Homewood Companion - Installation Specifications

IMPORTANT: Diagrams not to scale. All measurements in millimetres unless specified.

The Homewood Companion has been tested to AS/NZS 2918:2001, Appendix B, and must be installed as per AS/NZS 2918, these installation specifications, any applicable local regulations, and the appropriate requirements of the relevant building codes.

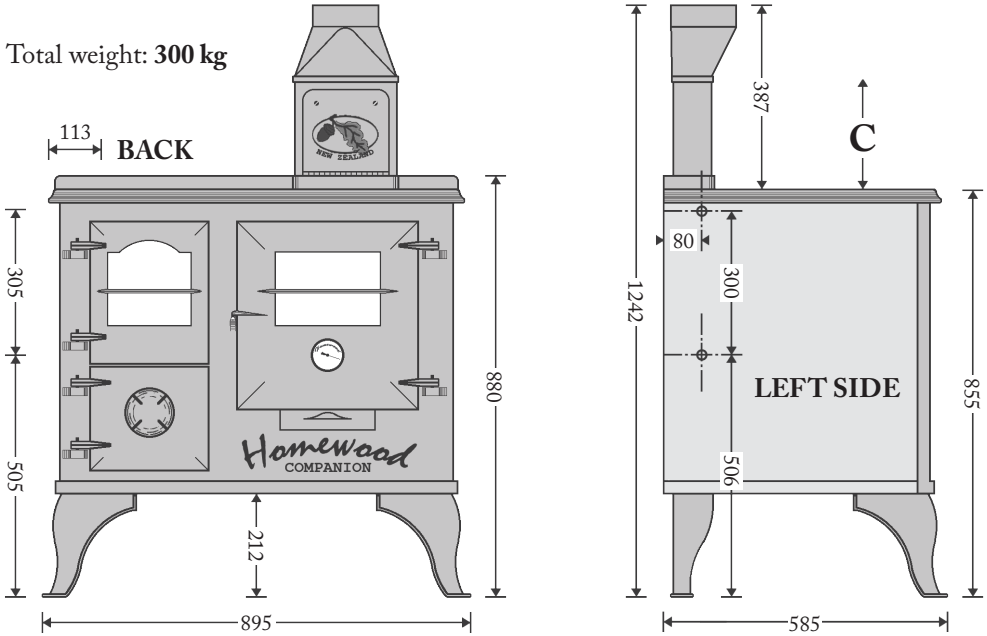

Figure A: *Overall Dimensions and Wetback Pipe Locations*

Wetback

The wetback is made from 2 mm copper, has approximate output of 3 - 4 kW during normal use, with options for wetback pipes that come out either the **LEFT SIDE** (toward the back) as 25 mm brass *sockets*, or the **BACK** (toward the left) as 25 mm brass *thread*. Wetback must be connected to an open-vented hot water system and be installed in accordance with AS 3500.4.1 or NZS 4603, and the appropriate requirements of the relevant building codes. The hot flow pipe (top wetback pipe) must always have a minimum upward slope to the cylinder of 1:20 at any point, and an average slope not less than 1:7 overall. The base of the cylinder must be raised above the stove top at **least** 300 mm (if flow line carries up two-thirds inside it) or 600 mm (if no such internal riser pipe). Wetback pipe locations in ***Figure A*** are indicative only, and should be confirmed on site. If installing without legs, you will need to subtract 212 mm from the relevant heights.

Safe Installation Clearances

Clearance testing as per AS/NZS 2918, Appendix B, has shown that the closest distance allowed between the Companion and any **heat-sensitive material** (eg: wood) is 400 mm on the rear and right sides **(A)**; 405 mm from the left side **(B)**; and 1300 mm above the cooking surface **(C)**.

Where the installation will **not** have heat-sensitive material within any of the above distances, you are able to position your stove as you like, without the need for shields (however, we do recommend leaving an expansion gap of at least 2 - 5 mm between the stove and anything else, and there must be a 1 m minimum access clearance left in front of the stove).

We strongly recommend that people building new homes take advantage of this by ensuring that all walls and surfaces within the safe installation clearances of the intended stove position be made up entirely from heat-resistant materials (eg: brick, concrete block, metal frame, compressed mineral board or similar).

