

EcoCharger Hybrid Flue Guide



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GENERAL

Lochinvar water heaters are certified for use on the following flue categories only:

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).

EcoCharger Hybrid water heaters use either:

An Aluminium Concentric Or Twin pipe system flue system.

CONCENTRIC SYSTEMS

LV302504 CONCENTRIC HORIZONTAL FLUE ASSEMBLY MODELS - HWH32-220,HWH33-370,HWH52-370 HWH63-370 HWHC44-370,HWHC63-370

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 - HWH87-480,HWH106-480,HWH129-480

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

		HWH32-220	HWH33-370 to HWH63-370 HWHC44-370,HWHC63-370	HWH87-480 to HWH129-480
V	mm	550	550	640
W	mm	725	790	940
X	mm	1535	2075	2230
Y	mm	1010	1030	1170

LV311463 CONCENTRIC VERTICAL FLUE ASSEMBLY

MODELS - HWH32-220,HWH33-370,HWH52-370,HWH63-370
HWHC44-370,HWHC63-370

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 - HWH87-480,HWH106-480,HWH129-480

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

		HWH32-220	HWH33-370 to HWH63-370 HWHC44-370,HWHC63-370	HWH87-480 to HWH129-480
V	mm	1305	1500	640
W	mm	680	1035	940
X	mm	2965	3325	2230
Y	mm	625	465	1170

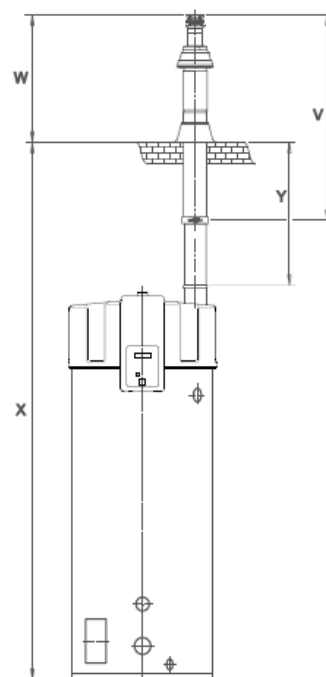
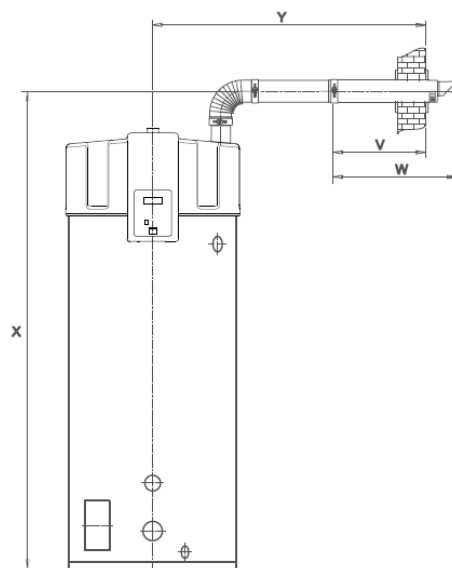
Maximum Flue Lengths

Maximum equivalent flue length = 40 Metres

Maximum number of bends allowed = 7



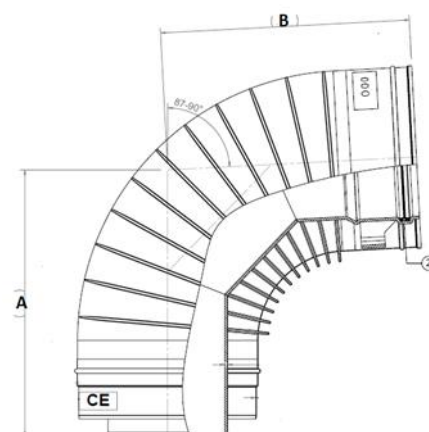
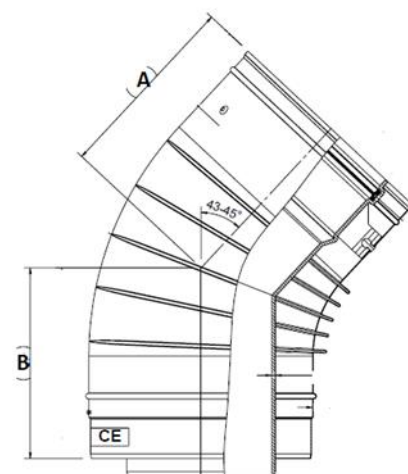
Even if using less than the maximum number of bends, the maximum pipe length may not be exceeded. Even if using less than the maximum pipe length, the maximum number of bends may not be exceeded.



