

Gas condensing boiler
Output: 650 - 2,000kW

elco

heating
solutions

TRIGON[®] XXL

Outstanding performance:
Up to 2MW from a single premix boiler



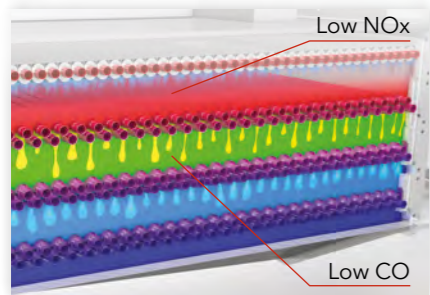
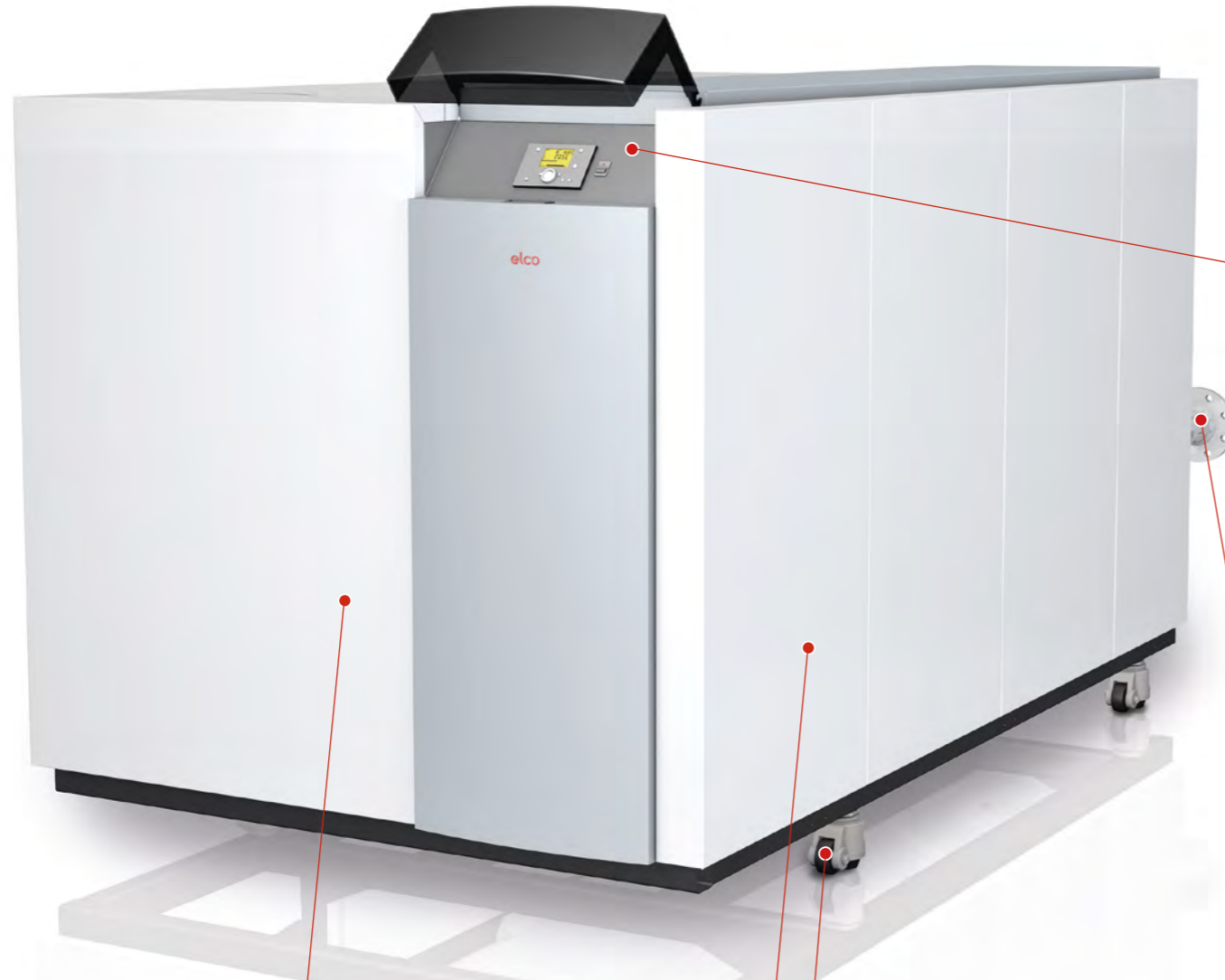
Achieves
**MAXIMUM
BREEAM
CREDITS**

2

TRIGON® XXL – Class-leading outputs with extremely low emissions

Outstanding design

The TRIGON® XXL offers unrivalled power and performance, delivering outputs up to 2MW, thanks to a one-of-a-kind boiler design.



