy is also tough so do not stress knocking Billy while cooking.

Combusting near Billy. Do not place any combustable items inside the specified clearances area mentioned in the 'Installation' section of this document.

A clean Billy is a safe Billy and a safe Billy is a happy Billy. Please remember to crank Billy and burn off any organic matter left on the cooking surfaces after use. Periodically scrape off any remaining fat or creosote on surfaces. Pro tip: before emptying ash, use it as an abrasive and to soak up liquids when cleaning.

Billy needs to breathe. Due to the nature of open coal cooking is it important to make sure the flue system is installed correctly according to the Australian and New Zealand Standard for the installation of domestic solid fuel burning appliances (AS NZS 2918). Failure to do so will cause an uncomfortable amount of smoke and hazardous combustion fumes to spill from the firebox opening. If installed indoors, be sure to monitor anything (especially exhaust fans) that may cause a negative pressure in the room. See 'Troubleshooting' section of this document for further information.

A damaged Billy. If any parts of Billy become damaged do not use the appliance. See the 'Repairs Section' of this document to find out how to fix it.

OPEN FIRE COOKERS

The Open Fire Cookers stay true to our philosophy of bringing people together around fire and food. Designed to suit both indoor and outdoor living spaces, certain to create an impressive and memorable atmosphere. Clean and minimal form with elegantly designed componentry, they come in three variants for different settings and install environments.

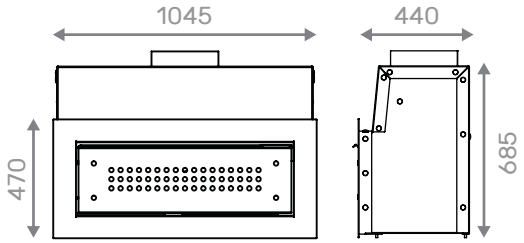
The Billy Smoker Open Fire Cookers range has been designed and engineered to meet the safe installation requirements stipulated in AS NZS 2918 (Australian and New Zealand for installation of solid fuel burning appliances).

Defined as cooking appliances, the Sideways Collection complies with the AS NZS 4012 and AS NZS 4013 (Australian and New Zealand Standards for emissions and efficiency).

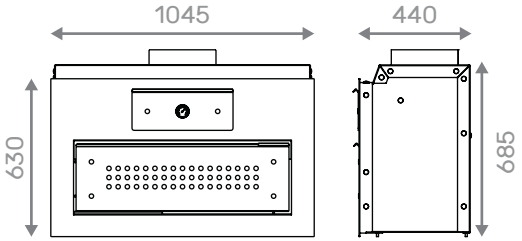
Meeting the Australian Environmental Protection Authority (EPA) requirements for air quality, these products can be installed throughout all of Australia (including New South Wales).

Models & Dimensions

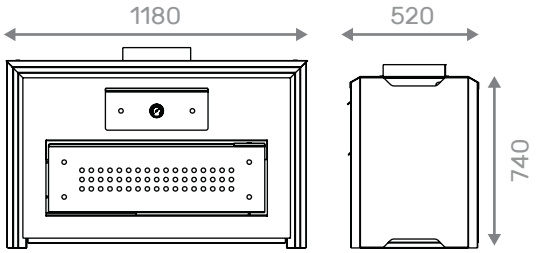
ARTIST
Inbuilt - Lower Wood Oven - Open Coal



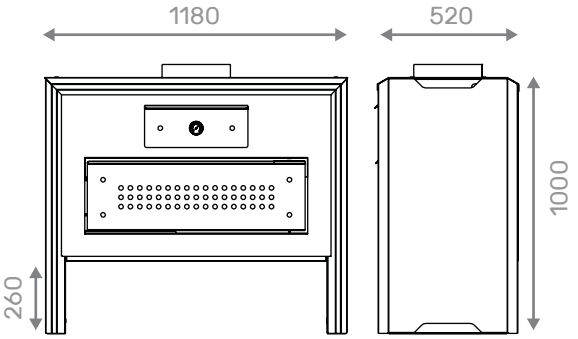
CHEF
Inbuilt - Upper Wood Oven - Open Coal



