EcoCharger range
Flue Guide

Models covered:
ECH32-220GCE
ECH33-370GCE
ECH52-370GCE
ECH87-480GCE
ECH106-480GCE
ECH129-480GCE

Lochinvar®

info@lochinvar.ltd.uk
lochinvar.ltd.uk

DOCUMENT CONTROL

Article	Language	Version	Modified by
EcoCharger flue guide	English	V1.2 July 2024	S Addis

Contents

CERTIFIED FLUE SYSTEMS

Lochinvar Water Heaters are certified for use on the following flue categories:

Installation type	Category	Description
B23	Open flue	An appliance intended to be connected to a flue that evacuates the products of combustion to the outside of the room containing the appliance. The combustion air is drawn directly from the room.
C13	Closed Flue	An appliance connected to either a concentric or twin-pipe flue system with a Horizontal flue terminal. Both the air inlet and flue exhaust must be in the same pressure zone.
C33	Closed Flue	An appliance connected to either a concentric or twin-pipe flue system with a Vertical flue terminal. Both the air inlet and flue exhaust must be in the same pressure zone.
C43	Closed Flue	An appliance connected to a common air inlet and flue exhaust system, which is designed for more than one appliance. This common system has a single air inlet and flue exhaust and is part of the building not the appliance.
C53	Closed Flue	An appliance connected to a twin-pipe flue system with a Horizontal or Vertical flue terminal. Both air inlet and flue exhaust may be in different pressure zones.
C63	Closed Flue	An appliance intended to be connected to a separately approved and marketed system for the supply of combustion air and discharge of combustion products (i.e. other than that supplied by the water heater manufacturer).

All installations should comply with the requirements of:

1. For appliances up to 70kW net input- BS5440-1:2023- Flueing and ventilation for gas appliances of rated input not exceeding 70 kW net (1st, 2nd and 3rd family gases). Specification for installation of gas appliances to chimneys and for maintenance of chimneys.
    a. Refer to drawing 1 and table 1 for details of terminal locations.
2. For appliances over 70kW net input- IGEM/UP/10 Edition 4 +A: 2016 - Installation of flued gas appliances in industrial and commercial premises, specific attention should be paid to the following sections.
    a. Refer to drawing 1 and table 1 for details of terminal locations.
    b. Horizontal terminations shall be located according to the minimum distances given in table 1, and subject to the risk assessment criteria shown in table 2.
    c. Horizontal flue terminations (other than for fan dilution systems) must not be installed for any single appliance or group of appliances with a total nett input exceeding 333kW net heat input.
    d. For any single appliance or group of appliances with a total net heat input exceeding 333 kW, the general requirements of IGEM/UP/10 Edition 4 +A: 2016 shall apply and approval must be sought from the Local Authority prior to commencement of the installation.
3. The Clean Air Act for installations exceeding 333kW nett input.

