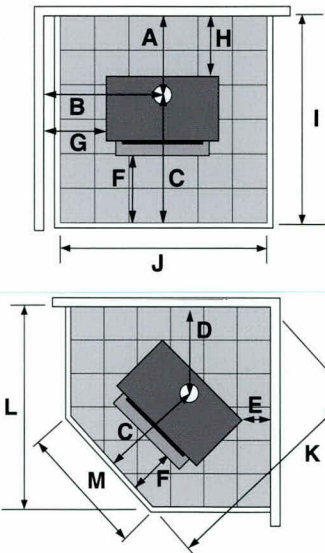


### CLEARANCE CHART

Metro woodfires are tested to/comply with AS/NZS2918:2001 if installed as detailed in the chart below: -

- Measurements listed below are the minimum required, stated in millimetres. Measurements are taken from the following reference points as illustrated: -
  - From the nearest combustable wall or surface (A, B, D, E, G, H)
  - From the Metro's flue centre (A, B, C, D)
  - From the outermost point of the Metro's cabinet / construction (E, F, G, H)
  - To the edge of the ash Floor Protectors non-combustible surface (C, F, I, J, K, L, M)
- The Metro Pioneer and Metro Pioneer Traditional have also been tested with optional "flueshield side extensions". When fitted into an alcove situation not projecting forward of the Metro with flueshield side extensions fitted, clearances "B" and "G" reduce by 80mm for the Pioneer and Pioneer Traditional.



### FLOOR PROTECTORS

Freestanding Metro woodfires 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 below.
- A Floor Protector can include ceramic tiles with grouted joints fixed directly onto a wooden floor, or a sheet of toughened glass, panel steel or any other non combustable material laid directly onto a wooden floor.
- If being installed onto a concrete or other non combustable floor, no Floor Protector is required.

### FLUE SYSTEMS

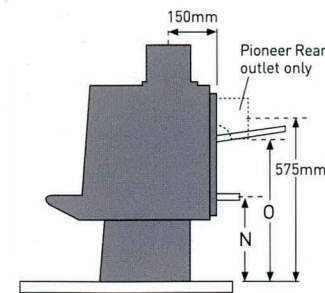
All Metro freestanding woodfires should be installed with the energy efficient Metro ECO Flue System which comes complete with detailed installation instructions. All Metro ECO Flue Systems include Metros vertical discharge cowl which improves draft and performance and is illustrated on the prior page.

METRO INSTALLATION CLEARANCES mm														
MODEL	FLUESHIELD	A	B	C	D	E	F	G	H*	I*	J	K	L	M
ECO TINY TRAD	With Flueshield	250	445	580	305	25	200	185	100	830	650	1020	875	250
	Without Flueshield	605	545		595	315		350	455	1185		1420	1165	
LTD PIONEER PED	With Flueshield	250	595	580	400	85	200	300	100*	830*	825	1145	950	425
LTD PIONEER TRAD	Without Flueshield	580	595		595	280		300	430	1160		1420	1145	
ECO PIONEER PED	With Flueshield	260	595	580	400	85	200	300	110	840	825	1145	950	425
ECO PIONEER TRAD	Without Flueshield	580	595		595	280		300	430	1160		1420	1145	
LTD PIONEER REAR OUTLET	N/A	565	N/A	N/A	100	200	270	100	840	825	1170	965	425	
LTD XTREME PED	With Flueshield	250	575	625	455	110	200	240	100	875	905	1265	1065	505
LTD XTREME TRAD	Without Flueshield	800	575		595	250		240	650	1425		1465	1205	
LTD ASPIRE PED	With Flueshield	250	575	625	455	110	200	240	100	875	905	1265	1065	505
LTD ASPIRE TRAD	Without Flueshield	800	575		595	250		240	650	1425		1465	1205	
LTD MEGA PED	With Flueshield	270	610	725	465	130	200	275	120	995	905	1400	1140	505
LTD MEGA TRAD	Without Flueshield	540	610		560	220		275	390	1265		1545	1235	
LTD WEE RAD	With Flueshield	250	555	580	400	80	200	250	100*	830*	825	1145	950	425
LTD WEE TRAD	Without Flueshield	580	555		600	280		250	430	1160		1420	1145	
ECO WEE RAD	With Flueshield	260	525	580	400	80	200	220	110	840	825	1145	950	425
ECO WEE TRAD	Without Flueshield	580	525		600	280		220	430	1060		1420	1145	
LTD RAD	With Flueshield	250	575	625	455	80	200	200	100	875	905	1265	1065	505
LTD RAD TRAD	Without Flueshield	800	575		625	250		200	650	1425		1465	1205	
LTD MEGA RAD	With Flueshield	270	675	725	500	125	200	300	120	995	905	1425	1175	505
LTD MEGA TRAD	Without Flueshield	540	675		595	220		300	390	1265		1570	1270	

