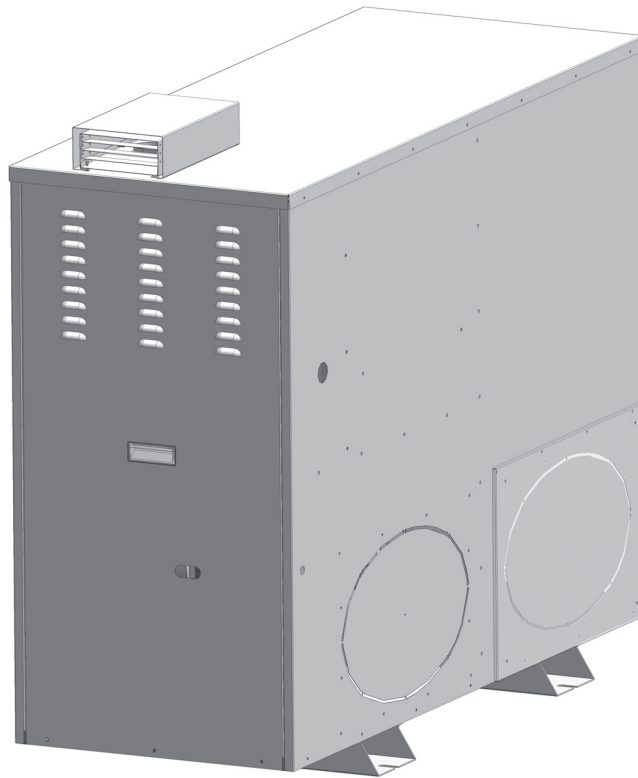
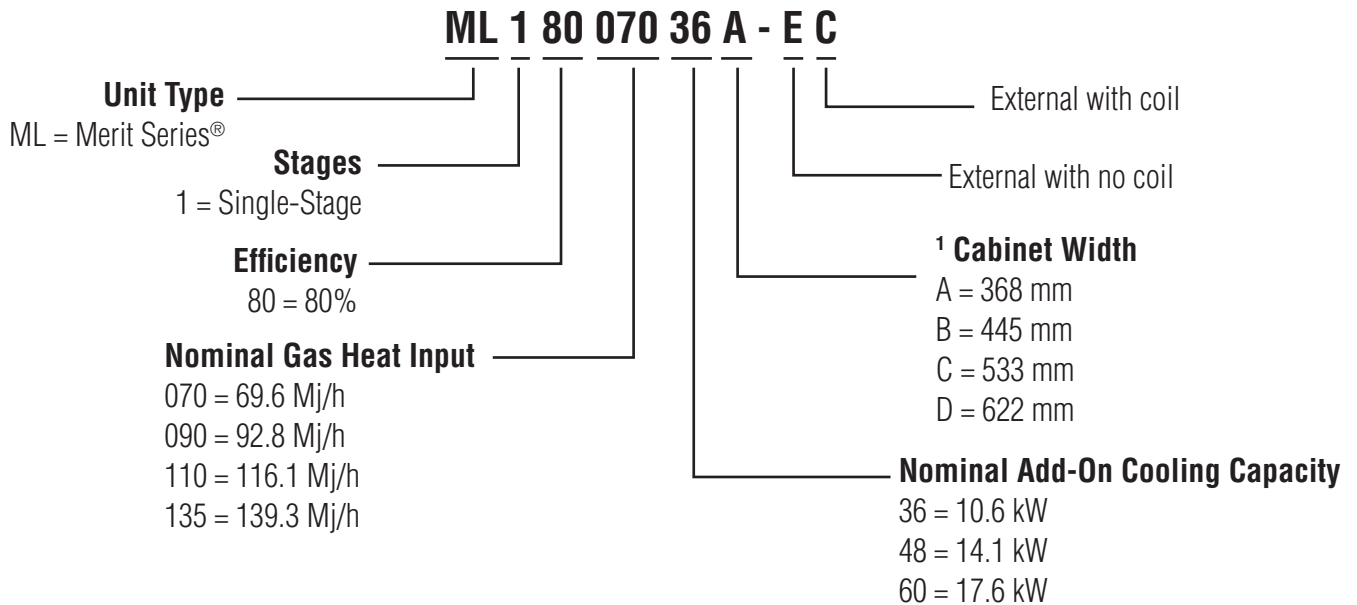


