

Wall mounted boiler  
Output 60 - 200 kW



# THISION<sup>®</sup> L PLUS

Flexibility and power combined



# THISION® L PLUS – A new era of commercial boiler design

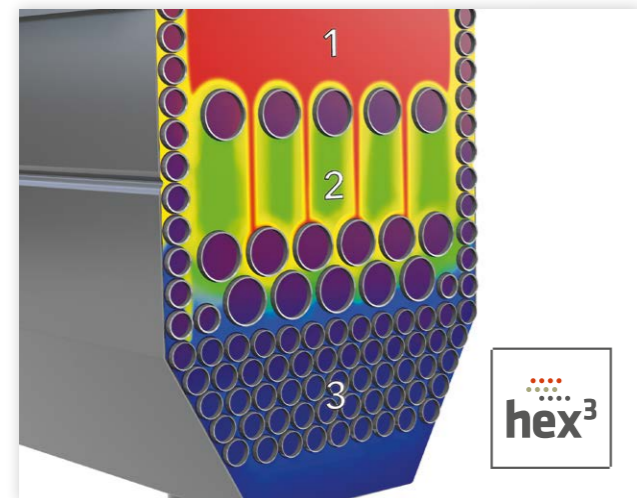
## A fresh approach to boiler design

The benefits of the new THISION® L PLUS boilers ensure they are suitable for an extensive range of commercial heating systems, delivering high power in a small footprint.



### Built-in back-up

Thanks to a unique dual heat exchanger design, THISION® L PLUS boilers have built-in redundancy - creating a cascade system within one boiler. The two heat exchangers are capable of working independently from each other, ensuring that a system is never left without highly efficient heating.\*



### Designed for future standards

Within the THISION® L PLUS is ELCO's unique HEX³ technology, which structures the heat exchanger into three zones.

- 1) NOx zone:** The formation of thermal NOx is reduced to a minimum by low resistance and a short dwell time, as well as rapid cooling of the combustion gases to below 1,000 °C.
- 2) CO zone:** By increasing resistance, the heat exchangers keep the combustion gas at over 600 °C for as long as possible to minimise the formation of carbon monoxide.
- 3) H<sub>2</sub>O condensation zone:** With small and densely arranged heat exchanger tubes, maximum heat transfer is achieved in this zone, ensuring optimum efficiency.



### Plug & Play

By integrating main components within the boiler, such as the pump and non return valves, installation time, costs and space required are all significantly reduced. Thanks to the new HMI (Human Machine Interface) and a wide range of accessories, quick installations and commissioning become very simple.

### Simple to service

All key components are accessible from the front of the boiler, making ongoing servicing and maintenance easy, while also reducing time on site.



### Stay connected and in control

THISION® L PLUS is compatible with building management system protocols, including all common industry standards. This allows the boiler to be easily customised to a property's requirements, while still delivering optimal efficiencies.