\* The rear clearance (H) and overall floor protector depth (I) can reduce by 50mm for the LTD Wee Rad, LTD Pioneer Ped and LTD Pioneer Trad, providing a wetback is not fitted and therefore maintenance access is not required.

METRO SPECIFICATIONS					
MODEL	WIDTH	DEPTH	HEIGHT	N	O
ECO TINY TRAD	490	530	665	295	485
LTD & ECO PIONEER	590	530	665	295	485
LTD ASPIRE/XTREME	670	575	715	340	530
LTD MEGA PED	670	675	715	340	530
LTD & ECO WEE RAD	607	530	665	295	485
LTD RAD	750	575	745	353	543
LTD MEGA RAD	750	675	745	353	543

Note (1): Both wetback connections are 140mm left of the flue centre, facing the Metro/wall.



### PIONEER

Pioneer Manufacturing Ltd • Phone 06 756 6520 • Fax 06 756 6540  
PO Box 11 Inglewood • info@woodfire.co.nz • www.woodfire.co.nz

## METRO 2005 TECHNICAL BULLETIN

## NEW ENVIRONMENTAL STANDARDS FOR WOODFIRES

(Effective 1st September 2005)

## METRO 2005 SPECIFICATIONS SHEETS

(All Models)



## NEW ENVIRONMENTAL STANDARDS FOR WOODFIRES

During 2004 the Minister for the Environment released New Zealand's first ever national environmental standards which included a specific standard regulating the installation of Woodfires with consent applications dated on or after 1st September 2005. In brief this means on the 1st September 2005 properties with a land area of less than two hectares becomes a clean air zone (like Christchurch has been for several years) and only woodfires that meet specific emission & efficiency criteria can be installed on these properties.

After 1st September 2005 New Zealand will have two distinct criteria for consumers wishing to install a woodfire determined solely by the size of the property their home is built on, irrespective of location or population density;

- **If your property is two hectares or larger** – You can install any woodfire that complies with AS/NZS4013:1999, which allows up to 4 grams of emission particles for every 1 kilogram of fuel burnt. This means you can install ANY Metro woodfire as the entire LTD and ECO range of Metros comply with AS/NZS4013:1999.
- **If your property is less than two hectares** – After the 1st September you can only install a woodfire which meets the new environmental standard of 1.5grams particulate per 1 kilogram of fuel burnt with a minimum space heating efficiency of 65%, which means you will only be able to install an "ECO" Metro as this meets the new 1.5gm/65% requirement (refer chart below).

## LTD & ECO METROS

Metro have and are still developing an ever increasing range of "ECO" Metros which comply with the new 1.5gm/65% national standard to compliment the existing "LTD" Metros which have features that have made Metro New Zealand's leading woodfire brand. The Pros and Cons for these two varying models are;

**ECO METROS** – Utilise technically advanced combustion technology which involves a more complex firebox design resulting in higher combustion temperatures and lower emissions. But these additional complexities cost more making the ECO variant \$150 to \$300 more than its LTD equivalent, they have a shorter burn cycle so will not burn overnight due to burning hotter and faster, and some models cannot have wetbacks as an option.