DRAWING 1 WATER HEATER TERMINAL LOCATIONS ACCORDING TO BS5440-1-2023

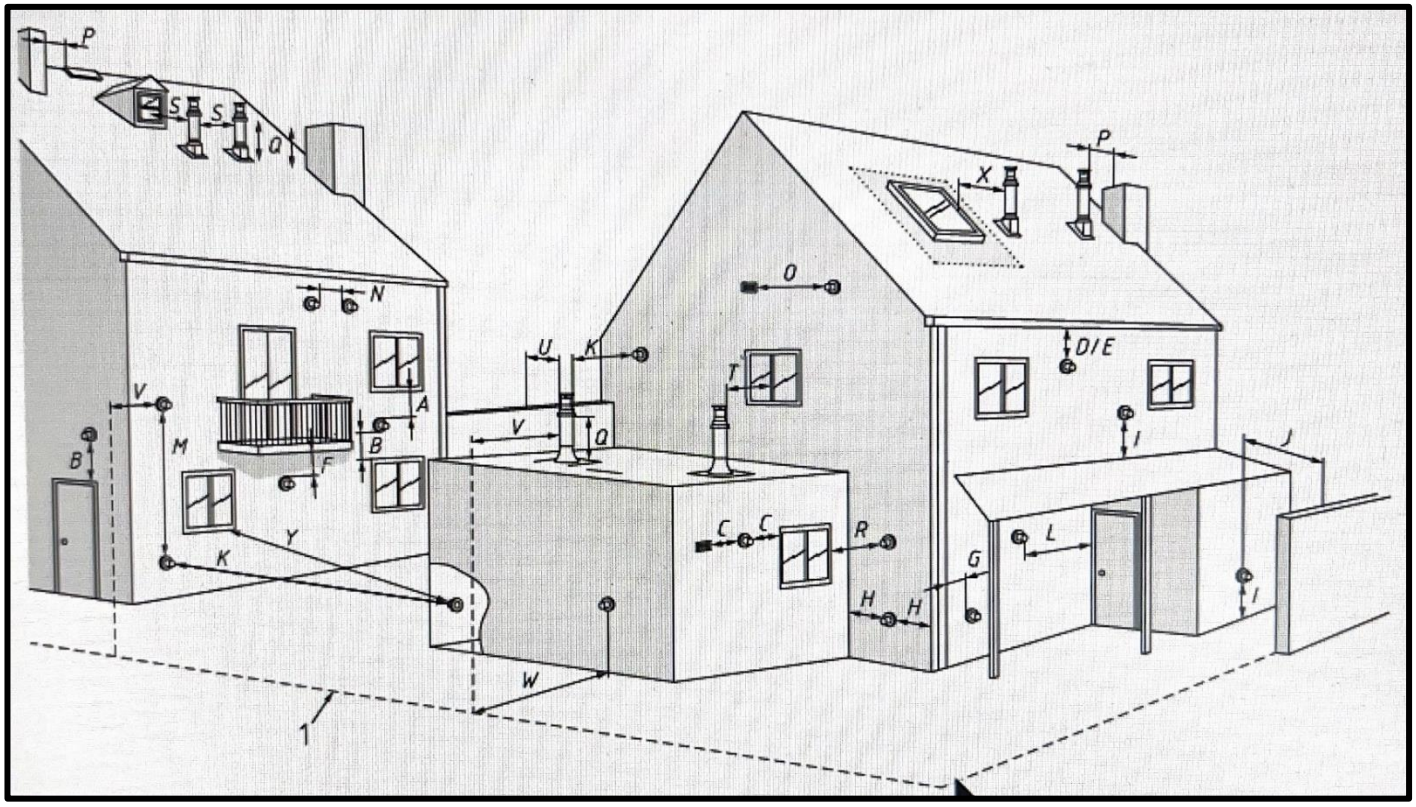


TABLE 1 WATER HEATER TERMINAL LOCATIONS ACOORDING TO BS5440-1-2023

Location	Description		ECH32-220GCE	ECH33-370GCE	ECH52-370GCE	ECH63-370GCE
	Water heater nett input	**kW**	**29.4**	**30.5**	**47.8**	**57.9**
A	Directly below an opening, air brick, opening windows etc.	mm	300	300	300	300
B	Above an opening, air brick, opening windows etc.	mm	300	300	300	300
C	Horizontally to an opening, air brick, opening windows etc.	mm	300	300	300	300
D	Below a gutter or sanitary pipework	mm	75	75	75	75
E	Below the eaves	mm	300	300	300	300
F	Below a balcony or car port roof	mm	200	200	200	200
G	From a vertical drain or soil pipe	mm	150	150	150	150
H	From an internal or external corner	mm	300	300	300	300
I	Above ground, roof or balcony level	mm	300	300	300	300
J	From a surface facing the terminal	mm	600	600	600	600
K	From a terminal facing the terminal	mm	1200	1200	1200	1200
L	From an opening in the car port (e.g. door, window) into the dwelling	mm	1200	1200	1200	1200
M	Vertically from a terminal on the same wall	mm	1500	1500	1500	1500
N	Horizontally from a terminal on the same wall	mm	300	300	300	300
O	Horizontally from a mechanical air inlet on the same wall	mm	1000	1000	1000	1000
P	From a vertical structure on the roof	mm	N/A	N/A	N/A	N/A
Q	Above intersection with the roof	mm	300	300	300	300
R	Diagonally across from an opening into a building on a different wall	mm	600	600	600	600
S	Vertical terminal from another vertical terminal	mm	600	600	600	600
T	Vertical terminal adjacent to an opening into a building	mm	1500	1500	1500	1500
U	Vertical terminal from a wall	mm	500	500	500	500
V	Terminal alongside a boundary	mm	300	300	300	300
W	Terminal facing a boundary	mm	600	600	600	600
X	Adjacent to an opening into a building on a pitched roof	mm	Contact Lochinvar technical support			
Y	Terminal facing an opening into a building	mm	2000	2000	2000	2000

The table above should be used in conjunction with the following notes:

- The above should be read in conjunction with the latest edition of BS5440-1
- For Water Heater installation above 333kW nett input the table above should not be used, these installations are covered by the clean air act and must comply with its requirements in full, contact your local environmental health team for further guidance