**GAS FURNACES
ML180
MERIT® SERIES
External 50Hz**



Energy Rating: 3.7 to 3.9 Stars
Input: 69.6 to 139.3 Mj/h
Nominal Add-on Cooling: 10.6 to 17.6 kW

Model Number Identification

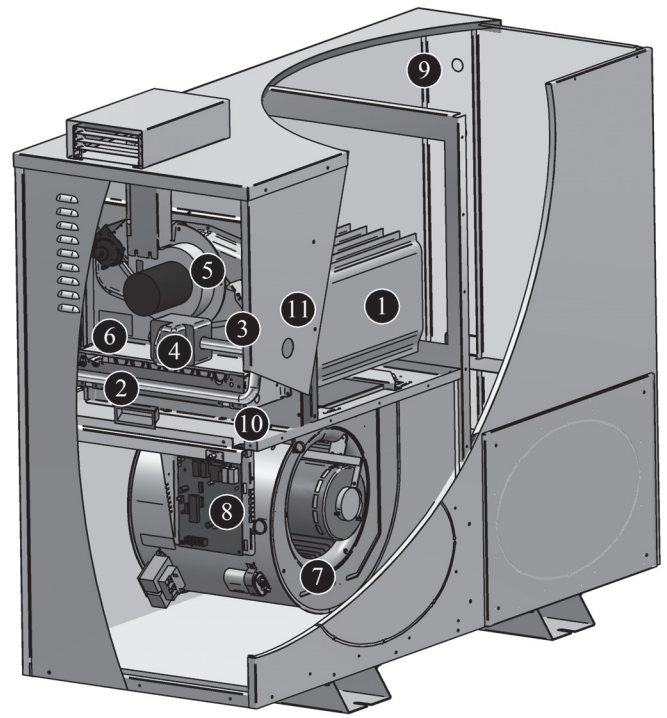


¹ Indoor coils with the same letter designation will physically match the furnace.

NOTE: Due to the ongoing commitment to quality by Heatcraft Australia Pty Ltd, specifications, ratings and dimensions are subject to change without notice or liability.

CONTENTS

- Model Number Identification**..... 1
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APPROVALS

- Australian Certified.
- Energy Rating: 3.7 to 3.9 Stars
- Certified by SAI Global.
- ISO 9001 Registered Manufacturing Quality System.
- Blower data from unit tests conducted in Lennox Laboratory air test chamber.

APPLICATIONS

Gas Requirements

The acceptable Natural Gas Wobbe number values for use with Lennox gas-fired furnaces are shown in the table to the right.

To determine if a gas is acceptable, request the Wobbe number from your gas supplier and compare it to the table below. If the number is within the ranges listed for Natural Gas, the gas is acceptable to use. If the Wobbe number is outside of the acceptable ranges, the gas is not acceptable to use.

Because propane is a regulated/manufactured gas, a Wobbe number is not required to determine acceptability. For propane installations, the acceptable heating value range is 93.2 MJ/m³ ± 5%.

NOTE: Lennox does not recommend using unrefined or “well head” gas on Lennox gas-fired furnaces. The quality of gas is not controlled and may have contaminants which may lead to corrosion, premature heat exchanger failure and may void the equipment warranty. The information provided above is intended for evaluating fuel gases available commercially through gas utilities or propane suppliers.

Wobbe Number¹	Minimum	Normal	Maximum
	46.95 MJ/m ³	50.15 MJ/m ³	53.28 MJ/m ³

NOTE - Gas Properties 101.3 kPa, 15° C Dry bulb.

¹ Wobbe number = The heating value divided by the square root of the specific gravity.

Input capacities of 69.6, 92.8, 116.1, and 139.3 Mj/h.

Compact cabinet for external applications.

Lennox add-on indoor coils, high-efficiency air cleaners and humidifiers can easily be added to furnace.

Shipped factory assembled with all controls installed and wired.

Each unit factory test operated to ensure proper operation.

FEATURES

HEATING SYSTEM

1 Lennox Duralok™ Heat Exchanger Assembly

- Heavy gauge aluminized steel heat exchanger.
- Crimped seam clamshell type design.
- Designed for normal expansion and contraction.
- Minimum resistance to air flow.
- Heat exchanger has been laboratory life cycle tested in excess of industry standards.
- Compact size of heat exchanger permits low overall design of furnace cabinet.