Additional flue items available to complete the installation

Additional Flue Ancillary Items MODELS - HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370

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

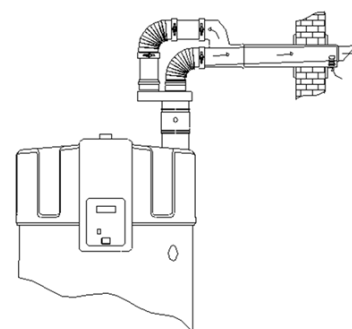


Additional Flue Ancillary Items MODELS - MODELS - HWH87-480,HWH106-480,HWH129-480

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
LV302303	CONCENTRIC EXTENSION Ø130/200 (1500mm) ALU FIXED
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

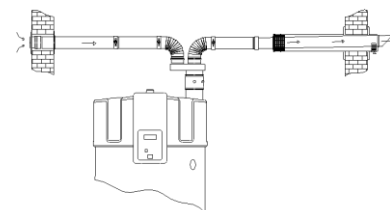
TWIN-PIPE FLUE SYSTEMS

ECPH001 TWIN-PIPE HORIZONTAL FLUE ASSEMBLY WITH CONCENTRIC TERMINAL MODELS HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370		
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 HWH87-480,HWH106-480,HWH129-480		
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 HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370		
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 HWH87-480,HWH106-480,HWH129-480		
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

Maximum Flue length

	HWH32-220 to HWH63-370 HWHC44-370,HWHC63-370	HWH87-480 to HWH129-480
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 HWH32-220,HWH33-370,HWH52-370,HWH63-370
HWHC44-370,HWHC63-370

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 HWH87-480,HWH106-480,HWH129-480

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 HWH32-220,HWH33-370,HWH52-370,HWH63-370
HWHC44-370,HWHC63-370

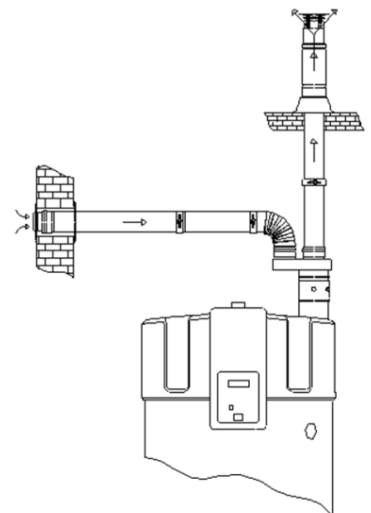
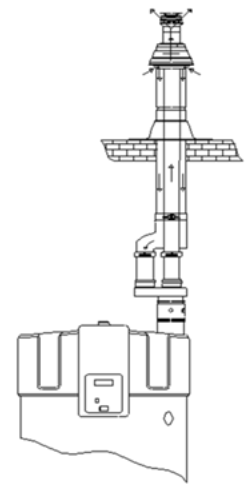
COMPONENTS INCLUDED

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 HWH87-480,HWH106-480,HWH129-480

COMPONENTS INCLUDED

Item No.	Description	Included
LV307175	VERTICAL TERMINAL Ø130mm ALU	1
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH	2
LV307178	HORIZONTAL TERMINAL Ø130mm ALU	1
LV306805	BEND 90° Ø130mm ALU	1
LV309605	CONCENTRIC TO TWIN PIPE ADAPTOR Ø130/200mm TO Ø130/130mm ALU	1