**LTD METROS** – Offer a larger range of product choice at more competitive prices while retaining features like extended burn times and genuine wetbacks while meeting internationally accepted emission standards.

Clearly ECO Metros burn cleaner than LTD Metros, but it is yet to be proven what effect on our environment a reduction from 4gms to 1.5gms will have. All of Metros LTD models achieve emission levels well below 4gms and all ECO Metros released to date have achieved emission levels of less than 1 gram, significantly less than the new standard of 1.5gms. However unless installed and operated correctly on 'dry fuel' these tested emissions become irrelevant, as even ECO Metros fuelled with unseasoned or treated fuel will produce excessive particle emissions, therefore ongoing consumer education is required and all Metros must be fuelled and operated as detailed in the installation and operation manual supplied.

## IN SUMMARY

New Zealand is adopting a national emission standard and manufacturers and consumers alike must comply with this standard. If you obtain a building consent application dated prior to the 1st September 2005 you can choose the woodfire type based on your desires, features or the size/price that suits your needs or budget. After the 1st September 2005, depending on the size of your property you may find the Metro with the features you wanted is no longer an option for you, or not at the price it was prior to 1st September!

2005 LTD & ECO EMISSIONS COMPLIANCE CHART			SELECT THE COLUMN DESCRIBING YOUR PROPERTY					
MODELS		Emissions/Efficiency	2 Hectares or More		Less than 2 Hectares		Urban Canterbury	
			4gms Max.		1.5gms Max./65% Min		1gms Max./65% Min.	
			APPROVED	Wetback	APPROVED	Wetback	APPROVED	Wetback
LTD METROS	LTD WEE RAD	2.3gms/71%	YES	✓	<b>YES</b> Up to 1st September 2005 (with a wetback)		NO	✗
	LTD RAD	3.3gms/63%	YES	✓			NO	✗
	LTD MEGA RAD	2.0gms/65.6%	YES	✓			NO	✗
	LTD PIONEER PED	2.3gms/71%	YES	✓			NO	✗
	LTD PIONEER REAR OUTLET	2.3gms/71%	YES	✓			NO	✗
	LTD XTREME PED	3.3gms/63%	YES	✓			NO	✗
	LTD ASPIRE PED	3.3gms/63%	YES	✓	<b>NO</b> After 1st September 2005		NO	✗
	LTD MEGA PED	2.0gms/65.6%	YES	✓			NO	✗
	LTD PIONEER TRAD	2.3gms/71%	YES	✓			NO	✗
	LTD XTREME TRAD	3.3gms/63%	YES	✓			NO	✗
	LTD ASPIRE TRAD	3.3gms/63%	YES	✓			NO	✗
	LTD COMPACT INSERT	2.3gms/58%	YES	✓			NO	✗
LTD HI OUTPUT INSERT	2.3gms/58%	YES	✓			NO	✗	
ECO METROS	ECO WEE RAD	0.88gms/70.4%	YES	✓	YES	Note 1	YES	✗
	ECO RAD	TBA	YES	✓	Under Development		Under Development	
	ECO PIONEER PED	0.88gms/70.4%	YES	✓	YES	Note 1	YES	✗
	ECO XTREME PED	TBA	YES	✓	Under Development		Under Development	
	ECO ASPIRE PED	TBA	YES	✓	Under Development		Under Development	
	ECO TINY TRAD	0.72gms/78%	YES	✓	YES	Note 1	Approval no pending	
	ECO PIONEER TRAD	0.88gms/70.4%	YES	✓	YES	Note 1	YES	✗
	ECO XTREME TRAD	TBA	YES	✓	Under Development		Under Development	
	ECO ASPIRE TRAD	TBA	YES	✓	Under Development		Under Development	
	ECO INSERT	0.91gms/65%	YES	✓	YES	✗	Approval no pending	

ENVIRONMENT CANTERBURY (ECAN) – ECAN have imposed emission requirements for "Urban Canterbury" of 1gram/65% which is more stringent and takes precedence over the new national standard. ECAN's current Urban emission requirements were implemented Canterbury wide on the 1st January 2004, so are already in force.

