

Outside of Central Otago Air Shed 1, Canterbury & Nelson Clean Air Zones

As a general rule, any wood fire that is tested and complies with the National Environmental Standard can be installed on properties less than 2 hectares. ECAN and MFE have an approved list, which is a list of wood fires that comply with their "more stringent" requirements for Canterbury and Nelson clean air areas. If you live outside of these areas (the rest of New Zealand) legally all you need to gain approval from your local authority is a copy of the test certificate detailing that the Metro of your choice complies with the National Environmental Standard. Metro test certificates are on the Metro Fires website which is downloadable for your use.

www.metrofires.co.nz



METROFIRES

TECHNICAL BULLETIN 08



NATIONAL ENVIRONMENTAL STANDARDS

National Environmental Standards came into effect throughout New Zealand in 2005, imposing a minimum 65% efficiency and maximum 1.5gm emission requirements on all woodfires installed on properties with a land area of less than two hectares. Properties of two hectares or more are exempt from this National Environmental Standard. This effectively creates two woodfire markets, and as a consequence Metro are manufacturing a range of product for each;

ECO Metros – Designed for properties less than two hectares, ECO Metro woodfires surpass the requirements of the National Environmental Standard. Utilising advanced combustion technology ECO Metros have a more complex firebox design which operate at higher combustion temperatures, but offer shorter burn times than their LTD Metro equivalents.

LTD Metros – Designed for properties two hectares or more, LTD Metros retain features like overnight burning and genuine wetbacks while still meeting internationally accepted efficiency and emission standards.

Note – Some regional councils have imposed emission requirements which take precedence over the national standard, while some other councils within New Zealand have imposed or are considering adopting bylaws relating to environmental issues. If in doubt talk to your Metro retailer. The following table was correct at the time of printing.

ECO Models	Tested Emission & Efficiency		Complies with National Environmental Standards
	Without Wetback	With Wetback	
ECO Tiny Rad	0.94gms/75.0%	0.85gms/67.0%	With & Without Wetback
ECO Tiny Trad	0.70gms/78.0%	1.0gms/66%	With & Without Wetback
ECO Tiny Ped	0.70gms/78.0%	1.0gms/66%	With & Without Wetback
ECO Wee Rad	0.88gms/70.4%	0.96gms/65.2%	With & Without Wetback
ECO Wee Trad	0.88gms/70.4%	0.96gms/65.2%	With & Without Wetback
ECO Wee Ped	0.88gms/70.4%	0.96gms/65.2%	With & Without Wetback
ECO Xtreme Rad (DV)	0.89gms/68.2%	0.94gms/68.8%	With & Without Wetback
ECO Xtreme Ped	0.86gms/69.4%	1.04gms/67.4%	With & Without Wetback
ECO Euro Rad (DV)	0.70gms/72.0%	Not tested	Without Wetback only
ECO Euro Trad	0.65gms/70.4%	1.08gms/70.2%	With & Without Wetback
ECO Euro Ped	0.65gms/70.4%	1.08gms/70.2%	With & Without Wetback
ECO Insert	0.91gms/65.0%	Not tested	Without Wetback only

- All ECO Metros "without wetbacks" can be installed on any property size New Zealand wide. Nelson & Christchurch have specific zones restricting the installation of woodfires for homes that have not had an existing woodfire previously installed (see your Metro retailer)
- All ECO Metros "with wetbacks" can be installed within New Zealand on any property that is two hectares or more in size. Most ECO models can be installed with a wetback in clean air zones, some restrictions apply to some models/regions.
- Test certificates for all Metro ECO fires are detailed on the Metro website - www.metrofires.co.nz

LTD Models	Tested Emission & Efficiency	Complies with AS/NZS4013:1999
LTD Wee Rad	2.3gms/71%	With & Without Wetback
LTD Wee Ped	2.3gms/71%	With & Without Wetback
LTD Xtreme Rad	3.3gms/63%	With & Without Wetback
LTD Xtreme Ped	3.3gms/63%	With & Without Wetback
LTD Euro Ped	3.3gms/63%	With & Without Wetback
LTD Mega Rad	2.0gms/65.6%	With & Without Wetback
LTD Mega Ped	2.0gms/65.6%	With & Without Wetback
LTD Mega Built-In	1.5gms/53%	With & Without Wetback
LTD Insert	2.3gms/58%	With & Without Wetback