Extremely low emissions

By combining a unique heat exchanger geometry and a water-cooled cold flame burner, the TRIGON® XXL offers class-leading performance for low NOx and CO.



Modular construction

ELCO's renowned modular design construction allows the TRIGON® XXL to be disassembled into component parts - providing flexibility when siting the boilers in a commercial property.



Easy transportation and installation

Integral cargo wheels allow all models to be easily manoeuvred on site.



Comprehensive control features

Designed for simple system integration, the TRIGON® XXL can operate in cascade arrangements of up to 16 units (32MW) alongside multiple energy sources, while a master-slave cascade function makes commissioning easy.



BMS connections

The TRIGON® XXL is compatible with common building management system protocols, utilising the ELCO Commercial Gateway for a hassle-free connection.



Key components

Water flow switch stops the boiler from firing without flow, safeguarding it against heat cell damage.

Designed for complex systems

The latest commercial heating systems often include multiple heat sources, such as solar, heat pumps and CHP units. As a result, they are becoming more complex and heavily reliant on efficient heat distribution throughout a building.

These demands require accurate hydraulic balancing, which is best achieved using a low loss header or buffer. However, these systems also demand a degree of flexibility and reaction time from integrated heat sources.

ELCO designs its boilers to meet all of these needs by utilising:

Low water content technology

TRIGON® XXL boilers are fast, furious and respond rapidly - even in complex installations when combined with other heat sources.

Example comparison:

- The heat up time for a high water content boiler from cold condition to standby temperature is 280 seconds.
- A comparable TRIGON® XXL boiler needs just 30 seconds.

Compact dimensions and low operating weight

A small footprint and a lightweight construction ensure compatibility with a wide range of applications.

Rooftop installations/rooftop plant room

By utilising low water content technology, multiple boilers can be situated on rooftops, without any concern over reinforcing the floor - while also delivering superb response times and reduced running costs.



TRIGON® XXL – Performance for all projects

TRIGON® XXL ECO

Medium condensing:

- Stainless steel heat exchanger
- 650 – 1,600kW
- 9 models
- 104.1% efficiency
- NOx (EN 15502) = 20mg/kWh*

Applications:

- Medium efficiency
- Reduced energy consumption

3 sections:

- 1 burner
- 2 HEX-sections



TRIGON® XXL EVO

High condensing:

- Stainless steel heat exchanger
- 700 – 1,700kW
- 9 models
- 109.7% efficiency
- NOx (EN 15502) = 20mg/kWh*

Applications:

- High power/high efficiency
- Low energy consumption

4 sections:

- 1 burner
- 3 HEX-sections



An
industry
FIRST

TRIGON® XXL EVO (2 MW)

High condensing:

- Stainless steel heat exchanger
- 2,000kW
- 1 model
- 109.7% efficiency
- NOx (EN 15502) = 20mg/kWh*
21mg/kWh*

Applications:

- High power/high efficiency
- Low energy consumption

5 sections:

- 1 burner
- 4 HEX-sections



* NOx values are calculated on GCV

Technical data TRIGON® XXL ECO

TRIGON® XXL ECO		ECO 650	ECO 750	ECO 850	ECO 950	ECO 1050	ECO 1150	ECO 1300	ECO 1450	ECO 1600
Nominal heat output at 80/60°C	kW	615	719	814	909	1003	1097	1255	1411	1568
Minimum heat output at 80/60°C	kW	175	204	231	258	285	311	356	400	445
Nominal heat output at 40/30°C	kW	625	732	828	925	1021	1117	1277	1436	1596
Minimum heat output at 40/30°C	kW	195	227	257	287	318	347	397	446	496
Nominal heat input full load Net	kW	653	764	865	966	1066	1166	1333	1499	1666
Minimum heat input min. load Net	kW	187	218	247	276	305	333	381	428	476
Efficiency at 80/60°C full load Net/Gross	%	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8	94.1/ 84.8
Efficiency at 40/30°C min. load Net/Gross	%	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8	104.1/ 93.8
Efficiency at 30°C return 30% load Gross	%	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7
Gross seasonal efficiency*	%	91.20	91.20	91.20	91.20	91.20	91.20	91.20	91.20	91.20
Gas consumption max/min nat gas G20	m³/h	59.9/ 17.2	70.1/ 20.0	79.4/ 22.7	88.6/ 25.3	97.8/ 28.0	107.0/ 30.6	122.3/ 35.0	137.5/ 39.3	152.8/ 43.7
Gas consumption max/min LPG G31	kg/h	51/ 14.6	59.7/ 17	67.6/ 19.3	75.5/ 21.6	83.3/ 23.8	91.1/ 26	104.1/ 29.8	117.1/ 33.4	130.2/ 37.2
Gas inlet pressure nominal nat gas (G20)	mbar	20	20	20	20	20	35	35	35	35
Gas inlet pressure nominal LPG (G31)	mbar	30	30	30	30	30	50	50	50	50
NOx emissions (EN 15502)***	mg/kWh	20	20	20	20	20	20	20	20	20
BREEAM Credits**	-	2	2	2	2	2	2	2	2	2
Flue gas temperature at 80/60°C full load	°C	153	153	153	153	153	153	153	153	153
Max. permissible flue resistance	Pa	150	150	150	150	150	150	150	150	150
Water pressure max/min	bar	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5
Maximum temperature setpoint	°C	90	90	90	90	90	90	90	90	90
Water flow at ΔT=11K	lit/sec	13.3	15.6	17.7	19.8	21.8	23.8	27.3	30.7	34.0
Hydraulic resistance at ΔT=11K	kPa	129	80	96	116	139	225	179	255	354
Water flow at ΔT=20K	lit/sec	7.3	8.6	9.7	10.8	11.9	13.1	15.0	16.9	18.7
Hydraulic resistance at ΔT=20K	kPa	39	24	29	35	42	68	54	77	107
Water flow at ΔT=30K	lit/sec	4.9	5.8	6.4	7.2	8.0	8.7	10.3	11.2	12.4
Hydraulic resistance at ΔT=30K	kPa	18	11	13	16	19	31	24	35	48
Water content	l	53	70	75	80	85	97	109	116	123
Electrical connection	V	400	400	400	400	400	400	400	400	400
Electrical power consumption boiler	W	900	900	1270	1270	1270	2330	2330	2770	2770
Sound Power Level	dB(A)	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7
Weight (empty)	kg	844	958	1084	1221	1369	1380	1740	1899	1991
Dimensions										
Water connections (W)	-	DN65 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16
Gas connection (G)	-	R2"	R2"	R2"	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN80 PN16
Flue gas connection (C)	mm	350	350	400	400	400	450	450	500	500
Air intake connection (for room sealed use)	mm	355	355	355	355	355	450	450	450	450
Condensate connection	mm	40	40	40	40	40	400	40	40	40
Boiler length (incl. connections)	mm	2185	2565	2565	2565	2565	2795	3310	3310	3310
Boiler length (excl. connections)(L1)	mm	1710	2085	2085	2085	2085	2085	2600	2600	2600
Length chimney plate (L2)	mm	550	550	550	550	550	710	710	710	710
Width (B)	mm	1370	1170	1170	1370	1370	1570	1370	1570	1570
Height (H)	mm	1555	1555	1555	1555	1555	1555	1575	1575	1575

* In accordance with equation 2 in the Non-Domestic Building Services Compliance Guide