For further guidance please contact Lochinvar Technical support

Type C appliances with net heat input not exceeding 70kW Low level flue discharge risk assessment (including net heat input for groups of appliances)			
No.	**Regarding the flue position**	**No**	**Yes**
1	Will the flue terminal contravene the positions set out in table C.1 for room sealed chimney outlets?	No	Yes
2	Will the terminal be sited in a position that will likely allow products of combustion to build up (e.g. enclosed by adjacent structures)?	No	Yes
3	Is the termination in a light well?	No	Yes
4	Is the termination within a carport without two unobstructed sides?	No	Yes
5	Will the termination be in an area that might have combustible material in the vicinity?	No	Yes
6	Will the termination be in an area that might have hazardous material in the vicinity (e.g. petrochemicals)?	No	Yes
7	Will the termination be sited within a covered walkway?	No	Yes
8	Are there any restrictions stopping the fitting of a terminal guard if required?	No	Yes
9	Will the termination discharge over a boundary?	No	Yes
10	Is a plume management kit required to circumvent the termination distances as required in table C.1?	No	Yes
No.	**Nuisance considerations**	**No**	**Yes**
11	Is the termination sited over a pathway that is likely to cause nuisance (e.g. head height or pluming towards users)?	No	Yes
12	Is the termination likely to cause a nuisance to neighbours?	No	Yes
No.	**Chimney/flue routes**	**No**	**Yes**
	Will the flue be installed in a void that will not be able to satisfy a full visual inspection?	No	Yes
	Are there any restrictions that will prevent the flue from being supported throughout its entire length?	No	Yes
	Do the flue materials contravene building regulations (e.g. high risk buildings)?	No	Yes
	Will the flue route pass through any fire protected areas without the ability to maintain its protection?	No	Yes
	Will the flue pass through another dwelling?	No	Yes
	Is the flue likely to be damaged due to its route/location (e.g. materials stored on it in a plantroom or storeroom)?	No	Yes
	Does the flue affect the integrity of the structure it is in (e.g. lintels, cavity trays, barriers or membranes)?	No	Yes
If all answers are Blue then the flue position should be suitable			
If any answer is Orange, then the flue position is unsuitable, consider revising the position or type of flue outlet or contact the local Environmental Health officer for assistance and/or approval			