COMPOSER
Free Standing- Upper Wood Oven - Open Coal



ENTERTAINER
Free Standing- Upper Wood Oven - Open Coal



Product Features

Firebox (cm)	100W x 30D x 38H
Material	3-6mm steel
Finish	metallic black paint
Oven volume	29 ltr
Oven (cm)	36W x 43D x 18H
Open coal volume	136 ltr
Max log (cm)	220Ø x 85L
Baffles & doors	steel
Heat banks	ceramic plate
Spigot	fully welded

Pizza Oven

Fits a 13 inch Pizza and comes with a high temperature pizza stone for hot and fast wood oven pizza

Grilling

Flame grill in style with ample room to control and push coals around

Baking Oven

The ventilated upper wood oven creates an easy-to-use low and slow smoking environment with adjustable smoke flow

Rotisserie

(Sold Separately)

The Slimspit is a clip on rotisserie attachment available for grilling with your Open Fire Cooker

Smoking

The ventilated upper wood oven creates an easy-to-use low and slow smoking environment with adjustable smoke flow.

Removable Door

Keep on to retain maximum heat, smoke and sparks inside the unit or remove after cooking for full view of the fire

INSTALLATION

Initial Checks

Please consider the following points before installing Billy:

- **Regulations & Council Requirements.** Consult your council, either directly or via the avenue of sale to find out if any install approval, local guidelines or permits are needed when installing a cooking product.
- **Qualified Installer.** The appliance must be installed by a qualified installer that adheres to local regulations and standards.
- **Clearances to combustibles.** The appliance must be installed at a distance from any combustibles no less than stated in these instructions.

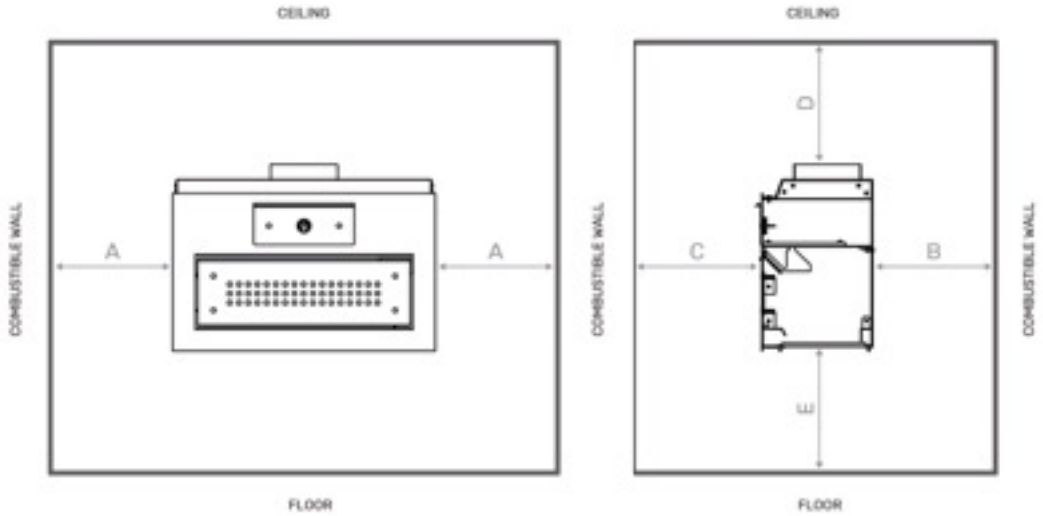
Air Supply

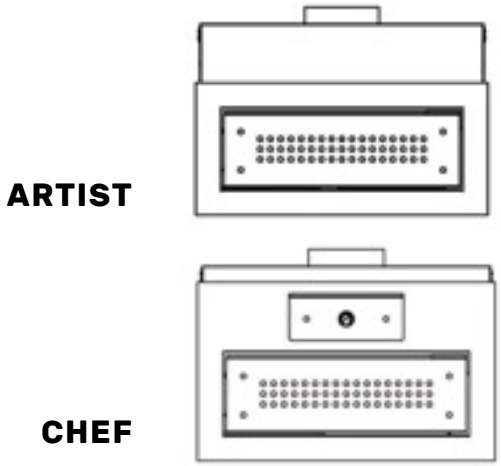
If installing indoors, make sure the room can provide plenty of free air to feed the appliance. Be sure to identify and monitor anything that may cause a negative pressure in the room (i.e. exhaust fans) as this can cause smoke spillage. A solution could be to turn off fans, open a window or add an external air supply in the room. If installing outdoors, for best results choose a location that is protected from any cross winds.

