

A message from your Property Manager

November 2019



Healthy Homes Compliance Pt 2

The biggest issue in complying with the HHL is heating. This is the most expensive part of the new regulations and requires a complex assessment using a calculator on the Tenancy Services website. Everything from walls to windows to glass doors must be measured. There are also issues around sloping ceilings and the extent of the space to be heated. For example, one house we have brought up to HH Compliance had an open plan kitchen and lounge connecting to an entrance foyer. The space then continued down to the garage level, as well as along a corridor going the whole length of the house. As the entire space to be assessed was over 90m² the owner had to install new doors (costing about \$1,000) to seal off the lounge as this then meant only one HP was needed.

It is worth having a look at the calculator to see just how challenging it will be for non-professional landlords to use. <https://www.tenancy.govt.nz/heating-tool/>

Heating Calculation

Using the calculator is time-consuming and not easy, and will put off a lot of people from doing it themselves, which will be good news for the now defunct meths testing industry. You can see already on the web new businesses charging \$150+ to do an assessment. Whether or not they will do the best job for a customer or look after themselves is another matter. We think that understanding the errors in the tool is important, as well as what other options are available to help our clients minimise the compliance cost (e.g. installing doors as above).

There are a lot of (frankly) weird assumptions incorporated by MBIE into the heating capacity tool. For example, a pre-1978 house uses an external wall assumption of R0.5, but an internal wall is assumed to be less at R0.4. It makes no sense at all that part of the inside of the house is considered colder than the outside. Equally, if you have an internal ceiling then the R-value is assumed to be the same as having no insulation at all, so the calculator assumes an outside temperature above, but above might be another whole floor, and above that, a ceiling insulated to R3.6 in a modern building! There is certainly an argument to be made in such circumstance (if it makes a difference to the cost).

This is part of a larger problem with the default values used in the calculator, the worst example being that houses built after 1978 were required by law to have external wall insulation rated R1.5, yet the calculator uses a default of R1.0, which is just not correct.

Table 2. NZBC insulation requirements (example shown is for light timber frame houses, Climate zone 2)

Component	1978	1996	2007
Roof (ceilings)	R1.9	R1.9	R2.9
Wall	R1.5	R1.5	R1.9
Floor	R0.9	R1.3	R1.3
Windows	na	Na	R0.26

Differences in R ratings have the most impact on heating requirements at these lower R-ratings, so this error makes for big increases to the end result of the assessment.

The output from the calculator highlights any deviations from defaults so they do need to be justified. We use the defaults except where we have documented proof of it being better insulated (this can be as easy as documenting when the house was built).

Electric Heaters

Only very small and modern lounges will be able to have an assessment of 2.4kw or below and thus avoid the need to install a heat pump. If you do have this assessment then a small thermostat electric heater will do the job of complying. This should not cost more than \$250 for the heater, with a little more on top for a handyman's cost to permanently fix it to a wall, and the heater can be just plugged into an existing power socket. It is also important to note that if there is an existing heat source (you will have to be able to document its output capacity and it must have a thermostat) then a fixed electric heater may also be used to top-up the existing capacity as a low cost means of complying.

Heat Pump Selection

It will be rare that the assessment will be below the 2.5kw level, as even 1 bedroom units tend to have assessments in the 3-4kw range. In our experience most smaller unit lounges end up with assessments of around 3.5kw and larger house lounges are between 6kw and 8kw. You really need a large space, in an old building, with lots of windows, to get over an 8kw assessment. But the (kind of) good news is that it often doesn't matter much what the actual heating capacity required is once the assessment is over 2.5kw. The cost of installing the HP is normally around \$700-800, and the smallest HP's over 2.5kw are around \$900, so even a 3.1kw HP will cost around \$1,700 installed. But because the install cost is standard for all sizes you can get a much more powerful HP for not so much more overall. To date we have mainly had the Fujitsu ASTG14LUCB 5.4 installed for a cost of \$2,000 and which covers our landlords to 6.0kw. The larger Fujitsu ASTG18LVCC 6.0 costs \$2,350 and has capacity cover for 8.1kw.

This brings up an important point about HP model labelling, in that the label is normally the point of maximum cost efficiency, not the maximum capacity the model can heat to. If you look at the graphic on the right you can see the ASTG18LVCC 6.0 actually heats up to 8.1kw, and this is the important point for complying with the legal

'set-and-forget' remote control.