DRAWING 1 WATER HEATER TERMINAL LOCATIONS ACCORDING TO IGEM UP10

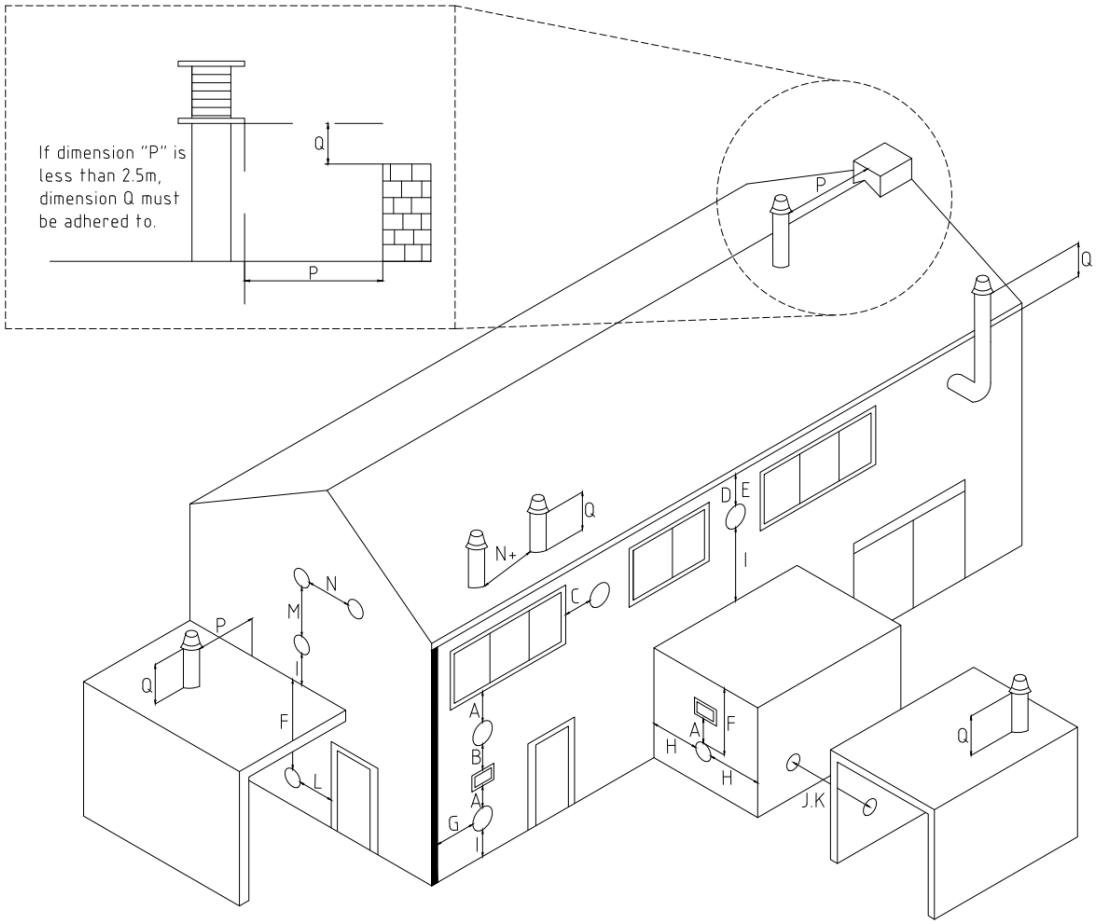


TABLE 3 WATER HEATER TERMINAL LOCATIONS ACCORDING TO IGEM UP10

Location	Description		ECH87-480GCE	ECH106-480GCE	ECH129-480GCE
	Water heater nett input	**kW**	**79.3**	**96.6**	**117.9**
A	Directly below an opening, air brick, opening windows etc.	mm	2500	2500	2500
B	Above an opening, air brick, opening windows etc.	mm	667	792	946
C	Horizontally to an opening, air brick, opening windows etc.	mm	667	792	946
D	Below a gutter or sanitary pipework	mm	200	200	200
E	Below the eaves	mm	200	200	200
F	Below a balcony or car port roof	mm	Not recommended see UP10 risk assessment		
G	From a vertical drain or soil pipe	mm	150	150	150
H	From an internal or external corner	mm	1215	1615	2108
I	Above ground, roof or balcony level	mm	300	300	300
J	From a surface facing the terminal	mm	1215	1615	2108
K	From a terminal facing the terminal	mm	2180	2514	2925
L	From an opening in the car port (e.g. door, window) into the dwelling	mm	Not recommended see UP10 risk assessment		
M	Vertically from a terminal on the same wall	mm	2500	2500	2500
N	Horizontally from a terminal on the same wall	mm	667	792	946
N+	Vertically from a terminal on the same roof	mm	667	792	946
P	From a vertical structure on the roof	mm	2500	2500	2500
Q	Above intersection with the roof	mm	325	371	428

The table above should be used in conjunction with the following notes:

- The above should be read in conjunction with the latest edition of BS5440-1 and IGEM UP10
- For Water Heater installation above 333kW nett input the table above should not be used, these installations are covered by the clean air act and must comply with its requirements in full, contact your local environmental health team for further guidance

For further guidance please contact Lochinvar Technical support

TABLE 4 RISK ASSESMENT ACCORDING TO IGEM UP10

The table below is an excerpt from IGEMUP10 and should be used in conjunction with that document

Further to the requirements in IGEM/UP/10 Edition 4 +A: 2016 Section 8 under clause 8.7.3.3 and Figure 7 the following risk assessment gives guidance for the positioning of horizontal flues. This form should be completed before work commences and undertaken by a person who is competent to undertake the risk assessment.

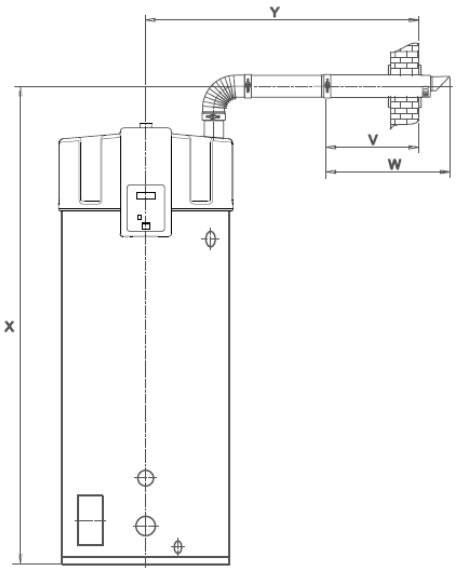
Type C appliances with net heat input exceeding 70 kW and not exceeding 333 kW low level flue discharge risk assessment (including net heat input for groups of appliances)			
No.	**Regarding the flue position**	**No**	**Yes**
1	Is the proposed flue termination within the distance in Figure K of a road, path, track, thoroughfare, walkway, property boundary or area, which is used for general public access other than for maintenance purposes?	No	Yes
2	Is the proposed flue termination within the distance in Figure K to a playground, school, yard, seating area, or area where there may be a public gathering	No	Yes
3	If the proposed flue termination enclosed on more than two sides then does it comply with the requirements of Figure 11B?	No	Yes
4	Is the proposed flue termination within the distance in Figure K of a surface or building element that may be affected by corrosion or deterioration from plume condensate?	No	Yes
5	Is the proposed flue position in an area where vehicles could be parked within distances from Figure 12 Line G to the flue?	No	Yes
6	Are there shrubs or trees within minimum distances shown on Figure K of the proposed terminal position?	No	Yes
7	Is the proposed flue termination within a light well?	No	Yes
8	Are the products of combustion from the proposed flue position likely to build up under unfavourable atmospheric conditions, due to poor cross flow of air caused by enclosures or adjacent structures and/or likely to cause nuisance?	No	Yes
9	Is the flue termination position likely to cause a nuisance to adjoining properties?	No	Yes
Building Regulations part J			
10	Is the proposed flue termination less than 300 mm from the boundary of the property, as measured from the side of the terminal to the boundary?	No	Yes
Regarding the Clean Air Act			
11	Is the total output of the individual, or group of flue terminals (if within 5U (see A3.7)), greater than 333 kW net heat input?	No	Yes
General			
12	Are there any other considerations that are required for this risk assessment, see separate sheet.	No	Yes
13	Comments:		
If all answers are Blue then the flue position should be suitable			
If any answer is Orange then the flue position is unsuitable, consider revising the position or type of flue outlet or contact the local Environmental Health officer for assistance and/or approval			