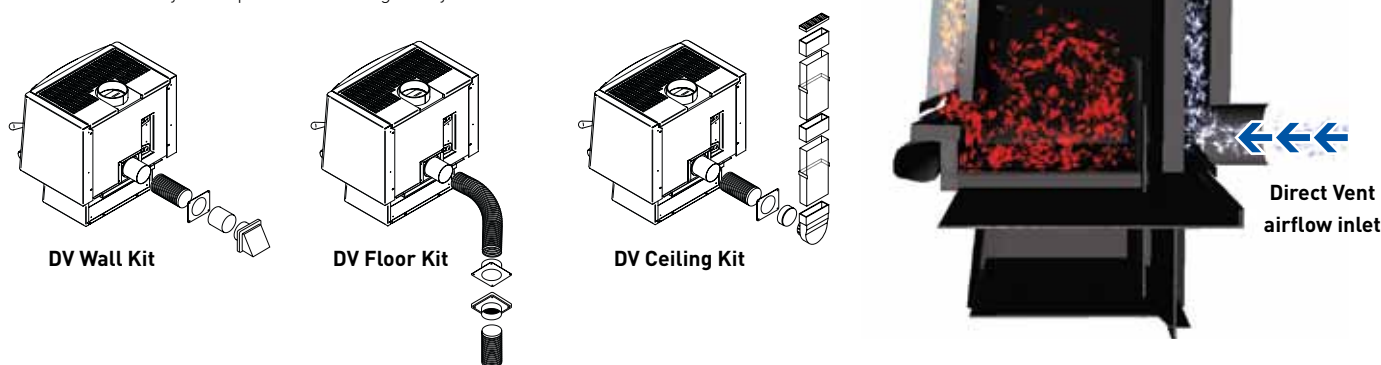
- All LTD Metros "with or without wetbacks" can be installed anywhere in New Zealand providing the property is two hectares or more.

DIRECT VENT ECO METROS

New to the Metro range are the larger ECO Metros which incorporate the very latest Direct Vent (DV) technology. These "DV" Metros offer two significant advantages;

- All air consumed during combustion enters the appliance near the bottom/rear of the firebox, this enables both the primary and secondary air supply to be pre-heated to very high temperatures before entering the firebox. This air supply is ducted over the rear face of the firebox, then through preheating tubes fitted into the firebox's secondary burn chamber, resulting in emission and efficiency levels detailed in the chart above, that were previously unattainable.
- Metros with the "DV" technology also offer the option of connecting the air supply to outside the home. laboratory testing confirms a typical woodfire producing 10kW's of heat at 67% efficiency consumes 8.4 litres of air per second burning fuel with a 17% moisture content, equating to around one "roomful" of air every hour. By connecting the air supply to outside the home the Metro consumes air drawn in from outside the home rather than using the heated air from within the home, saving fuel and further increasing the overall efficiency of the Metro.

There are three Direct Vent kits available – DV WALL KIT ducts through an outside wall, DV FLOOR KIT ducts through the floor directly behind the Metro and the DV CEILING KIT ducts into the wall cavity and up into the ceiling cavity.



■ INSERT SPEC SHEET

Pre Installation

Metro fireplace inserts are tested to/comply with AS/NZS 2918:2001 incorporating appendix "E" when installed in accordance with the installation and operation manual supplied with every Metro wood fire. Prior to installing your Metro fireplace insert into a masonry chimney, it is important that certain clearances and other requirements are complied with as detailed below :-

Chimney – The masonry chimney must be swept and checked for: -

- Cracks and general overall condition, with repairs carried out if necessary by a suitably qualified person.
- Cavity dimensions to ensure the fireplace insert will fit, it is usually necessary to remove the fire bricks from the lower masonry chimney cavity.
- The base of the masonry chimney cavity on which the Metro fireplace insert will rest must be level, if it is not, it should be levelled using mortar.
- If an ash removal door exists in the base of the chimney it should be sealed shut to prevent air entering the cavity.

Mantel

If a timber or combustible mantelshelf exists above the fireplace insert opening, it should be a minimum distance above the top of the Metro's fascia, minimum distances are: • Metro LTD Insert = 460mm • Metro ECO Insert = 340mm • Metro LTD Mega Built-In = 500mm

If less than the above minimum specified, a deflector or heat shield will be required to be fitted under the mantel.

ECO Insert Fan

On properties less than 2 hectares, the Metro ECO Insert must be installed with Metro's ECO Insert fan which is a single speed, thermostatically controlled device. This fan must be permanently wired and therefore requires the services of a registered electrician. Fitting instructions for the fan are supplied with the fan module.

Floor Protector Requirements

A floor protector must extend from behind the fascia the distance specified in the table below, and 200mm to each side of door opening.