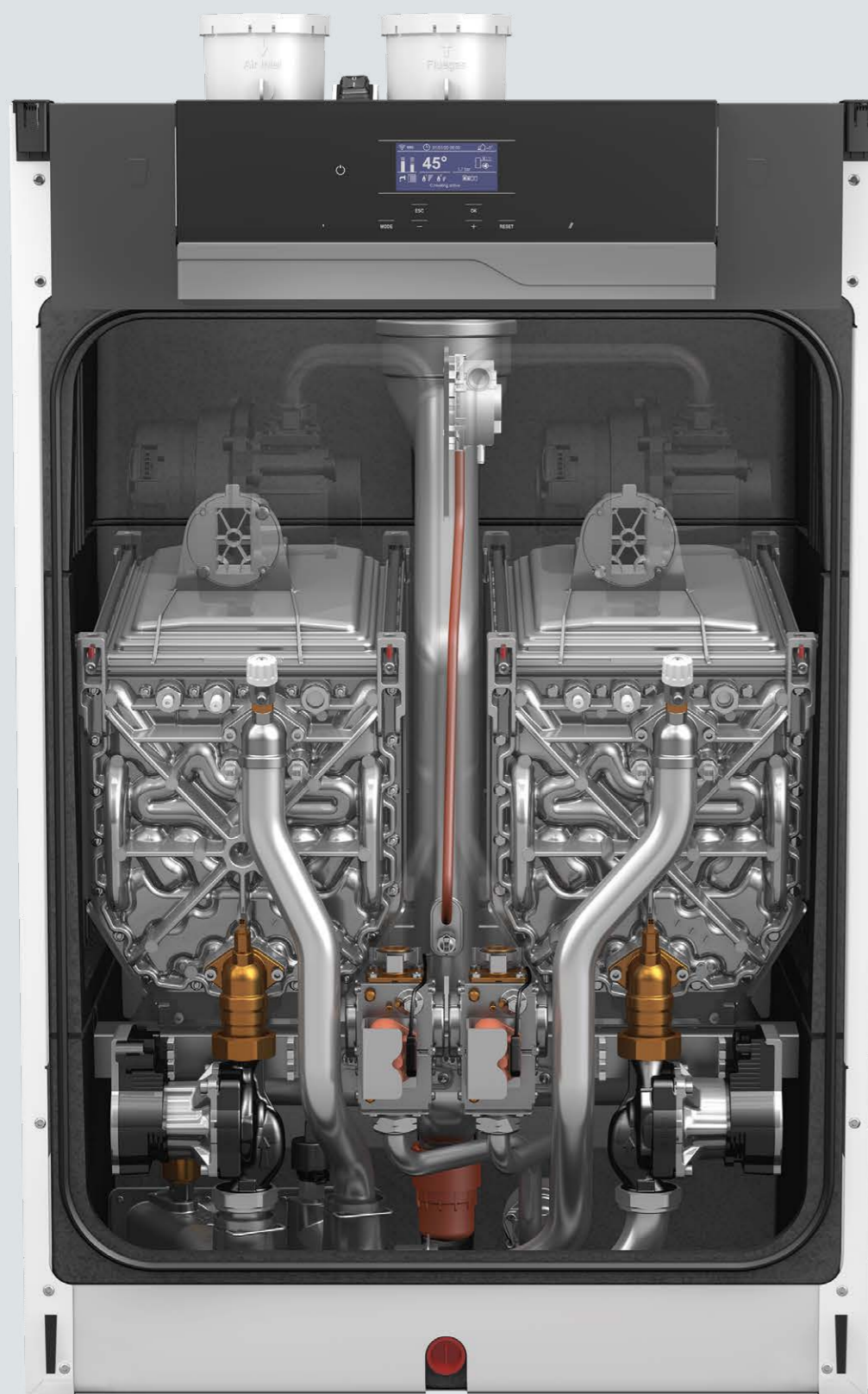
\*Applies to double heat exchanger models only



# THISION® L PLUS – Exceeding expectations

## Engineered to excel

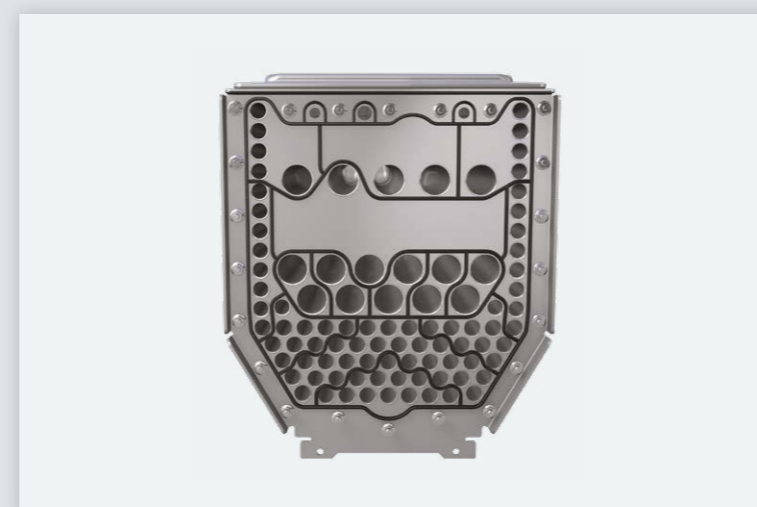
The THISION® L PLUS delivers features that are unmatched in the market, thanks to a unique design and careful consideration of every detail.



## Key features

### Designed to deliver

THISION® L PLUS has been manufactured to ensure its fundamental components operate to their maximum throughout the entire lifecycle of the unit.



### Efficient heat transfer

With specially designed hydraulic chambers, water turbulence within the boiler is optimised to ensure maximum heat transfer, while maintaining the lowest possible pressure drop.