** BREEAM UK New Construction 2018

*** NOx values are calculated on GCV



Technical data TRIGON® XXL EVO

TRIGON® XXL EVO		EVO 700	EVO 800	EVO 900	EVO 1000	EVO 1100	EVO 1200	EVO 1400	EVO 1550	EVO 1700	EVO 2000
Nominal heat output at 80/60°C	kW	639	747	846	945	1043	1141	1304	1467	1630	1953
Minimum heat output at 80/60°C	kW	182	212	241	269	297	324	371	417	464	487
Nominal heat output at 40/30°C	kW	682	798	904	1009	1114	1218	1393	1566	1741	2087
Minimum heat output at 40/30°C	kW	205	239	271	303	334	365	418	469	522	548
Nominal heat input full load Net	kW	653	764	865	966	1066	1166	1333	1499	1666	2000
Minimum heat input min. load Net	kW	187	218	247	276	305	333	381	428	476	500
Efficiency at 80/60°C full load Net/Gross	%	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.8/ 88.1	97.7/ 88.0
Efficiency at 40/30°C min. load Net/Gross	%	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8	109.7/ 98.8
Efficiency at 30°C return 30% load Gross	%	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.8
Gross seasonal efficiency*	%	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.8
Gas consumption max/min nat gas G20	m³/h	59.9/ 17.2	70.1/ 20.0	79.4/ 22.7	88.6/ 25.3	97.8/ 28.0	107.0/ 30.6	122.3/ 35.0	137.5/ 39.3	152.8/ 43.7	183.5/ 45.9
Gas consumption max/min LPG G31	kg/h	51/ 14.6	59.6/ 17	67.6/ 19.3	75.5/ 21.6	83.3/ 23.8	91.1/ 26	104.1/ 29.8	117.1/ 33.4	130.2/ 37.2	156.3/ 39.1
Gas inlet pressure nominal nat gas (G20)	mbar	20	20	20	20	20	35	35	35	35	50
Gas inlet pressure nominal LPG (G31)	mbar	30	30	30	30	30	50	50	50	50	20
NOx emissions (EN 15502)***	mg/kWh	20	20	20	20	20	20	20	20	20	20
BREEAM Credits**	-	2	2	2	2	2	2	2	2	2	2
Flue gas temperature at 80/60°C full load	°C	69	69	69	69	69	69	69	69	69	73
Max. permissible flue resistance	Pa	150	150	150	150	150	150	150	150	150	150
Water pressure max/min	bar	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5	8/1.5
Maximum temperature setpoint	°C	90	90	90	90	90	90	90	90	90	90
Water flow at ΔT=11K	lit/sec	13.9	16.2	18.4	20.5	22.7	24.8	28.3	31.9	35.4	46.5
Hydraulic resistance at ΔT=11K	kPa	245	133	182	222	275	305	275	424	532	714
Water flow at ΔT=20K	lit/sec	7.6	8.9	10.0	11.3	12.5	13.6	15.6	17.5	19.4	23.4
Hydraulic resistance at ΔT=20K	kPa	74	40	55	67	83	92	83	128	160	216
Water flow at ΔT=30K	lit/sec	5.1	5.9	6.7	7.5	8.3	9.1	10.4	11.7	13.0	15.6
Hydraulic resistance at ΔT=30K	kPa	33	18	25	30	37	41	37	57	72	96
Water content	l	73	97	104	110	117	131	147	157	166	209
Electrical connection	V	400	400	400	400	400	400	400	400	400	400
Electrical power consumption boiler	W	900	900	1270	1270	1270	2330	2330	2770	2770	2770
Sound Power Level	dB(A)	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	72.7
Weight (empty)	kg	1136	1328	1468	1634	1800	1900	2000	2100	2201	2500
Dimensions											
Water connections (W)	-	DN65 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16	DN80 PN16
Gas connection (G)	-	R2"	R2"	R2"	DN65 PN16	DN65 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN80 PN16	DN80 PN16
Flue gas connection (C)	mm	300	350	350	400	400	450	450	500	500	500
Air intake connection (A) (for room sealed use)	mm	250	355	355	355	355	450	450	450	450	450
Condensate connection	mm	40	40	40	40	40	40	40	40	40	40
Boiler length (incl. connections)	mm	2185	2565	2565	2565	2565	2795	3310	3310	3310	3310
Boiler length (excl. connections) (L1)	mm	1710	2085	2085	2085	2085	2085	2600	2600	2600	2600
Length chimney plate (L2)	mm	550	550	550	550	550	710	710	710	710	710
Width (B)	mm	1370	1170	1170	1370	1370	1570	1370	1570	1570	1570
Height (H) (incl. cargo wheels)	mm	1555	1555	1555	1555	1555	1555	1575	1575	1575	1665