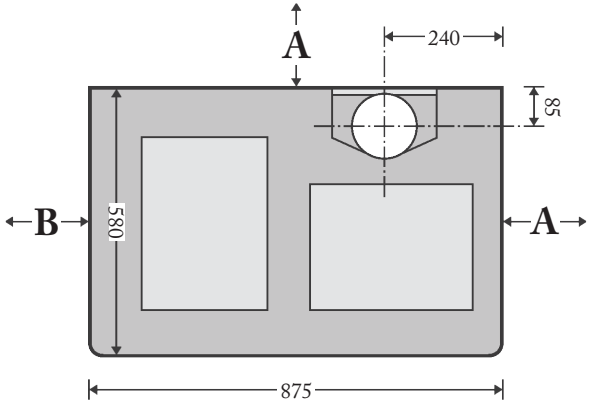

Figure B: *Depth, Width, and Flue Collar Location*

Reduced Installation Clearances

Where the installation will have heat-sensitive material *within* these safe installation clearances, heat shields **must** be employed between the stove and that heat-sensitive material. ***Figure C*** shows the reduced clearances for different shield options - **WALL** is any heat-sensitive surface or material (including benches); **A** is the closest allowed distance from the wall to the rear and right sides; **B** is from the wall to the left side; and **C** is from the stove top to any heat-sensitive ceiling above.

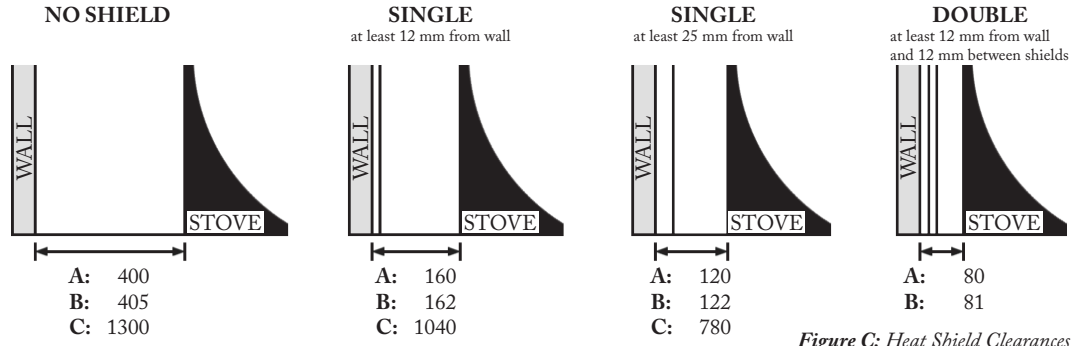

Figure C: *Heat Shield Clearances*

Heat Shield Construction

Heat shields must be built from heat-resistant materials only (eg: sheetmetal 0.5 mm minimum; masonry brick on edge or flat; stone; concrete/concrete block; non-combustible mineral board products, and so on), and all shield spacers must also be of a heat-resistant material (eg: 12 or 25 mm thin-wall steel square tube).

Air gaps behind and between all heat shields must be ventilated at both the top and bottom with openings that are not less than half the cross sectional area of the air space behind the shield.

Shields must extend beyond the stove in all directions to a minimum distance that ensures all heat-sensitive materials within the safe installation clearances are shielded, as in ***Figure D***.