### Robust and durable stainless-steel heat exchanger and sump

By combining the highest quality materials with an improved heat exchanger design, which is based on 30 years of experience with the OSS heat exchanger, the THISION® L PLUS delivers excellent efficiencies for the lifetime of the boiler, as well as incredibly low maintenance schedules. Specially designed smooth tubes ensure direct heat transfer, plus a down-firing arrangement avoids contamination of the heat exchanger.

### High modulation range

A high modulation range of 10:1 allows extremely accurate load matching, as well as the ability to adapt to system requirements and maximise boiler efficiency.



### Low heat loss and noise emissions

A completely expanded polypropylene insulated body encases the boiler to keep heat loss to an absolute minimum for improved boiler efficiency. Plus, the high quality casing minimises noise emissions to industry leading standards.

## Cascade portfolio

### Extensive accessories with plug & play functionality

The THISION® L PLUS is incredibly flexible and is available in either in-line or back-to-back configurations for up to eight boilers, delivering heat outputs up to 1,6 MW. The systems include all the components necessary to complete the primary heating circuit, with the cascade system specifically designed for quick, simple and effective installation.

### In-line cascades



Max. Boilers in cascade		Max. Output
<b>6 In-line</b>		<b>1 MW</b>
Max. Dimensions*		
Width mm	Height mm	Depth mm
4230	1700	755



Max. Boilers in cascade		Max. Output
<b>8 In-line DUO</b>		<b>1.6 MW</b>
Max. Dimensions		
Width mm	Height mm	Depth mm
6520	1700	755

### Back-to-back cascades



Max. Boilers in cascade		Max. Output
<b>4+4 B2B</b>		<b>1 MW</b>
Max. Dimensions*		
Width mm	Height mm	Depth mm
2830	1700	1510

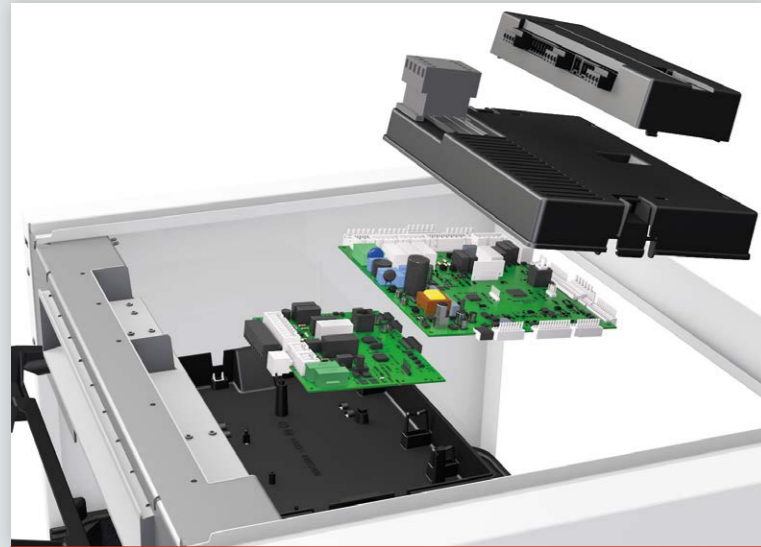


Max. Boilers in cascade		Max. Output
<b>4+4 B2B DUO</b>		<b>1.6 MW</b>
Max. Dimensions		
Width mm	Height mm	Depth mm
3880	1700	1510