Clearances To Combustibles

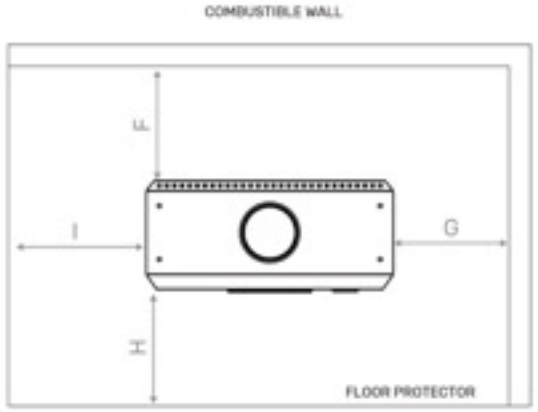
The Open Fire Cookers have been designed and engineered to meet the safe installation requirements stipulated in AS NZS 2918. Some installation configurations and requirements may not be included in this manual, use as a guide only. Installation must comply with the latest release of AS NZS 2918.

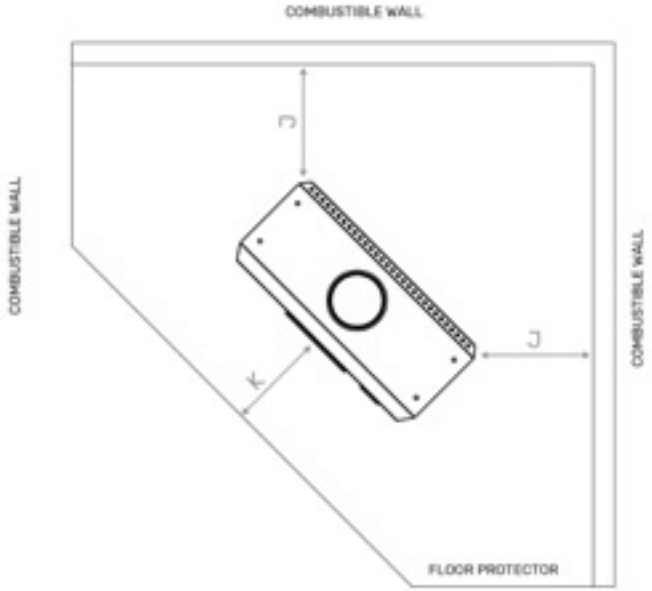
Heat Sensitive Materials Exclusion Zone



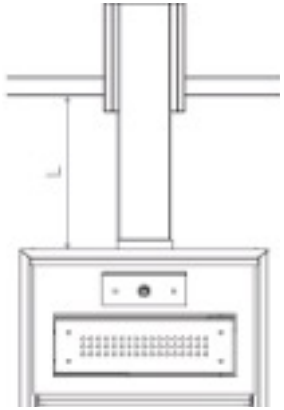


Clearance	Identifier	0 Shields	1 Shield (12mm gap)	1 Shield (25mm gap)	2 Shields (12mm gaps)
Side	A	1200	480	360	240
Rear	B	1200	480	360	240
Front	C	1200	480	360	240
Top	D	1500	N/A	N/A	N/A
Bottom	E	1200	960	720	N/A
	Safety clearances apply to both variants; Artist & Chef				