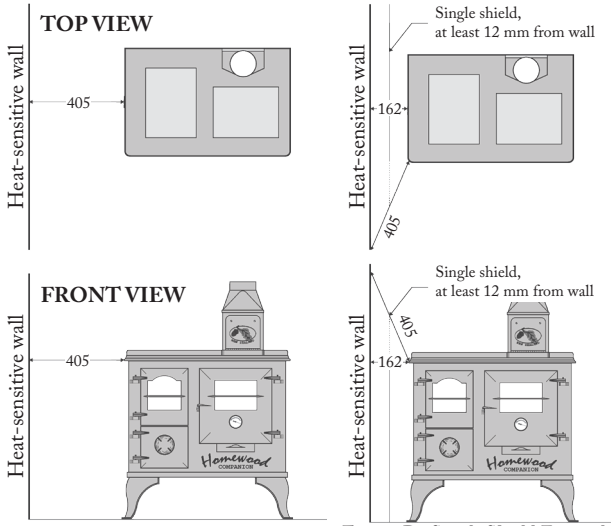

Figure D: *Single Shield Example*

Where planning to have the stove positioned as close as possible to a heat-sensitive wall or bench, double shields should be used to get the clearance distances down to the absolute minimum. ***Figure E*** shows an example double shield: heat-sensitive bench, gap at least 12 mm, sheetmetal shield extending the full height of the bench, another 12 mm gap, second shield (brick in this example), then the stove. The heat-sensitive wall in ***Figure E*** does not require shielding as it is further than 405 mm from the stove, so the shields may stop at bench height. The total spacing of the gaps and the width of the brick has put the stove outside of the reduced installation clearances. If the bench top is heat-resistant (eg: granite, stainless or tiles) it can be extended over the shields, and the face (and/or top) of the shields are able to be capped off (with tiles, sideways bricks, sheet stainless or similar) for a tidy finish - provided the air gaps are ventilated elsewhere. Keep in mind that the front legs of the Homewood Companion extend beyond the dimensions given in ***Figure B***, (the leg dimensions are shown on ***Figure A***), so you will never get a completely flush finish. Our 'Homewood Heritage' is better suited to a built-in type of installation.

Floor Protector

Unless the floor is non-combustible (eg: polished concrete), an "ash hearth" floor protector, made from a durable and heat-resistant material (most commonly tiles, but could be concrete, sheetmetal, brick and so on) must extend right under the stove (580 mm), at least 300 mm in front, and to a minimum of 200 mm either side of the firebox opening, except where it contacts a heat shield at a lesser distance. We recommend that this ash hearth span beyond that minimum distance to the right in order to be symmetrical, and be constructed to finish flush with the surrounding floor.

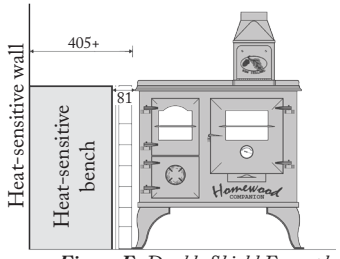

Figure E: *Double Shield Example*

Seismic Restraint

Where required by the regulatory authority, seismic restraint may be achieved by screwing down the feet using the slots provided. Testing for seismic loading as per section 3.8 of AS/NZS 2918 has shown that when installing **without** legs, it does **not** require any seismic restraints, due to its changed shape. The stove must be installed on a level surface.

Coal

While the Homewood Companion certainly can burn coal, it has only been tested for safe installation when running on wood. If you wish to run your Companion on coal only, it must be installed as an untested appliance, as per AS/NZS 2918:2001.

Emissions

The Homewood Companion is a cooking stove and therefore exempt from the emissions testing requirements of AS/NZS 4013.

Flue

The stove must be installed with a 130 mm diameter flue that has been manufactured in accordance with AS/NZS 2918, or a 150 mm diameter flue with a 150 to 130 reducer. The flue must be installed as per our specifications, AS/NZS 2918 and the flue manufacturer's instructions. The flue must be at least 3.6 m long (a minimum length of 4.2 m is **strongly recommended** for optimum draw), and must be lengthened as required to extend beyond the minimum flue exit positions marked below.