\*Excludes low loss header

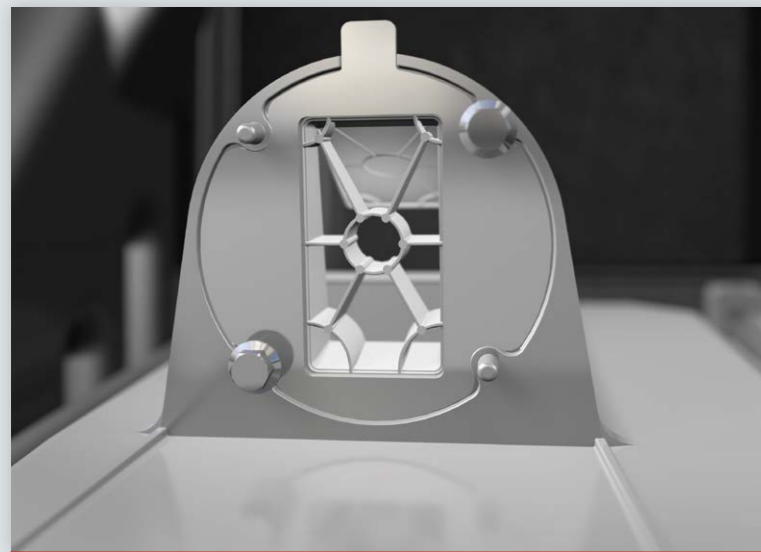


# High quality components



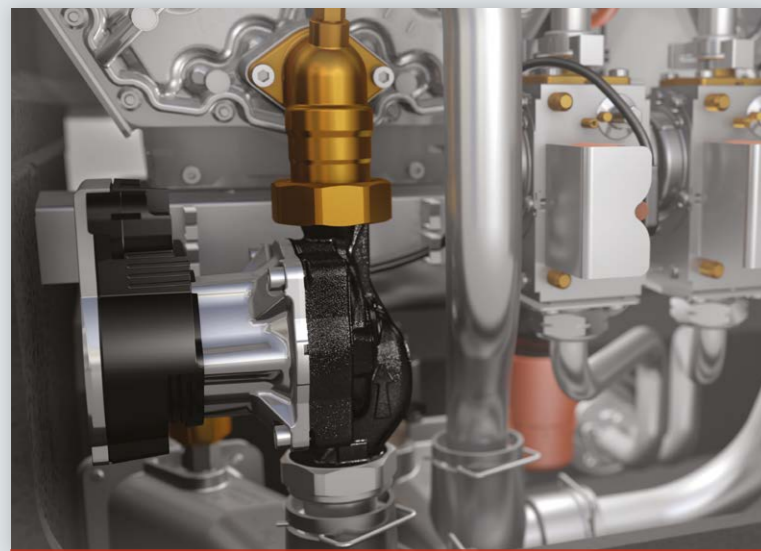
## Smart interface with integrated cascade manager

The new control panel is positioned at the top of the boiler to guarantee maximum durability of electronic components, while also providing easy access to all boiler parameters. With a built-in cascade controller, the THISION® L PLUS also allows quick and simple system optimisation, intuitive programming and full diagnostic capabilities. The cascade manager can support up to three mixed heating zones, thanks to an optional additional three-zone clip-in.



## Integrated non-return valve

Built-in as standard, a non-return valve allows easy connection of the flue system, without loss of residual fan pressure.



## Smart and efficient built-in pump

Furthermore, the THISION® L PLUS is able to communicate with the pumps and receive feedback on its operation status. This built-in modulating pumps are constantly monitoring the minimum flow rate through the boiler and is able to recognise sudden blockages, preventing damage, guaranteeing optimal working conditions and improving boiler efficiency.