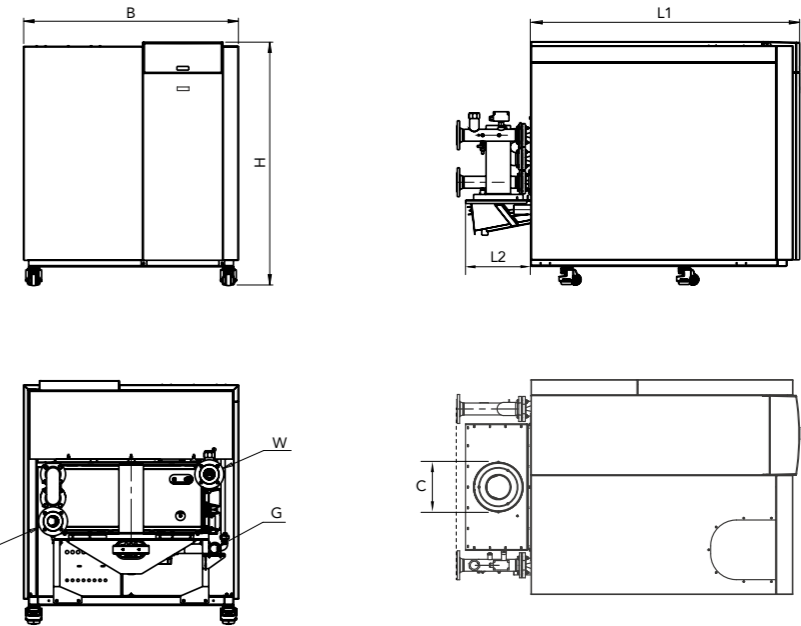
* In accordance with equation 2 in the Non-Domestic Building Services Compliance Guide
 ** BREEAM UK New Construction 2018 *** NOx values are calculated on GCV