STANDARD CONCENTRIC HORIZONTAL AND VERTICAL FLUE

LV302504 CONCENTRIC HORIZONTAL FLUE ASSEMBLY
MODELS - ECH32-220,ECH33-370,ECH52-370 ECH63-370

COMPONENTS INCLUDED

Item No.	Description	Included
LV302505	CONCENTRIC HORIZONTAL TERMINAL Ø100/150 ALU	1
LV302499	CONCENTRIC EXTENSION Ø100/150 (500mm) ALU CUT TO LENGTH	1
LV302502	CONCENTRIC BEND 90° Ø100/150 ALU	1



LV311465 CONCENTRIC HORIZONTAL FLUE ASSEMBLY
MODELS - ECH87-480,ECH106-480,ECH129-480

COMPONENTS INCLUDED

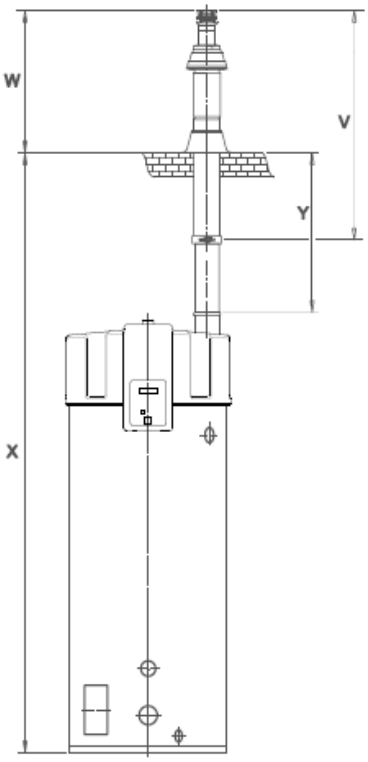
Item No.	Description	Included
LV302313	CONCENTRIC HORIZONTAL TERMINAL Ø130/200 ALU	1
LV302301	CONCENTRIC EXTENSION Ø130/200 (500mm) ALU CUT TO LENGTH	1
LV311456	CONCENTRIC BEND 90° Ø130/200 ALU	1

	ECH32-220	ECH33-370 to ECH63-370	ECH87-480 to ECH129-480
V	550	550	640
W	725	790	940
X	1535	2075	2230
Y	1460	1480	1620

LV311463 CONCENTRIC VERTICAL FLUE ASSEMBLY
MODELS - ECH32-220,ECH33-370,ECH52-370,ECH63-370

COMPONENTS INCLUDED

Item No.	Description	Included
LV311458	CONCENTRIC VERTICAL TERMINAL Ø100/150 ALU	1
LV311450	CONCENTRIC EXTENSION Ø100/150mm (1000mm) ALU CUT TO LENGTH	1
LV302509	ROOF FLASHING (170mm) ALU	1



LV311464 CONCENTRIC VERTICAL FLUE ASSEMBLY
MODELS - ECH87-480,ECH106-480,ECH129-480

COMPONENTS INCLUDED

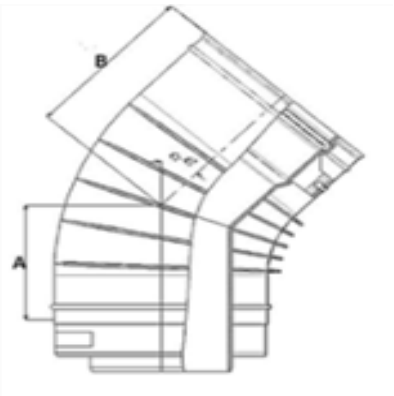
Item No.	Description	Included
LV306390	CONCENTRIC VERTICAL TERMINAL Ø130/200 ALU	1
LV302301	CONCENTRIC EXTENSION Ø130/200 (500mm) ALU CUT TO LENGTH	1
LV302328	FLAT ROOF FLASHING (210mm) ALU	1

	ECH32-220	ECH33-370 to ECH63-370	ECH87-480 to ECH129-480
V	1500	1500	1730
W	1035	1035	940
X	2965	3325	3620
Y	1415	1560	1560

	ECH32-220 to ECH63-370	ECH87-480 to ECH129-480
Maximum flue length	Maximum length 40 metres	Maximum length 15 metres
Maximum no of bends	7	4
Even if using less than the maximum number of bends, the maximum pipe length may not be exceeded. Even if using less than the maximum pipe length, the maximum number of bends may not be exceeded.		