2 Inshot Burners

- Aluminized steel inshot burners provide efficient, trouble-free operation.
- Burner venturi mixes air and gas in correct proportion for proper combustion.
- Burner assembly is removable from the unit as a single component for ease of service.

3 SureLight® Hot Surface Mini-Nitride Ignitor

- Unique, non-porous, high-strength proprietary ceramic material provides long life and trouble-free maintenance.
- Low mass element provides fast heat-up and consistent ignitor temperature with low power usage.
- Cemented to alumina block for positive mounting and protection against current leakage.
- High temperature Teflon® insulated ignition lead wires for dependable operation.

4 Gas Control Valve

24 volt redundant combination gas control valve combines manual shut off switch (On-Off), automatic electric valve (dual) and gas pressure regulation into a compact combination control.

5 Combustion Air Inducer

- Shaded pole heavy duty blower prepurges heat exchanger and safely vents flue products.
- Pressure switch proves blower operation before allowing gas valve to open.
- Operates only during heating cycle.
- Direct access allows inducer assembly to be rotated 90° clockwise or counterclockwise to facilitate easy vent attachment in horizontal applications.

6 Flame Rollout Switches (2)

- Manual reset switches are factory installed inside burner box.
- Switches provides protection from abnormal operating conditions.

Limit Controls

- Automatic reset, primary and secondary limits are accurately located.
- Primary limit factory installed on vestibule panel on all units, secondary limit factory installed on blower housing.

OPTIONS

High Altitude Orifice Kit - Natural Gas Only

Required for all natural gas models for proper unit operation at altitudes of 1525 to 1981 feet.

High Altitude Pressure Switch Kit

Required on most units for proper unit operation at altitudes from 611 to 1981 m.

Natural Gas to Propane Kit

Required for field changeover from natural gas to propane.

7 CONTROLS

Integrated Single-Stage Furnace Control

- Contains all necessary controls and relays to operate furnace.
- Combustion air inducer is controlled by the furnace control. Prior to ignition, a pre-purge cycle for 15 seconds is initiated. After the main burners are turned off, a post-purge cycle for 5 seconds is run.
- Electronic flame sensor assures safe, reliable operation.
- Should flame fail to ignite, flame sensor will initiate 4 re-attempts at ignition before locking out unit operation for 60 minutes.
- Watchguard type circuit automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance calls for service.
- To aid in troubleshooting, the last three fault codes are stored for a maximum of six months. Displays the fault codes through indicator LEDs.
- Two accessory terminals furnished for additional power supply requirements for 240 volt (less than 1 amp) power humidifiers and powered air cleaners.
- Fan control consists of adjustable blower timed-off delay (60, 90, 120, 180 seconds - factory setting 60 seconds) and fixed blower timed-on delay (30 seconds).
- For air-conditioning applications, blower is automatically energized on thermostat demand for cooling.

IEC Receptacle

IEC receptacle provided on right side of furnace cabinet for easy, plug-in electrical connection.

FEATURES

Power Lead

2.5m power lead is provided for connection to the IEC receptacle located on the right side of the furnace.

24 Volt Transformer

Furnished and factory installed on blower wrapper. 40VA transformer has fuse wired in series.

OPTIONS

Thermostat

Thermostat (programmable/non-programmable) is not furnished with unit.

8 BLOWER

- › Multi-speed direct drive blower.
- › Statically and dynamically balanced.
- › Resiliently mounted.
- › Blower assembly easily removed for servicing.
- › Blower speeds are easily changed on the integrated furnace control. See blower performance tables (p9).

CABINET

- › Constructed of heavy gauge, cold rolled steel with a primed and pre-painted topcoat finish.
- › Cabinet surface temperatures are low due to foil-faced thermoshield insulation on side and back panels of heat section.
- › Blower section is completely insulated with matt-faced Thermoshield insulation.
- › Complete service access is accomplished by removing one piece front panel and interior blower access door.
- › Blower assembly may be completely removed from unit for service
- › Safety interlock switch located on blower access door automatically shuts off power to the unit when door is removed.
- › Gas piping inlets are provided in centre front of cabinet.
- › Electrical knockouts are provided in both sides of cabinet.
- › Return air entry possible on either side of cabinet.