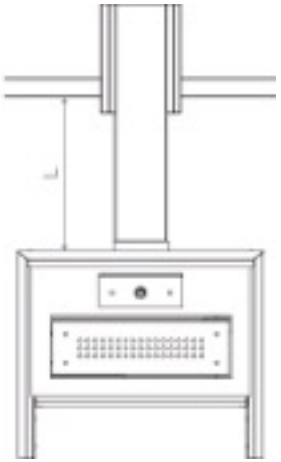




COMPOSER

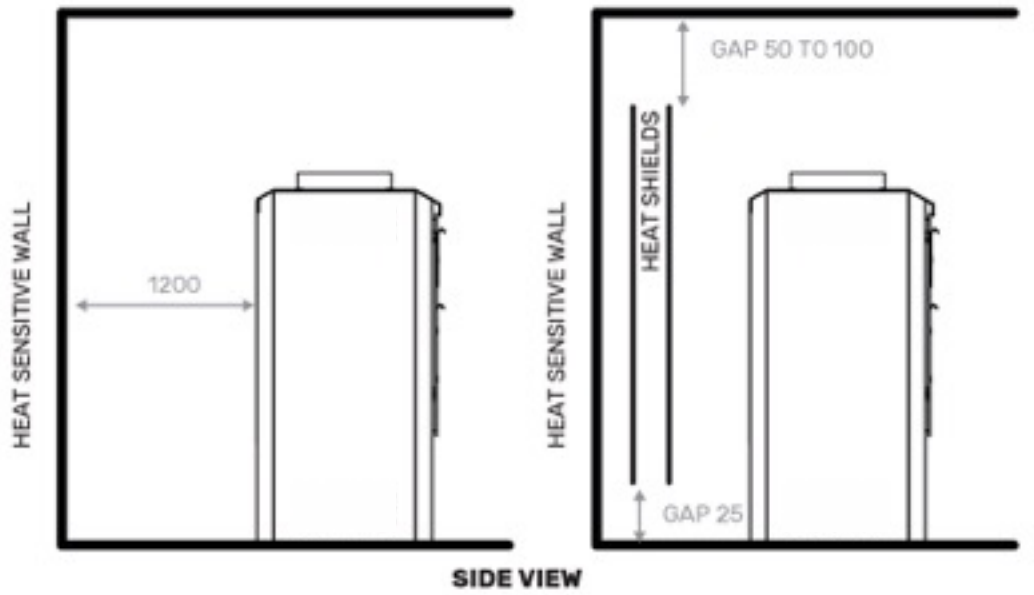


ENTERTAINER



	Clearance	Identifier	0 Shields	1 Shield 12mm gap)	1 Shield (25mm gap)	2 Shields (12mm gaps)
Standard Install	Combustible Wall Rear	F	1200	480	360	240
	Combustible Wall Side	G	1200	480	360	240
	Floor Protector Front	H	1000	1000	1000	1000
	Floor Protector Side	I	1000	1000	1000	1000
Corner Install	Combustible Wall Rear	J	1200	480	360	240
	Floor Protector Front	K	1000	1000	1000	1000
Ceiling		L	1500	N/A	N/A	N/A

Wall Shield Requirements



Wall shields must be made from heat-resistant material (allowable service temperature greater than 150°C but less than 600°C).

Vertical shields must be vented by a 25mm gap at the bottom and a 50mm to 100mm gap at the top. They must extend no less than 450mm either side of the appliance.

Floor Protector Requirements

To achieve a clean aesthetic it is recommended to install Open Fire Cooker units on or above heat-resistant material (allowable service temperature of 600°C or greater). Appropriate materials include but are not limited to; cement, concrete, slate, brick and steel.

A floor protector is required when any part of the floor area within 1000mm of the appliance is heat-sensitive material (allowable service temperatures less than 150°C).

Floor protectors shall be constructed from any material, or combination of heat-resistant materials, which ensures the protector is in accordance with or exceeds the requirements of AS NZS 2918.

The floor protector shall extend either to a distance of not less than 1000 mm beyond any part of the appliance or a lesser distance at which it forms an abutment with a heat-resistant wall and shall be constructed in accordance to AS NZS 2918.

Flue Requirements

The flue system, including any access port covers, shall be constructed from Grades 301, 302, 304, 310, 316 or Grade 321 austenitic stainless steel having a minimum thickness of 0.52mm in accordance to AS NZS 2918.

Flue casings (inner and outer) shall be constructed from stainless steel not less than 0.52mm or corrosion protected steel not less than 0.55mm in accordance to AS NZS 2918.

Flue casings must be vented top and bottom as per AS NZS 2918 and with 25mm air gap all round between each. There must be at least 25mm air gap from outer casing to heat sensitive materials.

In addition to complying with AS NZS 2918, the flue system must be installed as per the flue manufacturer’s installation instructions.

FLUE SIZING TABLE

	Active Flue	Inner Casing	Outer Casing	Cowl
Flue Pipe Diameter (Ø)	250mm / 10"	300mm / 12"	350mm / 14"	Suits 250mm/10" (Active)
Flue Pipe Material:	Stainless Steel	Galvanised Steel	Galvanised Steel	Stainless Steel
Crimp Direction:	Down	Up	Up	
Sizing is the same for all Open Fire Cooker units.				