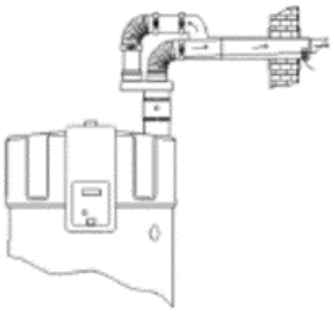
Additional Concentric flue items available to complete the installation

Additional Flue Ancillary Items MODELS - ECH32-220,ECH33-370,ECH52-370,ECH63-370	
Item No.	Description
LV303854	CONCENTRIC TEST POINT Ø100/150 ALU
LV302499	CONCENTRIC EXTENSION Ø100/150 (500mm) ALU CUT TO LENGTH
LV311450	CONCENTRIC EXTENSION Ø100/150mm (1000mm) ALU CUT TO LENGTH
LV311451	CONCENTRIC EXTENSION Ø100/150mm (1500mm) ALU CUT TO LENGTH
LV302502	CONCENTRIC BEND 90° Ø100/150 ALU (A=223mm B=208mm)
LV311454	CONCENTRIC BEND 45° Ø100/150mm ALU (A=128mm B=128mm)
M87196	WALL CLAMP Ø150



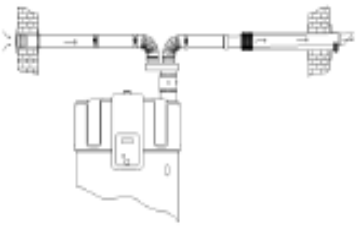
Additional Flue Ancillary Items MODELS - MODELS - ECH87-480,ECH106-480,ECH129-480	
Item No.	Description
LV303855	CONCENTRIC TEST POINT Ø130/200 ALU
LV302301	CONCENTRIC EXTENSION Ø130/200 (500mm) ALU CUT TO LENGTH
LV311452	CONCENTRIC EXTENSION Ø130/200mm (1000mm) ALU CUT TO LENGTH
LV311453	CONCENTRIC FLUE EXTENSION Ø130/200mm X (1500mm) Cutable
LV311456	CONCENTRIC BEND 90° Ø130/200 ALU (A=223mm B=208mm)
LV311455	CONCENTRIC BEND 45° Ø130/200mm ALU (A=128mm B=223mm)
M87198	WALL CLAMP Ø200

ECPH001 TWIN-PIPE HORIZONTAL FLUE ASSEMBLY WITH CONCENTRIC TERMINAL MODELS ECH32-220,ECH33-370,ECH52-370,ECH63-370		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV302505	CONCENTRIC HORIZONTAL TERMINAL Ø100/150 ALU	1
LV307142	TWIN PIPE TO CONCENTRIC ADAPTOR Ø100/100mm TO Ø100/150mm ALU	1
LV307161	EXTENSION Ø100mm(1000mm) ALU CUT TO LENGTH	2
LV307164	BEND 90° Ø100mm ALU	2
LV304204	CONCENTRIC TO TWIN PIPE ADAPTOR Ø100/150mm TO Ø100/100mm ALU	1



ECPH002 TWIN-PIPE HORIZONTAL FLUE ASSEMBLY WITH CONCENTRIC TERMINAL MODELS ECH87-480,ECH106-480,ECH129-480		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV306803	CONCENTRIC HORIZONTAL TERMINAL Ø130/200mm ALU	1
LV306801	TWIN PIPE TO CONCENTRIC ADAPTOR Ø130/130mm TO Ø130/200mm ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV306805	BEND 90° Ø130mm ALU	2
LV309605	CONCENTRIC TO TWIN PIPE ADAPTOR Ø130/200mm TO Ø130/130mm ALU	1

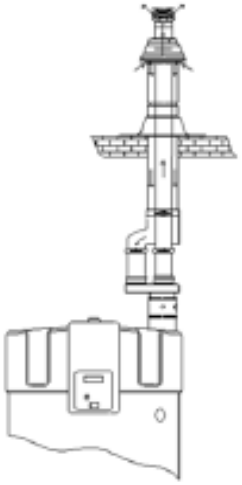
ECPH003 TWIN-PIPE HORIZONTAL FLUE ASSEMBLY MODELS ECH32-220,ECH33-370,ECH52-370,ECH63-370		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV302505	CONCENTRIC HORIZONTAL TERMINAL Ø100/150 ALU	1
LV307161	EXTENSION Ø100mm(1000mm) ALU CUT TO LENGTH	2
LV305039	HORIZONTAL TERMINAL Ø100mm ALU	1
LV307164	BEND 90° Ø100mm ALU	2
LV304204	CONCENTRIC TO TWIN PIPE ADAPTOR Ø100/150mm TO Ø100/100mm ALU	1