FURNACE CONTROL CENTRE BOARD

- › Furnished and factory installed on interior blower access door.
- › Solid state board contains all necessary controls and relays to operate blower, gas valve, combustion air blower and ignition.
- › Board also monitors flame, limit and gas valve operation.
- › Fan control consists of blower timed-off delay and non-adjustable blower timed-on delay (45 seconds).
- › For air conditioning applications, blower is automatically energized on thermostat demand for cooling.
- › Continuous low speed blower operation is furnished on board.
- › Also included is a low voltage terminal strip for thermostat connections.
- › Diagnostic LED's are furnished on board as an aid in servicing the system.
- › Two 240 volt accessory terminals are provided on control board for operation of accessories during unit operation.

FLAME ROLLOUT SWITCHES

- › Dual manual reset switches are furnished as standard and are factory installed on either side of the burner box.
- › Switches prevent unit operation in the event combustion products passage through the flueway is reduced or blocked.

TRANSFORMER

- › 24 volt (40VA) control transformer is furnished as standard equipment and is factory installed on control panel.

COIL MATCH-UP

All furnaces exactly match C33 and CX34 cased upflow indoor coils and CH33 horizontal indoor coils with same letter designation in model number. No adaptor required. C33 uncased coils match furnaces without any overhang but require an optional adaptor base or field fabricated transition to match furnace opening. See C33 coil bulletin for additional information.

FILTER (NOT FURNISHED)

Filter and provisions for external mounting must be field provided.

SPECIFICATIONS

Model Number		ML18007036A - E or EC
Gas Heating Performance	Australian Gas Association Energy Rating - Stars	3.8
	Input - Mj/h	69.6
	Output - kW	15.5
	Temperature rise range - °C	14 - 31
	Gas Manifold Pressure (kPa) Natural Gas / Propane	0.87 / 2.30
High Static - Pa		125
Connections	Flue connection - mm round	102
	Gas pipe size IPS	1/2 in.
Indoor Blower	Wheel nom. diameter x width - mm	254 x 203
	Motor output - W	248
	Add-on cooling - kW	7 - 10.6
	Air Volume Range - L/s	282 - 716
	Max. Cooling Add-on - kW	14.0
Electrical Data	Voltage	220/240 volts - 50 hertz - 1 phase (less than 10 amps)
Shipping Data	kg - 1 package	80/95

NOTE: Filters and provisions for mounting are not furnished and must be field provided.

Model Number		ML18011060C - E or EC	ML18013560D - E or EC
Gas Heating Performance	Australian Gas Association Energy Rating - Stars	3.8	3.9
	Input - Mj/h	116.1	139.3
	Output - kW	25.8	31.0
	Temperature rise range - °C	17 - 33	17 - 33
	Gas Manifold Pressure (kPa) Natural Gas / Propane	0.87 / 2.30	0.87 / 2.30
High Static - Pa		125	125
Connections	Flue connection - mm round	102	102
	Gas pipe size IPS	1/2 in.	1/2 in.
Indoor Blower	Wheel nom. diameter x width - mm	292 x 254	279 x 279
	Motor output - W	746	746
	Add-on cooling - kW	14.1 - 17.6	14.1 - 17.6
	Air Volume Range - L/s	665 - 1165	627 - 1153
	Max. Cooling Add-on - kW	17.5	17.5
Electrical Data	Voltage	220/240 volts - 50 hertz - 1 phase (less than 10 amps)	
Shipping Data	kg - 1 package	100/115	110/125

NOTE: Filters and provisions for mounting are not furnished and must be field provided.

ADD-ON COOLING NOTES

The cooling kW shown in this document are rated at 35°C DB out door ambient and indoor entering air temperatures of 27°C DB and 19°C WB. All values are nominal gross capacities and do not include evaporator coil blower motor heat deduction.