# Technical data

THISION® L PLUS	60	70	100	120	140	170	200
Seasonal space heating efficiency class <sup>1</sup>	-	A	A	-	-	-	-
Nominal heat output at 80/60°C	kW	56.9	65.4	90.2	110.8	130.5	155.5
Minimum heat output at 80/60°C	kW	14.7	14.6	18.1	14.7	14.6	18.1
Nominal heat output at 50/30°C	kW	62.5	71.9	98.8	121.9	142.1	170.4
Minimum heat output at 50/30°C	kW	16.1	16.1	19.8	16.1	15.9	19.7
Nominal heat input full load Net	kW	57.9	66.7	92.3	112.8	133.2	158.8
Minimum heat input full load Net	kW	14.9	14.9	18.5	14.9	14.9	18.5
Efficiency at 80/60°C full load Net/Gross	%	98.2/88.5	98.0/88.3	97.7/88	98.2/88.5	98.0/88.3	97.9/88.2
Efficiency at 50/30°C min load Net/Gross	%	108.3/97.6	108.2/97.5	107.3/96.7	108.5/97.8	107.1/96.5	107/96.4
Efficiency at 30°C return 30% load Net/Gross	%	109.3/98.5	109.2/98.4	108.9/98.1	109.3/98.5	109.2/98.4	109.1/98.1
Gross seasonal efficiency <sup>2</sup>	%	96.6	96.5	96.2	96.6	96.5	96.4
Gas consumption max/min nat gas G20	m <sup>3</sup> /h	6.13/1.57	7.06/1.57	9.77/1.95	11.94/1.57	14.10/1.57	16.80/1.95
Gas consumption max/min LPG G31*	kg/h	4.74/1.22	5.46/1.22	7.56/1.51	9.24/1.22	10.91/1.22	13.01/1.51
Gas inlet pressure max/min nat gas G20	mbar	25/17	25/17	25/17	25/17	25/17	25/17
Gas inlet pressure max/min LPG G31*	mbar	57.5-42.5 / 35-25					
NOx annual emissions (EN 15502) <sup>3</sup>	mg/kWh	21.7	22.4	22.7	22.7	23.7	22.6
BREEAM Credits <sup>4</sup>	-	2	2	2	2	2	2
Flue gas temperature at 80/60°C full load	°C	62	61	71	62	68	71
Max. permissible flue resistance	Pa	161	156	243	143	200	215
Water pressure max/min	bar	6,0 / 1,0	6,0 / 1,0	6,0 / 1,0	6,0 / 1,0	6,0 / 1,0	6,0 / 1,0
Maximum temperature setpoint	°C	90	90	90	90	90	90
Water flow at ΔT=20K	l/s	0.68	0.78	1.08	1.32	1.56	1.86
Residual head of pump at ΔT=20K	kPa	29.6	14.8	0	26.2	6.5	8.0
Water flow at ΔT=25K	l/s	0.54	0.63	0.87	1.06	1.25	1.49
Residual head of pump at ΔT=25K	kPa	49.54	37.34	16.75	47.49	32.06	34.45
Minimum water flow rate	l/s	0.18	0.17	0.22	0.18	0.17	0.22
Electrical connection	V	230	230	230	230	230	230
Electrical power consumption (230V 50Hz) boiler including pump	W	126	137	120	314	418	464
Electrical power consumption (230V 50Hz) boiler excluding pump	W	51	62	33	164	268	290
Sound power level	dB(A)	61.5	65.0	60.3	67.3	70.3	67
Weight (empty)	kg	73	73	80	127	127	140
Water content	l	9.3	9.3	13.9	16.8	16.8	25.8
<b>Dimensions</b>							
Water connections flow/return connections <sup>5</sup>	-	2"	2"	2"	2"	2"	2"
Gas connection <sup>6</sup>	-	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Flue gas connection (concentric)	mm	100/150	100/150	100/150	100/150	100/150	-
Room sealed using separate exhaust and combustion air supply connections	mm	2x100	2x100	2x100	2x100	2x100	2x130
Condensate connection	mm	35.5	35.5	35.5	35.5	35.5	35.5
Depth	mm	595	595	675	595	595	675
Width	mm	530	530	530	690	690	690
Height (excl. connections)	mm	1050	1050	1050	1050	1050	1050

<sup>1</sup> In accordance with directive 2010/30/EU and regulation (EU) 813/2013

<sup>2</sup> In accordance with equation 2 in the Non-Domestic Building Services Compliance Guide

<sup>3</sup> NOx values are calculated on GCV

<sup>4</sup> BREEAM UK New Construction 2018

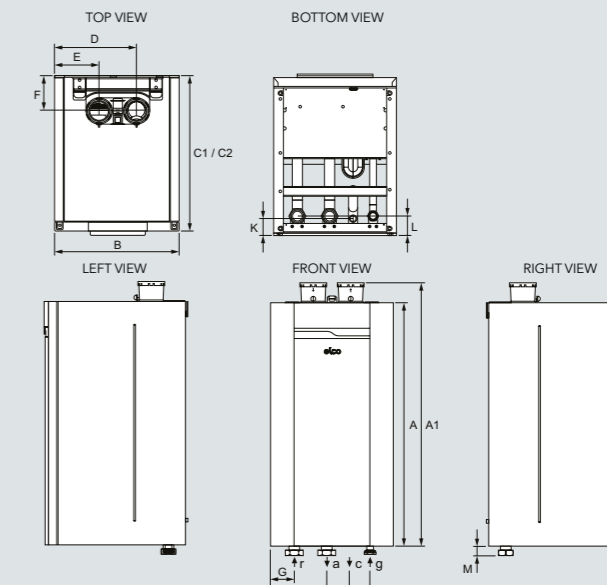
<sup>5</sup> With optional Water/Gas Connection Kit the connections size decreases to 1 1/2"

<sup>6</sup> With optional Water/Gas Connection Kit the connections size decreases to 1"