ECPH004 TWIN-PIPE HORIZONTAL FLUE ASSEMBLY MODELS ECH87-480,ECH106-480,ECH129-480		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV302313	CONCENTRIC HORIZONTAL TERMINAL Ø130/200 ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV307178	HORIZONTAL TERMINAL Ø130mm ALU	1
LV306805	BEND 90° Ø130mm ALU	2
LV309605	CONCENTRIC TO TWIN PIPE ADAPTOR Ø130/200mm TO Ø130/130mm ALU	1

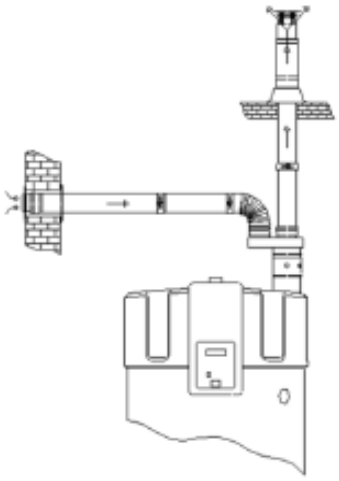
	ECH32-220 to ECH63-370	ECH87-480 to ECH129-480
Maximum flue length	55	65
Equivalent length 90 bend	4.6	2.4
Equivalent length 45 bend	1.2	1.4

ECPV001 TWIN-PIPE VERTICAL FLUE ASSEMBLY WITH CONCENTRIC TERMINAL MODELS ECH32-220,ECH33-370,ECH52-370,ECH63-370		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV311458	CONCENTRIC VERTICAL TERMINAL Ø100/150 ALU	1
LV307142	TWIN PIPE TO CONCENTRIC ADAPTOR Ø100/100mm TO Ø100/150mm ALU	1
LV307160	EXTENSION Ø100mm(500mm) ALU CUT TO LENGTH	2
LV304204	CONCENTRIC TO TWIN PIPE ADAPTOR Ø100/150mm TO Ø100/100mm ALU	1



ECPV002 TWIN-PIPE VERTICAL FLUE ASSEMBLY WITH CONCENTRIC TERMINAL MODELS ECH87-480,ECH106-480,ECH129-480		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV306800	CONCENTRIC VERTICAL TERMINAL Ø130/200 ALU	1
LV306801	TWIN PIPE TO CONCENTRIC ADAPTOR Ø130/130mm TO Ø130/200mm ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV309605	CONCENTRIC TO TWIN PIPE ADAPTOR Ø130/200mm TO Ø130/130mm ALU	1

ECPV003 TWIN-PIPE VERTICAL FLUE ASSEMBLY MODELS ECH32-220,ECH33-370,ECH52-370,ECH63-370		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV305040	VERTICAL TERMINAL Ø100mm ALU	1
LV305039	HORIZONTAL TERMINAL Ø100mm ALU	1
LV307160	EXTENSION Ø100mm(500mm) ALU CUT TO LENGTH	2
LV307164	BEND 90° Ø100mm ALU A=115mm,B=115mm	1
LV310197	BEND 45° Ø100mm ALU A=100mm,B=100mm	1
LV304204	CONCENTRIC TO TWIN PIPE ADAPTOR Ø100/150mm TO Ø100/100mm ALU	1

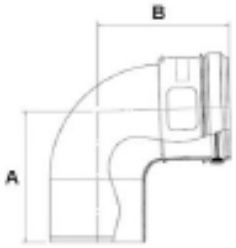


ECPV004 TWIN-PIPE VERTICAL FLUE ASSEMBLY MODELS ECH87-480,ECH106-480,ECH129-480		
COMPONENTS INCLUDED		
Item No.	Description	Included
LV307175	VERTICAL TERMINAL Ø130mm ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV307178	HORIZONTAL AIR INLET Ø130mm ALU	1
LV306805	BEND 90° Ø130mm ALU	1
LV309605	CONCENTRIC TO TWIN PIPE ADAPTOR Ø130/200mm TO Ø130/130mm ALU	1

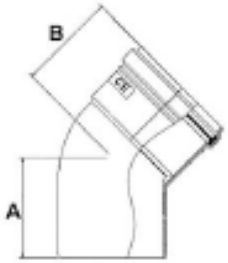
	ECH32-220 to ECH63-370	ECH87-480 to ECH129-480
Maximum flue length	55	65
Equivalent length 90 bend	4.6	2.4
Equivalent length 45 bend	1.2	1.4

Additional Twin-pipe flue items available to complete the installation

Additional Flue Ancillary Items MODELS - ECH32-220,ECH33-370,ECH52-370,ECH63-370	
Item No.	**Description**
LV307160	EXTENSION Ø100mm(500mm) ALU CUT TO LENGTH
LV307161	EXTENSION Ø100mm(1000mm) ALU CUT TO LENGTH
LV307164	BEND 90° Ø100mm ALU (A=115mm,B=115mm)
LV310197	BEND 45° Ø100mm ALU (A=100mm,B=100mm)
LV302520	ROOF FLASHING (140mm) ALU
M87193	WALL CLAMP Ø100mm