NOTE – Floor protector requirements differ for the three models listed;

LTD INSERT: Requires an insulated floor protector and the forward projection is dependant on the height of the fireplace insert above the combustible floor. The schedule of projections listed for heights of 0mm to 50mm+ can be achieved by the thickness of the floor protector, raising the insert or a combination of the two. [Recommended construction is "tiled Promina board" with a combined thickness as specified]

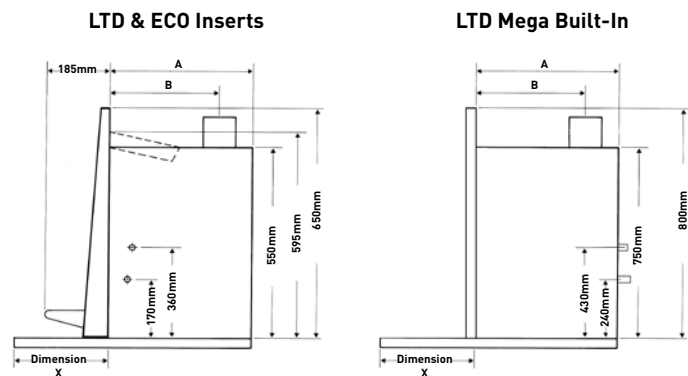
LTD MEGA BUILT-IN: Requires a "minimal" insulating floor protector [recommended construction is "tiles on 6mm thick Promina board", although any non-combustible material fixed to the 6mm Promina board is suitable including glass or steel/aluminum sheet etc]

ECO INSERT: Only requires a non-insulating "ash-hearth" floor protector [recommended construction is "tiles on 6mm thick villa board", although any non-combustible material fixed direct to the combustible floor is acceptable including glass or steel/aluminum sheet etc]

Height	0mm	10mm	15mm	20mm	25mm	30mm	35mm	40mm	41mm	45mm	50mm+
LTD Insert (Dimension X)	455mm	455mm	455mm	436mm	424mm	408mm	396mm	366mm	350mm	350mm	350mm
ECO Insert	Dimension X = 300mm minimum projection is required irrespective of the height of the floor protector.										
LTD Mega Built-In	Dimension X = 330mm minimum projection is required irrespective of the height of the floor protector.										

Fascia Model	Base width	Body Width
LTD & ECO Trend Fascia	810mm	810mm
LTD & ECO Trad Fascia	900mm	810mm
LTD Mega Built-In Fascia	900mm	900mm

Firebox Model	A	B	Width
LTD Insert	500mm	405mm	560mm
ECO Insert	500mm	405mm	560mm
LTD Mega Built-In	600mm	340mm	800mm



Flue Systems

All Metro wood fires should be installed with the Metro ECO Flue System which comes complete with detailed installation instructions. All Metro ECO Flue Systems include Metro's vertical discharge cowl which improves draft and performance.

Vented Zero Clearance Cabinet

The function of the Metro "Vented Zero Clearance Cabinet (VZCC) is to enable the Metro LTD Insert and ECO Insert Fireplace to be installed into a timber framed wall. The VZCC therefore replaces the more traditional masonry chimney at a fraction of the cost. Detailed instructions for the VZCC are available from your Metro retailer.

LTD & ECO Inserts

The wall opening cavity size required:

Width of opening	Height of opening	Depth of opening
- 700mm suggested	- 685mm suggested	- 575mm minimum
- 800mm maximum	- 690mm maximum	
- 690mm minimum	- 685mm minimum	

LTD Mega Built-In

The wall opening cavity size required:

Width of opening	Height of opening	Depth of opening
- 850mm suggested	- 780mm suggested	- 650mm minimum
- 880mm maximum	- 790mm maximum	
- 820mm minimum	- 760mm minimum	

INSTALLATION CLEARANCES & SPECIFICATIONS

Minimum clearances shown are in mm, with a Pioneer double flue mounted shield fitted. All Metro wood fires comply with AS/NZS2918:2001.

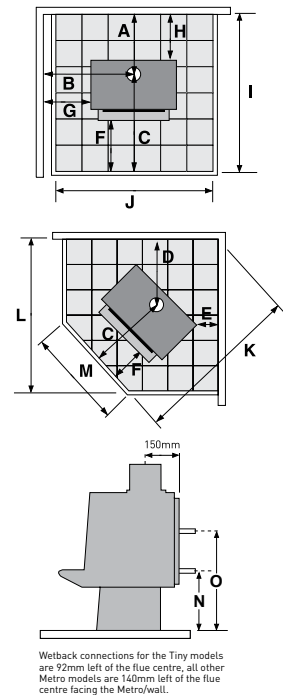
Specifications were correct at the time of printing, but may alter and those detailed within should be used only as a guide. Refer to the installation and operation manual supplied with every Metro, or if in doubt, consult your Metro retailer.