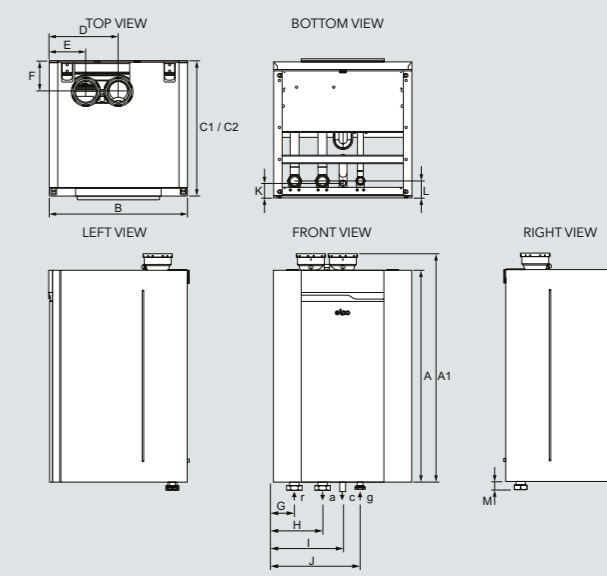
\* LPG models available from 2021

# Technical drawings

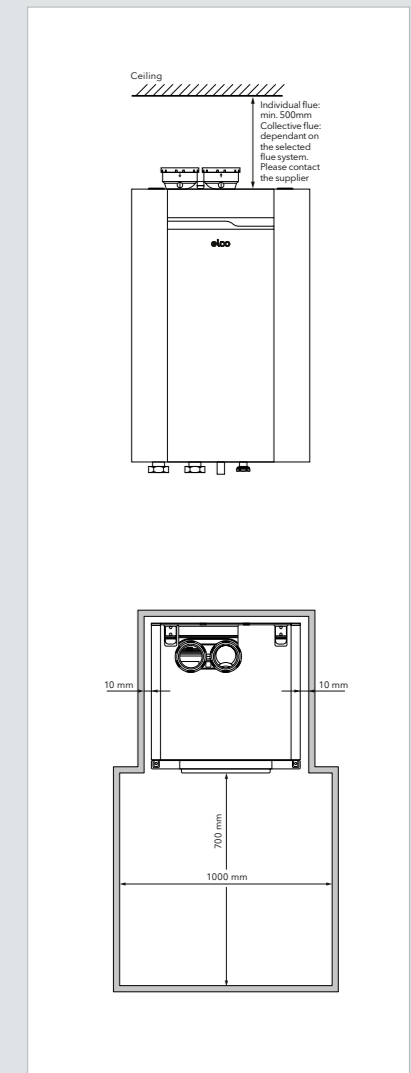
## Single heat exchanger (60, 70 & 100)



## Double heat exchanger (120, 140, 170 & 200)



## Clearances



THISION® L PLUS	60	70	100	120	140	170	200
<b>Dimensions</b>							
Boiler height (A)	mm	1050	1050	1050	1050	1050	1050
Boiler height with flue connection (A1)	mm	1135	1135	1135	1135	1135	1135
Boiler width (B)	mm	530	530	690	690	690	690
Boiler depth (C1/C2)	mm	595	595	675	595	595	675
Flue gas nozzle parallel (D)	mm	345	345	345	345	345	345
Air intake parallel (E)	mm	185	185	185	185	185	185
Flue gas nozzle (F)	mm	150	150	150	150	150	150
Boiler return connection (G)	mm	103	103	103	103	103	103
Boiler flow connection (H)	mm	243	243	243	243	243	243
Condensate connection (I)	mm	345	345	345	345	345	345
Gas connection (J)	mm	430	430	430	430	430	430
Condensate connection (K)	mm	60	60	60	60	60	60
Boiler return-flow-gas (L)	mm	75	75	75	75	75	75
Boiler return-flow-gas (M)	mm	25	25	25	25	25	25
Condensate connection (c)	mm	35	35	35	35	35	35
Parallel connection	mm	2x100	2x100	2x100	2x100	2x100	2x130
Boiler Flow (a) / Return (r) connection	-	2"	2"	2"	2"	2"	2"
Gas connection (g)	-	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"



# ELCO – A partner you can rely on

As a specialist partner, you can rely on ELCO's extensive boiler expertise, from planning right through to servicing and maintenance. Our specially trained technicians are available around the clock to help with the installation and commissioning of commercial boilers – offering their experience and assistance when you need it the most.



### Commissioning

Our specialists always work together with you in commissioning an ELCO boiler properly to provide a high quality service.



### First class service

Whether it is repairs, maintenance or troubleshooting, our service technicians are there for you seven days a week.



### Trained and certified service technicians

Our ELCO service technicians are specially trained, qualified and fully equipped with the tools required to ensure boilers are maintained to the highest standards.

## More information

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