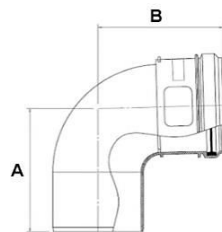
Maximum Flue Length

	HWH32-220 to HWH63-370 HWHC44-370,HWHC63-370	HWH87-480 to HWH129-480
Maximum flue length	55	65
Equivalent length 90 bend	4.6	2.4
Equivalent length 45 bend	1.2	1.4

Additional flue items available to complete the installation

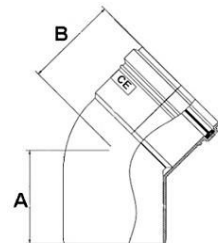
Additional Flue Ancillary Items MODELS - HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370

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 - HWH87-480,HWH106-480,HWH129-480

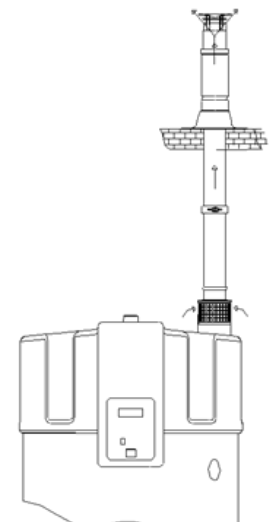
Item No.	Description
LV306804	EXTENSION Ø130mm(500mm) ALU CUT TO LENGTH
LV306802	EXTENSION Ø130mm(1000mm) ALU CUT TO LENGTH
LV306805	BEND 90° Ø130mm ALU (A=160mm,B=160mm)
LV308026	BEND 45° Ø130mm ALU (A=100mm,B=100mm)
LV302520	ROOF FLASHING (140mm) ALU
M87195	WALL CLAMP Ø130mm



CONVENTIONAL (EXHAUST ONLY) FLUE SYSTEMS

ECCV001 CONVENTIONAL (EXHAUST ONLY) FLUE ASSEMBLY MODELS HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370		
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

ECCV001 CONVENTIONAL (EXHAUST ONLY) FLUE ASSEMBLY MODELS HWH87-480,HWH106-480,HWH129-480		
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



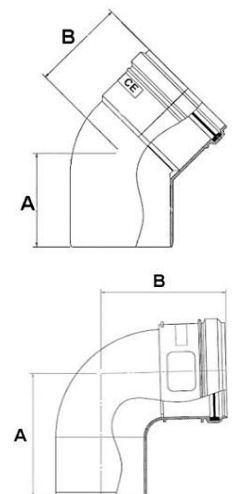
Maximum Flue Length

	HWH32-220 to HWH63-370 HWHC44-370,HWHC63-370	HWH87-480 to HWH129-480
Maximum flue length	55	65
Equivalent length 90 bend	4.6	2.4
Equivalent length 45 bend	1.2	1.4

Additional flue items available to complete the installation

Additional Flue Ancillary Items MODELS - HWH32-220,HWH33-370,HWH52-370,HWH63-370 HWHC44-370,HWHC63-370	
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 - HWH87-480,HWH106-480,HWH129-480	
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
HWH32-220	-55	0	0	52	-26	26	51.7	53.6
HWH33-370	-66	0	0	62	-32	32	53.5	54.4
HWH52-370	-142	0	0	133	-69	69	84.6	85.6
HWH63-370	-184	0	0	173	-90	90	103.7	103.8
HWH87-480	-90	0	0	88	-47	47	141.9	149.1
HWH106-480	-129	0	0	126	-67	67	172.9	181.6
HWH129-480	-184	0	0	180	-96	96	213.3	221.7

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To order additional flue items email this page to info@lochinvar.ltd.uk



IMPORTANT INFORMATION

These instructions must be read and understood before installing, commissioning, operating or maintaining the equipment.