Additional Flue Ancillary Items MODELS - MODELS - ECH87-480,ECH106-480,ECH129-480	
Item No.	**Description**
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH
LV306802	EXTENSION Ø130mm(1000mm) ALU CUT TO LENGTH
LV306805	BEND 90° Ø130mm ALU (A=160mm,B=160mm)
LV308026	BEND 45° Ø130mm ALU (A=100mm,B=100mm)
LV302520	ROOF FLASHING (140mm) ALU
M87195	WALL CLAMP Ø130mm



ECCV001 CONVENTIONAL (EXHAUST ONLY) FLUE ASSEMBLY MODELS ECH32-220,ECH33-370,ECH52-370,ECH63-370		
COMPONENTS INCLUDED		
Item No.	**Description**	**Included**
LV305040	VERTICAL TERMINAL Ø100mm ALU	1
LV307160	EXTENSION Ø100mm(500mm) ALU CUT TO LENGTH	2
LV304872	APPLIANCE AIR INTAKE GUARD Ø100	1

ECCV002 CONVENTIONAL (EXHAUST ONLY) FLUE ASSEMBLY MODELS ECH87-480,ECH106-480,ECH129-480		
COMPONENTS INCLUDED		
Item No.	**Description**	**Included**
LV307175	VERTICAL TERMINAL Ø130mm ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV307176	APPLIANCE AIR INTAKE GUARD Ø130mm ALU	1

	ECH32-220 to ECH63-370	ECH87-480 to ECH129-480
Maximum flue length	55	65
Equivalent length 90 bend	4.6	2.4
Equivalent length 45 bend	1.2	1.4

Additional Exhaust only flue items available to complete the installation

Additional Flue Ancillary Items MODELS - ECH32-220,ECH33-370,ECH52-370,ECH63-370	
Item No.	**Description**
LV307160	EXTENSION Ø100mm(500mm) ALU CUT TO LENGTH
LV307161	EXTENSION Ø100mm(1000mm) ALU CUT TO LENGTH
LV307164	BEND 90° Ø100mm ALU (A=115mm,B=115mm)
LV310197	BEND 45° Ø100mm ALU (A=100mm,B=100mm)
LV302520	ROOF FLASHING (140mm) ALU
M87193	WALL CLAMP Ø100mm

Additional Flue Ancillary Items MODELS - MODELS - ECH87-480,ECH106-480,ECH129-480	
Item No.	**Description**
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH
LV306802	EXTENSION Ø130mm(1000mm) ALU CUT TO LENGTH
LV306805	BEND 90° Ø130mm ALU (A=160mm,B=160mm)
LV308026	BEND 45° Ø130mm ALU (A=100mm,B=100mm)
LV302520	ROOF FLASHING (140mm) ALU
M87195	WALL CLAMP Ø130mm

Any installations using flue type C63 must be designed and installed in compliance with any local Building or planning regulations, but as these systems use a flue system not supplied by Lochinvar, Lochinvar cannot comment / advise or provide support on the design of this type of flue system. To design such a flue system, the installer/contractor must consult a specialist flue supplier who will be responsible for the design and installation of the separate flue system. When designing the type C63 flue system, the instructions in the Installation Manual, provided with the water heater, must be taken into account. Lochinvar will provide pressure loss figures for the specific units, but other than that, Lochinvar cannot provide support on Common Flue requests because flue certification is limited to the certified categories in the table on page 2. Lochinvar cannot accept any responsibility for Flue system design.

Pressure Loss Figures

Model	Maximum pressure						Flue gas rate	
	Inlet only		Outlet only		Inlet + Outlet		Gas type	
	P_{inlet}	P_{outlet}	P_{inlet}	P_{outlet}	P_{inlet}	P_{outlet}	G20	G31
	Pa	Pa	Pa	Pa	Pa	Pa	kg/h	kg/h
ECH32-220	-55	0	0	52	-26	26	51.7	53.6
ECH33-370	-66	0	0	62	-32	32	53.5	54.4
ECH52-370	-142	0	0	133	-69	69	84.6	85.6
ECH63-370	-184	0	0	173	-90	90	103.7	103.8
ECH87-480	-90	0	0	88	-47	47	141.9	149.1
ECH106-480	-129	0	0	126	-67	67	172.9	181.6
ECH129-480	-184	0	0	180	-96	96	213.3	221.7

Notes-Items to Order		
Item No	No Required	Notes

Contact Lochinvar customer service to order additional flue items on 01295 269981

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Lochinvar®

8 Lombard Way, The MXL Centre, Banbury, Oxon, OX16 4TJ
Tel: +44(0) 1295 269 981, Fax: +44(0) 1295 271 640, Email: info@lochinvar.ltd.uk
www.lochinvar.ltd.uk