Enclosure Requirements

The enclosure must be 100% constructed (i.e. including frame, cladding and all other building items) from non-combustible materials. There must be a minimum of 10,000mmˆ2 ventilation at the top and bottom of the enclosure, as per AS NZS 2918.

Enclosure Recommendations

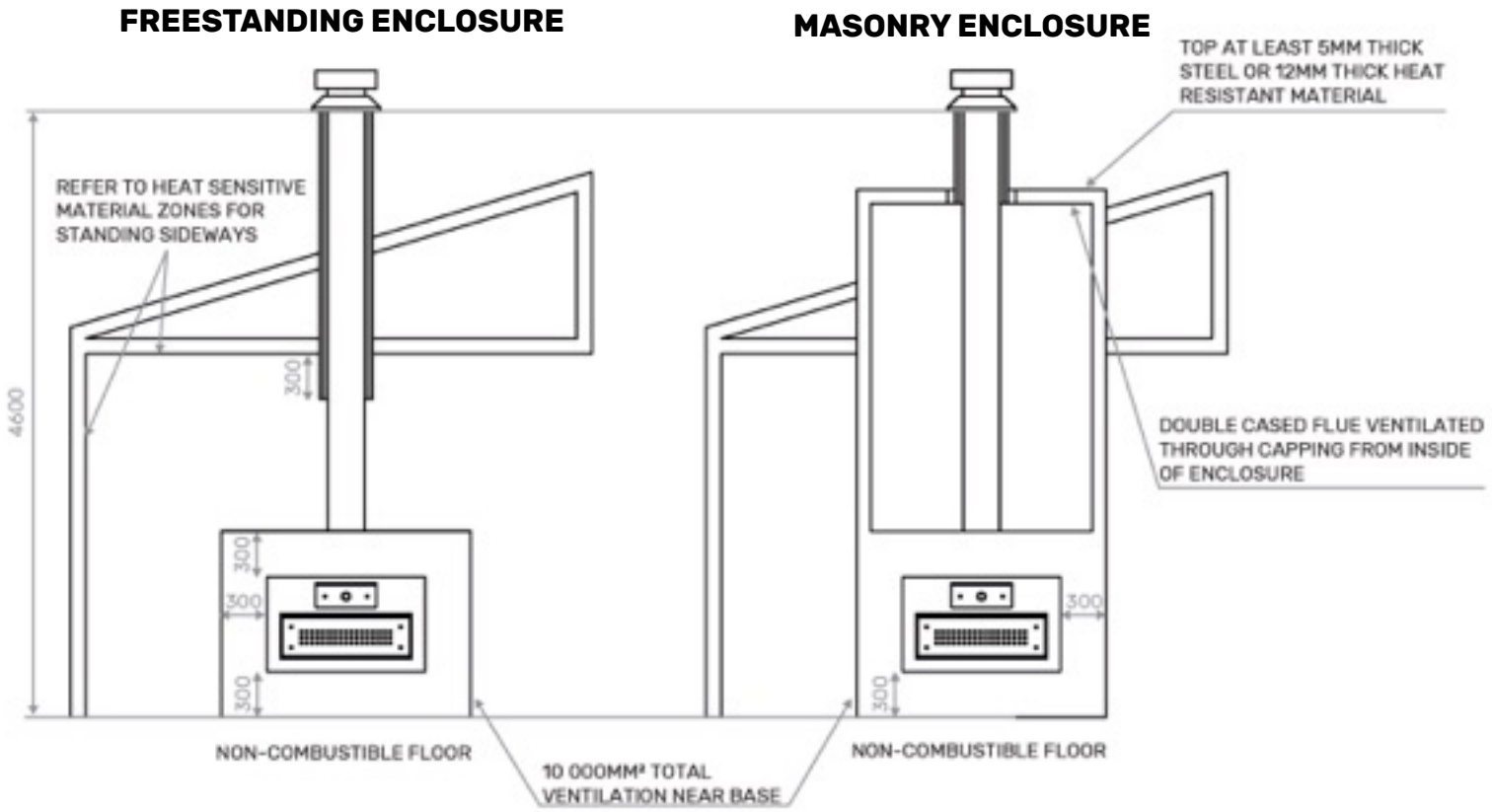
To minimise cracking and paint discolouration the enclosure design must prevent materials from overheating. We recommend careful consideration of suitable paint (if required) and building your enclosure from any of the following materials:

- 19mm cement sheet
- 70mm Hebel panel
- 50mm Skamol board
- 75mm standard brick

The Billy Smoker enclosure shielding system (otherwise known as Shieldit) is designed to prevent non-combustible enclosures from overheating.