GAS HEAT ACCESSORIES

Input	High Altitude Pressure Switch Kit			Natural Gas to Propane Kit		Propane to Natural Gas Kit	High Altitude Natural Gas Burner Orifice Kit
	0 - 610m	611 - 1219m	1220 - 1981m	0 - 1524m	1525 - 1981m	0 - 1524m	1525 - 1981m
070	No Change	80W51	80W56	96W94	97W04	96W95	73W37
090	No Change	80W51	80W56	96W94	97W04	96W95	73W37
110	No Change	80W51	80W56	96W94	97W04	96W95	73W37
135	No Change	80W52	80W51	96W94	97W04	96W95	73W37

HIGH ALTITUDE DERATE

NOTE: Units may be installed at altitudes up to 610m above sea level without any modifications.

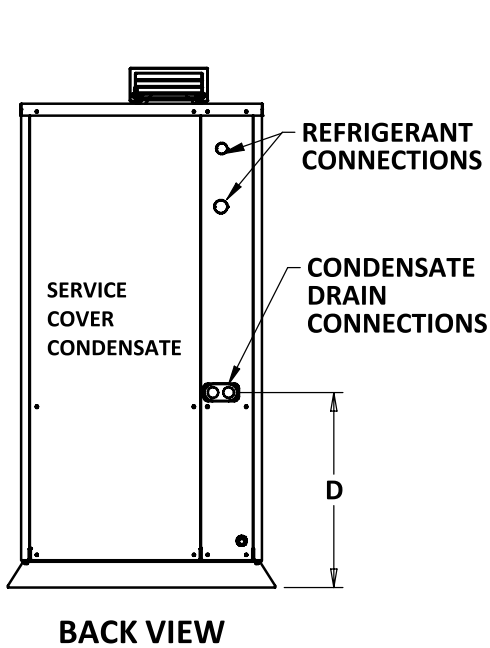
NOTE: This is the only permissible derate for these units.

Input	Gas Manifold Pressure (Outlet) kPa		Line Pressure - kPa		
	0 - 610m		Minimum	Minimum	Maximum
	Natural Gas	Propane	Natural Gas	Propane	Natural Gas/ Propane
070	0.87	2.30	1.13	2.75	3.20
090	0.87	2.30	1.13	2.75	3.20
110	0.87	2.30	1.13	2.75	3.20
135	0.87	2.30	1.13	2.75	3.20

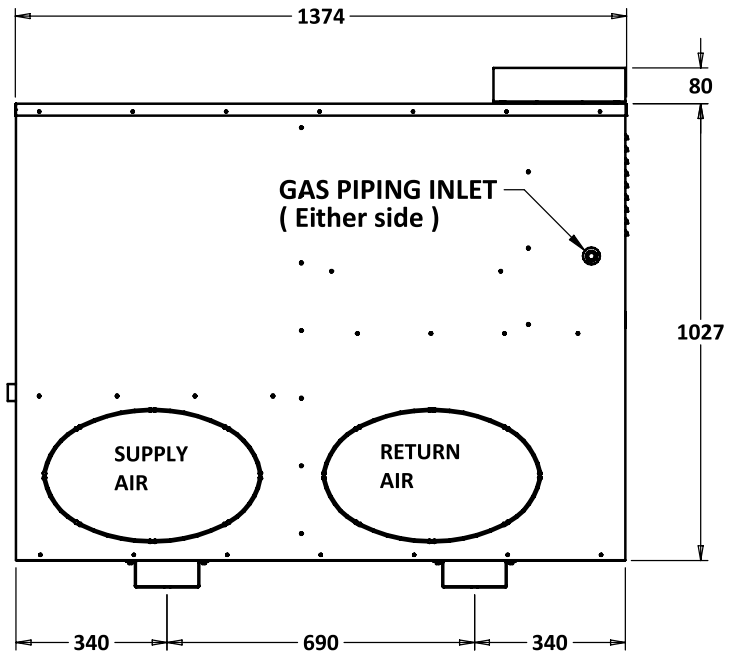
¹High Altitude Natural Gas Burner Orifice Kit required.