Compact Hi-Wall specifications

Model No.	Indoor Unit	Outdoor Unit	ASTG09LVCC	ASTG12LVCC	ASTG14LUCB	ASTG18LVCC	ASTG22LVCC
			AOTG09LVCC	AOTG12LVCC	AOTG14LUCB	AOTG18LVCC	AOTG22LVCC
CAPACITY (RANGE)	HEAT	kW	3.4 (0.50 - 4.0)	4.8 (0.90 - 5.60)	5.4 (0.90 - 6.0)	6.0 (1.05 - 8.10)	7.2 (1.05 - 8.70)
	COOL	kW	2.5 (0.50 - 3.30)	3.5 (0.90 - 4.0)	4.2 (0.90 - 5.0)	5.0 (0.90 - 5.80)	6.3 (0.90 - 7.30)
INPUT POWER	HEAT/COOL	kW	0.73 / 0.58	1.11 / 0.92	1.47 / 1.25	1.49 / 1.53	2.03 / 1.95
	COP / EER	HEAT/COOL	kW/kW	4.66 / 4.31	4.32 / 3.80	3.67 / 3.36	4.03 / 3.27
STAR RATING	HEAT		4.5	4.0	2.5	3.5	2.5
	COOL		4.0	3.0	2.0	2.0	2.0
RUN CURRENT	HEAT/COOL	A	3.5 / 2.8	5.0 / 4.2	6.4 / 5.7	6.3 / 6.5	8.5 / 8.2
MOISTURE REMOVAL		L/Hr	1.3	1.8	2.1	2.6	2.7
INDOOR NOISE Q/L/M/H	HEAT	dB(A)	22/31/37/42	22/31/38/43	27/34/40/45	30/38/42/46	32/38/42/48
OUTDOOR NOISE			47	48	50	53	56
AIR CIRCULATION	INDOOR	l/s	225	239	264	267	267
DIMENSIONS AND WEIGHTS (HxWxD)		mm	293 x 790 x 225		282 x 870 x 185		293 x 790 x 225
	INDOOR	kg	9.5		9.5		10
	OUTDOOR	mm	540 x 660 x 290		540 x 790 x 290		620 x 790 x 290
	kg	25		34		40	

requirements. Some clients have pointed out that this is not the best option for the tenants as it may cost them more at higher usage, and that can be true. On the other hand, the calculator is not a true measure of need either. For example, it assumes that there are no curtains on the windows and that there is massive heat loss through them, which is almost certainly not true.

So in practice, an HP installation will normally cost between \$1,700 and \$2,350. We suggest that the \$2,000 level gives a lot of comfort for tenants (and probably less maintenance expense) without

costing much more for landlords. You can also install wi-fi controlled models for only a little more, and this may be an added benefit for some properties by helping attract better tenants.

Heat Pump Installation

We have found that HP installation is the most expensive part of meeting the HHL requirements, but also the easiest. The HP technician assesses the best location for the HP trying to maximise the heating potential while keeping the outside unit in the quietest place. They will quote for the install and bring up any issues at no cost. Once approved by you and a small deposit paid, we book in the install. We suggest that after the HP is installed the rent should be raised by at least \$10-15 pw, and think that the tenant will have no problems with this. A good install time is April-June so the tenant is enjoying the HP during winter when the rent increase kicks in.

There will be extra costs for wall mounting the outside unit (about \$150) when there are no flat space options. Also, longer piping lengths between the inside and outside units cost about \$50 per meter, but we have only seen this needed once. You normally won't have to repaint holes in walls as the installers are quite good at minimising damage. They usually get to the external power source by connecting from the outside inwards with no issues for the walls at all.

We have found that some installers are used to doing owner occupied properties and seem to have difficulty in dealing with installs which are about complying with legislation at the best cost. When they start having conversations with the tenants as though the tenants are the owners, problems can arise. We try to avoid these installers.

Install Timing

As the HP installation is quite easy to organise and as the most expensive HHL cost, it can be left to last. After July 2021 it would have to be installed within 90 days of a new tenancy, **or a renewed tenancy** if on a fixed term. However for a new tenancy after this date, we strongly suggest that you book the install in as soon as notice is given so we can advertise the property as having an HP. You should also be aware that as more and more rentals comply with HHL requirement a rental without an HP will become less desirable and harder to rent, so there is a hidden cost in waiting. If you can, it would be best to install your HP(s) during 2020.

From July 2020 under the HHL all new rental agreements must be accompanied by a declaration of how the property **does not comply** with the HHL. So the tenants will be fully aware of the property's current failures to comply, which will again make it harder to rent. Finally, just a reminder that all properties must comply by July 2024 in all cases.