Enclosure Examples

While the unit is designed to sit directly on heat-resistant / crack-proof material, the enclosure requires a 10mm air gap on both sides, and a 50mm gap at the top and rear of the firebox to promote natural convection (i.e. to create a naturally aspirated system).

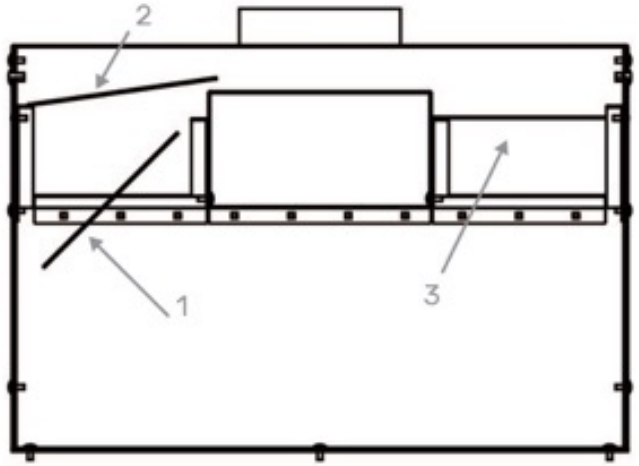


These examples are intended to provide a source of inspiration. Please ensure your enclosure design complies with AS NZS 2918.

Assembling Billy

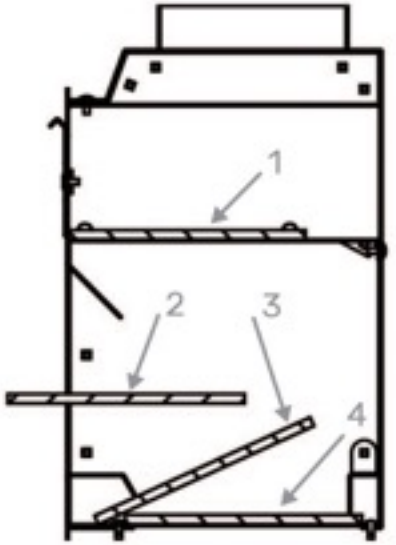
BAFFLES

1. Lift the inner side of the baffle past the inner baffle shelf
2. Lift baffle above the oven until it clears the outer baffle shelf
3. Drop into place on top of baffle shelves
4. Repeat for both left and right baffles



STONES

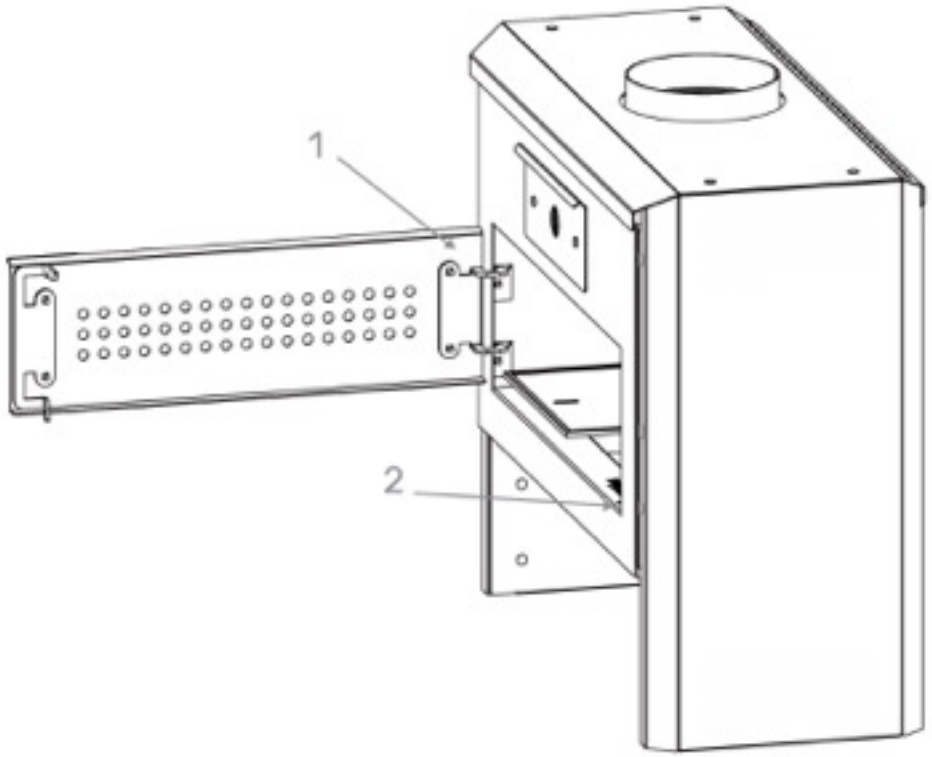
1. Open oven door and slide a stone into place leaving no gap at the front
2. Feed 3 stones through the main opening
3. Tuck front under the ash lip and pivot to floor
4. Stones sit flat between raised locators in base