NOTE 1 – At time of printing it is not certain if wetbacks will be an approved option for these models. It is probable, but additional testing is required to confirm, which is currently underway.

## 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 woodfire. 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.

**Mantle** – If a timber or combustible mantleshelf exists above the Fireplace Insert opening, it should be a minimum distance above the top of the Metro's fascia, minimum distances are:-

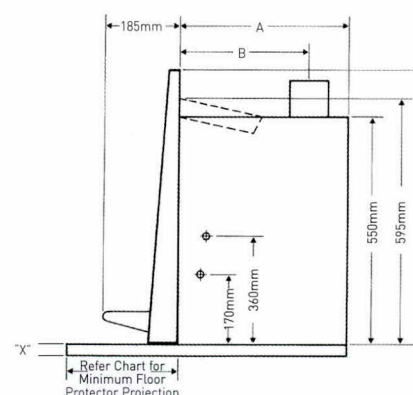
- Metro LTD Hi Output Fireplace Insert = 460mm
- Metro LTD Compact Fireplace Insert = 400mm
- Metro ECO Fireplace Insert = 270mm

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

## FLOOR PROTECTOR REQUIREMENTS

Metro Fireplace Inserts are designed to be installed direct onto a concrete base. An insulated floor protector is required to project in front of the Metro and must extend a minimum of 200mm to each side of the door opening making the minimum floor protector width 825mm. The minimum floor protector projection forward of the Metro is dependant on the height of the Fireplace Insert above the combustible floor. The following schedule of floor protector projections is measured from behind the Metro fascia being the total floor protector depth as shown in diagram below. Note, the heights specified above the combustible floor can be achieved by the thickness of the floor protector, raising the fireplace insert or a combination of these two.

Dimension "X"	0mm	10mm	15mm	20mm	25mm	30mm	35mm	40mm	41mm	45mm	50mm+
LTD COMPACT	439mm	439mm	425mm	417mm	403mm	392mm	381mm	367mm	N/A	356mm	350mm
LTD HI OUTPUT	455mm	455mm	455mm	436mm	424mm	408mm	396mm	366mm	350mm	350mm	350mm
ECO	Only 300mm minimum projection is required irrespective of the height of the floor protector.										



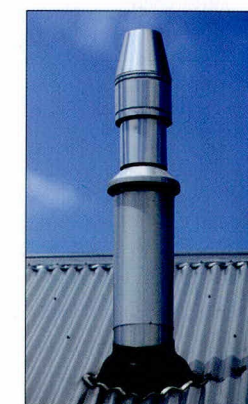
FASCIA MODEL	BASE WIDTH	BODY WIDTH
LTD & ECO TREND FASCIA	810mm	810mm
LTD & ECO TRAD FASCIA	900mm	810mm

FIREBOX MODEL	A	B	WIDTH
LTD COMPACT	410mm	315mm	560mm
LTD HI OUTPUT	500mm	405mm	560mm
ECO	500mm	405mm	560mm

## FLUE INSTALLATION

All Metro woodfires should be installed with the energy efficient Metro ECO flue system which comes complete with detailed installation instructions.

- All joints in the fluepipe must be sealed with Pioneer fire cement (or similar) and riveted.
- The base of the fluepipe must be sealed into the outlet of the Metro's flue stub.
- The flue systems 150mm diameter fluepipe must terminate a minimum of 4.6 metres above the top surface of the floor protector.



Metro's vertical discharge cowl is supplied standard with Metro's Eco Flue systems to improve draft and performance.

## VENTED ZERO CLEARANCE CABINET

The function of the Metro "Vented Zero Clearance Cabinet (VZCC) is to enable the Metro LTD Hi Output 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.

The wall opening cavity size required:

Width of opening  
- 700mm suggested  
- 800mm maximum  
- 690mm maximum

Height of opening  
- 685mm suggested  
- 690mm maximum  
- 685mm minimum

Depth of opening  
- 575mm minimum