Clearance reductions

AS/NZS 2918:2001 allows for a reduction in minimum clearances as detailed in tables 3.1 and 3.2 of the standard which your Metro retailer will be able to advise you on. Pioneer has also tested certain model Metros with "side extensions" fitted to the Pioneer double flue mounted shield, to achieve a reduction in clearances, details are;

- The LTD Wee Ped installed with a Pioneer double flue mounted shield with side extensions fitted can have side clearances B and G reduced by 80mm if installed into an alcove which does not project forward of the Metro.
- The ECO Euro Ped, ECO Xtreme Ped and ECO Euro Trad installed with a Pioneer double flue mounted shield with side extensions fitted reduces minimum corner clearance E from 170mm to 110mm. In this situation use the LTD Metro equivalent for measurements E, D, K & L. (i.e use LTD Euro Ped chart for ECO Euro Ped for E, D, K & L).
- The LTD Wee Rad & LTD Wee Ped rear clearance (H) and overall floor protector depth (I) can reduce by 50mm providing a wetback is not fitted and therefore maintenance access is not required.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
ECO Tiny Rad	225	552	580	420	150	200	300	75	805	650	1165	925	250	280	470
ECO Tiny Trad	210	430	580	290	25	200	185	60	790	650	990	875	250	295	485
ECO Tiny Ped	210	430	580	290	25	200	185	60	790	650	990	875	250	280	470
ECO Wee Rad	260	525	580	385	80	200	220	110	840	825	1125	950	425	295	485
ECO Wee Trad	260	595	580	385	85	200	300	110	840	825	1120	950	425	295	485
ECO Wee Ped	260	595	580	385	85	200	300	110	840	825	1120	950	425	295	485
ECO Xtreme Rad (DV)	250	575	625	435	80	200	200	100	875	905	1240	1065	505	338	528
ECO Xtreme Ped (DV)	230	585	625	495	170	200	250	80	855	905	1325	1120	505	325	515
ECO Euro Rad (DV)	250	625	625	435	80	200	250	100	875	905	1240	1065	505	338	528
ECO Euro Trad (DV)	230	585	625	495	170	200	250	80	855	905	1325	1120	505	325	515
ECO Euro Ped (DV)	230	585	625	495	170	200	250	80	855	905	1325	1120	505	325	515
LTD Wee Rad	250	555	580	400	80	200	250	100	830	825	1145	950	425	295	485
LTD Wee Ped	250	595	580	400	85	200	300	100	830	825	1145	950	425	295	485
LTD Xtreme Rad	250	575	625	455	80	200	200	100	875	905	1265	1065	505	353	543
LTD Xtreme Ped	250	575	625	455	110	200	240	100	875	905	1265	1065	505	340	530
LTD Euro Ped	250	575	625	455	110	200	240	100	875	905	1265	1065	505	340	530
LTD Mega Rad	270	675	725	500	125	200	300	120	995	905	1425	1175	505	353	543
LTD Mega Ped	270	610	725	465	130	200	275	120	995	905	1400	1140	505	340	530



Model	Width	Depth	Height	Firebox	*Area
ECO Tiny Rad	505	530	665	36 litres	120m2
ECO Tiny Ped/Trad	490	530	665	36 litres	120m2
ECO & LTD Wee Rad	607	530	665	50 litres	150m2
ECO & LTD Wee Ped/Trad	590	530	665	50 litres	150m2
ECO & LTD Xtreme Rad	750	575	745	68 litres	220m2
ECO & LTD Xtreme Ped/Trad	670	575	715	68 litres	200m2
ECO Euro Rad	750	575	745	68 litres	220m2
ECO & LTD Euro Ped/Trad	670	575	715	68 litres	220m2
LTD Mega Ped	670	675	715	103 litres	280m2
LTD Mega Rad	750	675	745	103 litres	280m2
ECO Insert Firebox	560	500	550	56 litres	140m2
LTD Insert Firebox	560	500	550	63 litres	150m2
LTD Mega Built-In	800	600	750	70 litres	220m2
ECO/LTD Trad Fascia	805/900	195	655/685		
ECO/LTD Trend Fascia	810	180	650		
LTD Mega Built-In Fascia	900	30	800		

*Area - Estimated on a 2.4m stud height in an average climate/insulation. If you are unsure of the correct Metro for your requirements, please consult with your Metro retailer.

FLOOR PROTECTORS

Freestanding Metro wood fires do not require an insulating floor protector, as they are tested and comply with the minimum floor protector requirements of AS/NZS 2918:2001. Note:

- The minimum floor protector sizes are specified in the clearance chart above.
- A floor protector can include ceramic tiles with grouted joints, a sheet of toughened glass, panel steel or any other non combustible material laid directly onto a wooden floor.
- If being installed onto a concrete or non combustible floor, no floor protector is required.

FLUE SYSTEMS

All Metro freestanding wood fires should be installed with the energy efficient Metro ECO Flue System which comes complete with detailed installation instructions. All Metro ECO Flue Systems include Metro's vertical discharge cowl which improves draft and performance.

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All measurements listed are correct at time of printing.



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