OPERATION

Removable Door

This door is removable and can be used or put aside based on your needs, for example:



ON

- Cook at higher temperatures
- Retain heat for the pizza oven
- Prevent smoke spillage
- Retain falling logs or sparks

OFF

- Grill with plenty of space
- Appreciate the aesthetics of the fire

1. To attach the door, drop the hinge pins (vertical bolts) through the tabs hidden behind the front left opening
2. To close the door, lift the handle until the latch catches the slot on the ash lip

Fuel

Billy is designed to burn dry wood for cleaner and longer operation. Prohibited items include but are not limited to, plastics, paper (large amounts), cardboard, treated wood, composite woods or flammable liquids. Burning prohibited items increases the likelihood of a flue fire and creates a toxic environment.

Do not over fill the appliance. If the appliance glows red, wait until it stops glowing before adding more fuel.

Wood should be stored in a dry place. It is recommended to be split and seasoned for a year to reduce moisture content before burning. For more information about seasoning and storing timber we recommend *Norwegian Wood: Chopping, Stacking, and Drying Wood the Scandinavian Way - Lars Mytting.*

First light procedure

The first time you light your Billy it will emit smoke and a strong odour into the air, this is the paint curing. During this process, it is important not to touch any surfaces as the paint temporarily becomes soft and is easily marked. Ensure all packaging has been removed.

When lighting Billy for the first time...

- Keep all doors open so they are not in contact with other curing surfaces
- Leave the removable door slightly ajar to cure without damaging paint on ash lip
- Provide as much ventilation to the area as possible to remove odour
- Maintain only a small fire for the first 15 minutes
- Build the fire slowly to a medium size and maintain for 60 minutes
- Carefully increase to a very hot fire (approximately 1/3 of firebox) and maintain for another 60 minutes
- To complete the curing process, let the fire cool to room temperature

Regular light procedure

Once the initial curing procedure has taken place follow these points for lighting a cold Billy...

- Place firelighters and kindling stack in the middle of the firebox
- Light Billy
- Gradually build up the fire to desired size by regularly adding fuel
- Keep the removable door closed to speed up the fire building process and avoid smoke spill

HOW TO COOK IN BILLY

These are no hard and fast rules, it’s just what we have played with. We encourage you to break from the status quo, we did.

Pizza

Fire Type:	Flame - Raging
Fire Position:	Directly under pizza oven
Oven Temp (°c):	250 - 300
Cooking Time:	5 minutes per pizza for thin crust
Equipment:	Pizza pan, pizza peel/spatula, gloves
Method:	Prepare on pan and slide pizza in and out on the pan (do not cook directly on pizza stone)
Additional Notes:	Turning in the oven is not required

Baking

Fire Type:	Flame - Mild
Fire Position:	Directly under pizza oven
Oven Temp (°c):	180 - 220
Cooking Time:	We don't know what you’re cooking, have a play you'll work it out
Equipment:	Baking tray
Method:	Prepare on a baking tray and slide it into the pizza oven
Additional Notes:	Send us photos of what you did!