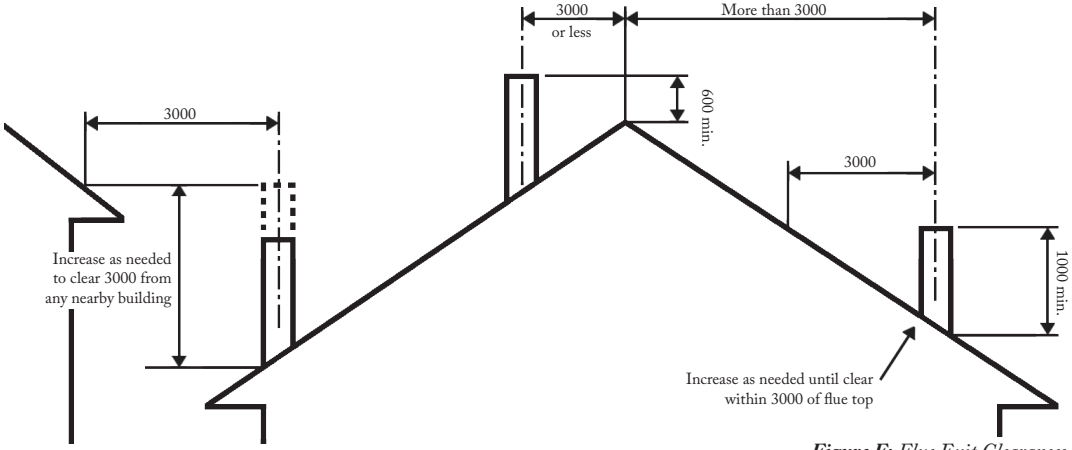

Figure F: *Flue Exit Clearances*

The position of the flue collar on the Companion is marked on ***Figure B***, page 1 - we recommend cutting the holes for your flue only after the stove is in its final position. Where possible, situate your stove so it has a completely vertical flue. If your flue needs to be offset, make sure all lengths between 0˚ and 30˚ from the horizontal (**not recommended**) do not exceed a total of 900 mm, and all lengths between 30˚ and 60˚ from the horizontal do not exceed a total of 1800 mm.

Flue Shields

The Homewood Companion does not require a flue-mounted shield. Where a heat-sensitive wall behind the stove has been shielded to achieve the reduced installation clearances in ***Figure C***, that shielding must continue up the rear wall, at a width that ensures all points of heat-sensitive wall within 400 mm of the flue are shielded. This shielding may terminate at a height of no less than 1.2 m from the flue collar, provided anything heat-sensitive above this height is at least 200 mm from the flue. From the ceiling cavity up, the flue must be shielded as per AS/NZS 2198 and the flue manufacturer's instructions.

☞ **Need a flue?** We don't manufacture flues ourselves, but can source them for you: send us an email - we can provide you with a no-obligation quote.

Some Pre-Installation Considerations - *Optional Reading!*

A few suggestions regarding common issues, compiled for your consideration...

Stove position. Installing the stove against internal walls rather than external is generally preferred (less heat loss to the outside, easier plumbing, keeps it more central for heat distribution, and the ceiling may be lower on external walls and so require extra shielding). The stove will be hot when it is running, so it is usually a good idea to install it away from entrances and main thoroughfares. The hot water cylinder relative to the stove deserves careful thought: consider the plumbing, and economical use of space while trying to keep it within 5 m of the stove. As above, locate your stove so it has a vertical flue - and choose a position that will keep the flue clear of any rafters, beams or joists.

Wood storage. When planning your stove installation, spare some thought to locating a convenient firewood store. It should be handy to the firebox side of the stove for easy refuelling, but must be shielded or outside the installation clearances.

Installing without legs. If your Homewood Companion is to be installed without legs, it must still be raised above any heat-sensitive floor by at least the height of the legs. This can be achieved by installing on a brick, concrete or other heat-resistant material plinth of 212 mm or higher. No seismic restraint is required when on an installation without legs.

Hearth. Your ash hearth is allowed to be *larger* than the AS/NZS 2918 minimum, so design the size of your hearth around your choice of tiles and pattern, rather than cutting down tiles to fit. Having it extend 400 mm in front of the stove is ideal.

Surrounds. Where applicable, we suggest having the bench or brick surround stopping 10 - 15 mm from the front panel of the stove (not including doors). This will give the installation some extra prominence and keeps the doors clear from obstruction when open. Surrounds that jut out in front can also make polishing a little trickier (having to avoid bricks).

Wood is for burning. Where possible, keep wood right away from your stove installation plans. Wooden mantelpieces, skirtings or trimmings are only going to create shielding complications when it comes time to install the stove. Instead, think: tiles, brick, stone (non-exploding type only!), granite, concrete, plaster and so on.

Trays and racks. Consider putting some of your "heat-resistant only" space to good use: leaving an open (or partly open) section at the front, between the wall/bench and any heat shield, can create an ideal place to store spare trays and racks.

Drying rack. Where in keeping with the rest of the installation, a rack positioned at a suitable height above your stove (built from heat-resistant materials) will provide you with a valuable space for rising bread, warming plates and drying things out.