ML180 FURNACE SPECIFICATIONS

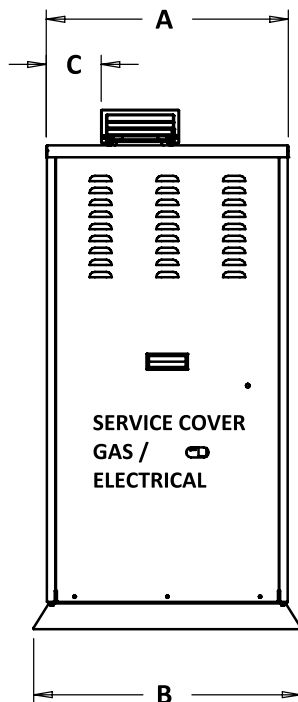
MODEL	DIMENSIONS mm			
	A	B	C	D
ML18007036A-E	456	512	80	-
ML18007036A-EC	456	512	80	533
ML18011060C-E	544	600	123	-
ML18011060C-EC	544	600	123	438
ML18013560D-E	633	690	167	-
ML18013560D-EC	633	690	167	438



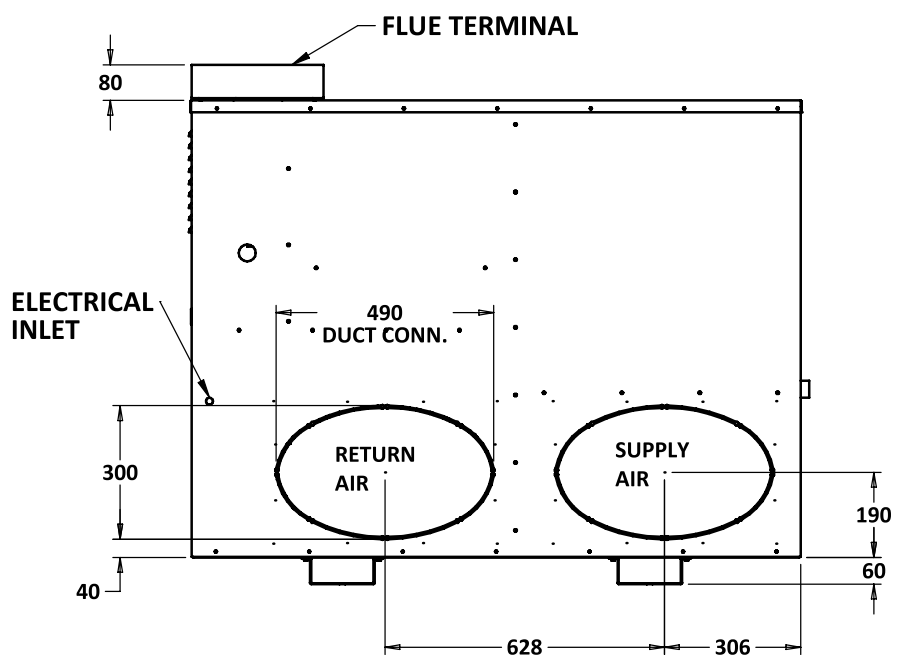
BACK VIEW



LEFT SIDE (VIEWED FROM FRONT)



FRONT VIEW



RIGHT SIDE

NOTE: DUCT CONNECTIONS ARE INTERCHANGEABLE FROM SIDE TO SIDE

BLOWER DATA

ML18007036A-E or EC PERFORMANCE (Less Filter)

External Static Pressure Pa	Air Volume at Various Blower Speeds					
	High		Medium		Low	
	L/s	Watts	L/s	Watts	L/s	Watts
0	716	771	589	615	469	468
25	687	752	564	597	435	448
50	675	724	554	583	430	441
75	662	708	547	569	421	430
100	649	691	530	554	408	417
125	633	672	517	541	393	405
150	616	650	503	524	372	387
175	595	624	488	514	359	375
200	573	608	472	494	324	363
225	551	590	447	477	307	346
250	523	561	424	454	282	331

ML18011036C-E or EC PERFORMANCE (Less Filter)

External Static Pressure Pa	Air Volume at Various Blower Speeds							
	High		Medium - High		Medium - Low		Low	
	L/s	Watts	L/s	Watts	L/s	Watts	L/s	Watts
0	827	1106	660	884	460	574	404	478
25	800	1063	630	850	434	558	378	463
50	801	1043	631	819	432	541	369	451
75	779	984	631	807	434	527	359	438
100	773	962	624	777	422	512	352	422
125	773	938	620	758	408	490	335	411
150	761	907	609	725	382	472	331	396
175	741	854	593	695	383	460	319	386
200	722	832	580	659	366	441	299	372
225	699	777	554	638	351	432	263	354
250	677	741	527	600	331	411	239	340

Australia 13 23 50 New Zealand 0800 653 330

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