Smoking

Fire Type:	Flame - Choke the life out of it but don't let it die
Fire Position:	Directly under pizza oven
Oven Temp (°c):	90 - 110
Cooking Time:	Until desired texture and internal temperature is achieved

Equipment:	Tray with an internal grill for maximum smoke penetration and a meat thermometer
Method:	Prepare on a tray and smoke it low and slow in the pizza oven
Additional Notes:	To vary the amount of smoke passing through the oven, adjust the air slide setting at the rear of the oven, until the desired smoke levels are achieved. A long tool such as tongs or fire poker is ideal to move the control when hot. The cut away triangle on the air slide handle indicates the range / direction of the minimum and maximum settings.

Grilling

Fire Type:	Coals - Low
Fire Position:	Opposite side to the grill
Oven Temp (°c):	Not required
Cooking Time:	We don't know what your cooking, have a play you'll work it out!
Equipment:	A grill or hotplate and tongs
Method:	Position the fire to one side as a supply of hot coals to drag to the opposite side underneath the grill
Additional Notes:	Send us photos of what you did!

Rotisserie

Fire Type:	Flame - Mild / high
Fire Position:	Offset from whats cooking in OFC
Oven Temp (°c):	Not required
Cooking Time:	We don't know what your cooking, have a play you'll work it out!
Equipment:	Slimspit - Sold Separately
Method:	Clip Slimspit onto OFC unit using rails, drop tray onto rails and connect motor to power.
Additional Notes:	Send us photos of what you did!

MAINTENANCE

Ash removal

Ash acts as a good insulator to protect your Billy and helps to collect liquids left over from cooking. We advise that you let ash fill all the gaps and spaces in the base of your Billy, around the stones and under the front lip.

When cleaning, only remove the ash down to a level that exposes the tops of the stones. Once cold, ash can easily be removed with a dust pan, shovel or an old vacuum cleaner.

Oven & stone cleaning

After cooking, we recommend getting Billy hot to burn off any remaining organic matter. Periodically scrape off any remaining fat or creosote on surfaces.

Pro tip: Before emptying ash, use it as an abrasive on sticky surfaces and to soak up liquids when cleaning.

Cooking stones can be removed and washed in warm soapy water. The stones absorb water and could crack if not allowed to completely dry before lighting again.

Flue cleaning

It is important to check and clean the flue annually for best operation and reduce the risk of a flue fire.

To check if the flue needs cleaning:

1. Remove the two baffles inside Billy
2. Use a torch and mirror to look up the flue and see if a build up of creosote is accumulating

If there is little build up, put the baffles back in place. If it is time for a clean:

3. Tie a rope to a flue cleaning brush
4. On the roof, remove the cowl
5. Drop the rope down the flue
6. Pull the rope through Billy, dragging the brush down through the flue
7. Repeat if necessary
8. Remove the loosened creosote from inside Billy
9. Put the baffles back in place

TROUBLESHOOTING

Burning poorly

Billy has one job, that's to burn wood so you can keep warm and cook delicious food. If the fire's not burning well (goes out or not hot enough) check these things first:

- **Is your fuel dry?** Wet fuel burns poorly and is not recommended
- **Is your flue clean?** See 'Flue Cleaning' section
- **Is the flue installed correctly?** Make sure the flue is installed correctly to create sufficient draft through Billy
- **Is air flow available to the room?** Make sure there is a supply of fresh air to Billy and nothing creating a negative air pressure

Door jamming

Billy has a few moving parts that could be damaged by over firing, corrosion or heavy use. If any hinges or parts are scraping or jamming, use a hammer, pliers or other tool to straighten/realign.

SMOKE SPILL

Billy is an open wood cooker engineered to protect you from smoke spillage, however you should still expect a small amount from time to time, especially during cooking. Our brand is literally named Billy Smoker…

If you are having problems with smoke spill, check these points:

- **Is Billy just getting started?** During the lighting process, smoke could spill out before sufficient draft is established
- **Is your fuel dry?** Wet fuel burns poorly and is not recommended
- **Is your flue clean?** See 'Flue Cleaning' section
- **Is the flue installed correctly?** Make sure the flue is installed properly with the cowl not too restrictive or the flue too short
- **Is air flow available to the room?** Make sure there is a supply of fresh air to Billy and nothing creating a negative air pressure
- **Is Billy shielded from wind?** Strong cross winds can blow smoke straight out of Billy's fire box

If you are serious about preventing smoke spill, leave your removable door closed as much as possible during operation.

SPARE PARTS

- **STONE.** 330x330x13mm
- **BAFFLE.** 311x311x3mm