Plumbing BACK pipes. Where the stove is going to be pushed back against the wall or shield, denying your plumber access to the rear pipe connections, he will want to fit extensions to the wetback pipes *before* the stove is in its final position; extensions that will go right through holes in the wall behind and provide him with something to work with on the other side. Where the pipes are going to be running *inside* the back wall, the plumber will want to cut in an access panel from the other side of the wall, and work from there.

Hot water cylinder size. 220 L+. A smaller cylinder will heat more quickly (and boil over more quickly too), but will run out of hot water faster when the stove is not going. A larger cylinder will take longer to get up to temperature, but will then hold a good store of hot water for longer when the stove is out of use, and will be much less prone to boiling over. A small cylinder only really suits situations where the stove is run infrequently (like a holiday home) - whereas a large cylinder will provide you with a more useful store of hot water. We almost always recommend going for the largest size cylinder your space and budget allows - just keep in mind that the larger the cylinder, the longer it will take to heat that full volume in the first instance. Once the water is up to temperature all the wetback has to heat is the *replacement water* based on your usage - irrespective of cylinder size - so your main consideration should be around how much hot water you want to store. Wrapping your hot water cylinder with extra insulation will help it keep hot water for longer while the stove is not running.

Low pressure. A low pressure hot water system is your simplest and least expensive option. The cylinder will be open-vented, and the wetback will connect directly to it. You won't get the same water pressure as with the other systems, but may be able to install an in-line pump to boost your shower pressure.

Mains pressure. More expensive, this system requires a special cylinder that can withstand high pressures, and contains a coil that lets the wetback run on a separate vented-system, heating the water inside the cylinder via the coil. Downside: the cylinder will open a valve when close to boiling, letting in cold water at mains pressure, ejecting *all* your hot water before closing.

Thermal store setup. Combination of the above. The cylinder is open-vented at low pressure, so the wetback is connected directly to it. This cylinder also has a coil in it, but this time has the mains pressure water running through the coil. When you open a tap, the hot water stored in the cylinder heats up the cold water as it moves through the coil, giving hot water at high pressure on demand. The downside to this system is that performance suffers unless the whole cylinder is already heated - you can't just draw off recently heated water from the top - so it better suits colder climates where the stove will be in very frequent operation, or combination systems that are supplemented with solar heating and having a very large cylinder.

Radiators/underfloor heating. Certainly possible, though you will not be doing anything too extensive with just the 3 - 4 kW of this model. Visiting our website and reading our hot water guide in full is **strongly recommended.**

Involve a plumber. We're not water-heating experts, so discuss your situation with a knowledgeable plumber in conjunction with our guide during the planning stage to decide on the setup that will best suit your household.

Ceiling fans. Heat rises, so if you have high ceilings you will miss out on a lot of the warmth that is sitting above your head. An appropriately-situated ceiling fan will allow you to push that heat down in winter, and installing a type that can also be reversed will let you pull heat up and away (where there is a window or vent) over summer.

Heat ducts. Similarly, a heat duct system that takes in the heat through a vent in the ceiling above your stove and carries it through a ceiling duct to a colder room in the house can be an relatively inexpensive way to more fully utilise the rising heat during winter. An alternate path set up to duct that heat outside may be a worthwhile and inexpensive addition to a heat duct system for the summer months.

Moving your stove. Your stove has the potential to be a fairly awkward item to manoeuvre through a house. Keep it on the pallet for as long as possible, and use the "how-they-built-the-pyramids" method: lever the pallet up to slide in rollers (lengths of water pipe are ideal) at each end, and push! You can lay down a path of plywood or similar to protect your floors as it moves through the house. Get the stove right in front of the ash hearth before walking it off the pallet.

Visit **www.homewoodstoves.co.nz** for more in-depth advice and guidance.

HOMEWOOD STOVES LTD
Quality cast iron. Made in New Zealand. Built to last.
09 436 0333
info@homewoodstoves.co.nz

Postal address:
74 Kara Road
RD9
Whangarei 0179

Workshop address:
10 Awaroa River Rd
Onerahi
Whangarei 0110

www.homewoodstoves.co.nz