Dimensions TRIGON® XXL

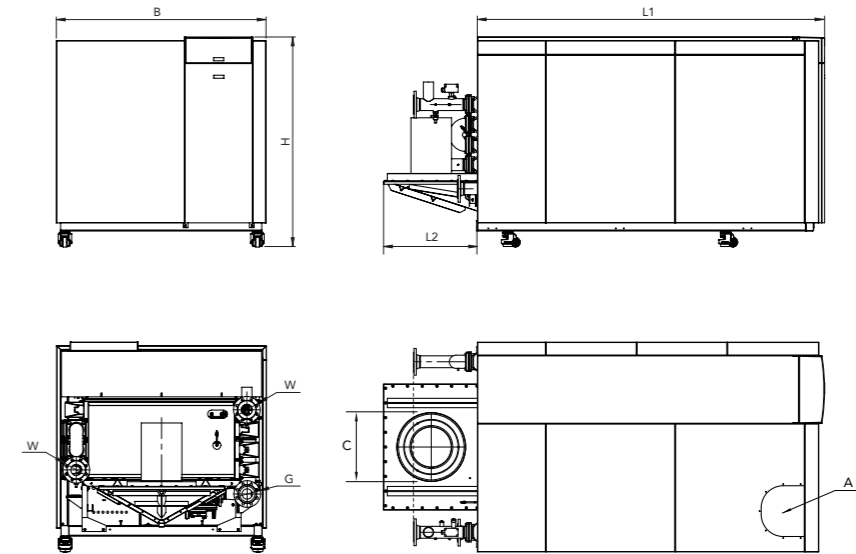
Dimensions

- ECO 650 - 1150
- EVO 700 - 1100



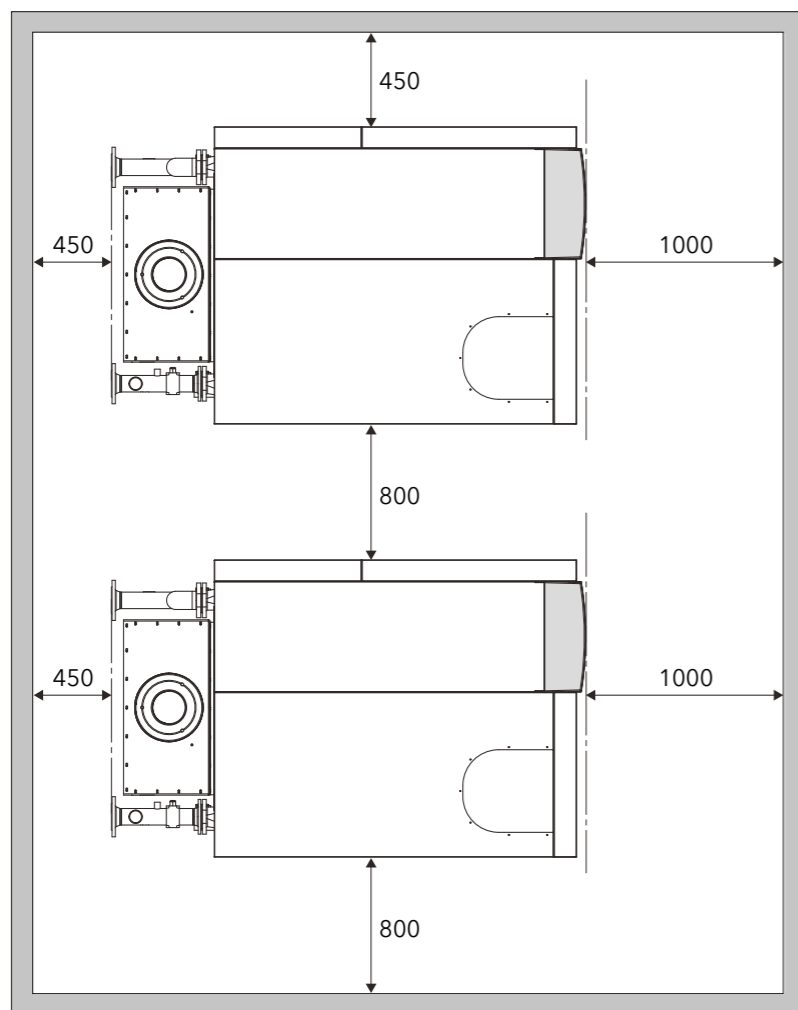
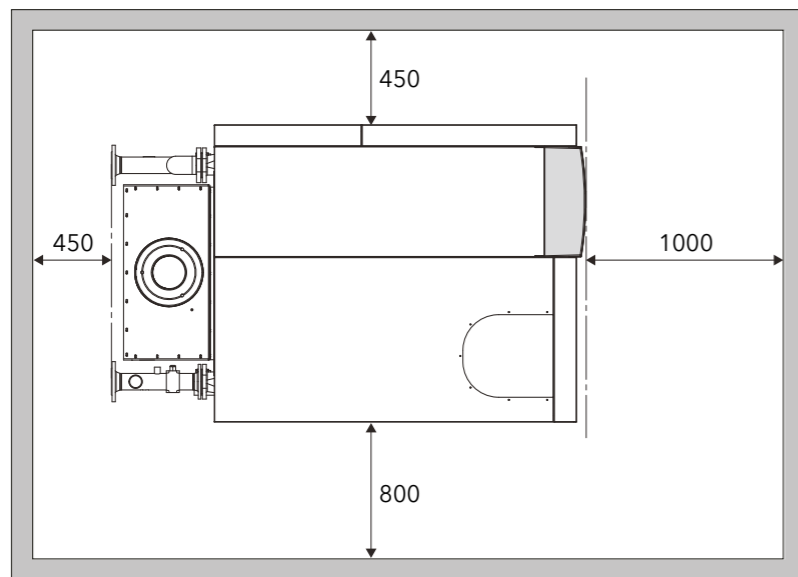
Dimensions

- ECO 1300 - 1600
- EVO 1200 - 2000



For detailed dimension indications please consult the TRIGON® XXL technical manual.

Clearances - TRIGON[®] XXL EVO



CPDs from ELCO

Our CIBSE-approved CPDs are now available online!

We have a range of CPDs focussed on commercial heating systems, including our latest module on the application of heat pumps. This is supported by another module on condensing boiler technology and how it shapes the design of commercial heating systems, plus our final program which outlines how to maximise the benefits of Combined Heat and Power (CHP) when incorporated within a commercial heating system.

Alternatively, we can also offer 1-2-1 CPDs, tailored to your company's requirements.

These can be attended online or we can visit your offices.

Contact enquiries@elco.co.uk for more information.



We have 3 CIBSE Approved CPDs

1 Introduction to and application of heat pumps

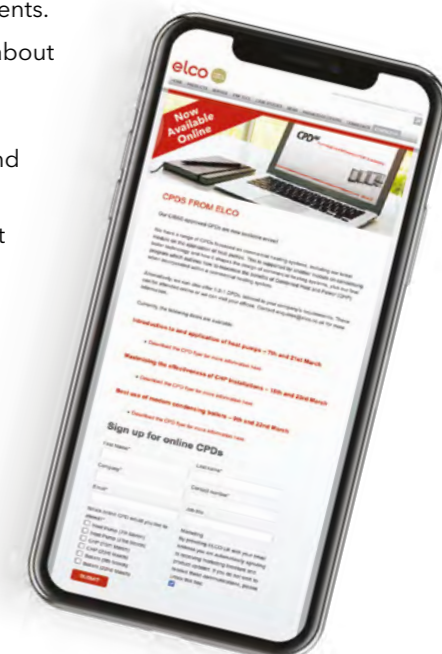
2 Maximising the effectiveness of CHP Installations

3 Best use of modern condensing boilers



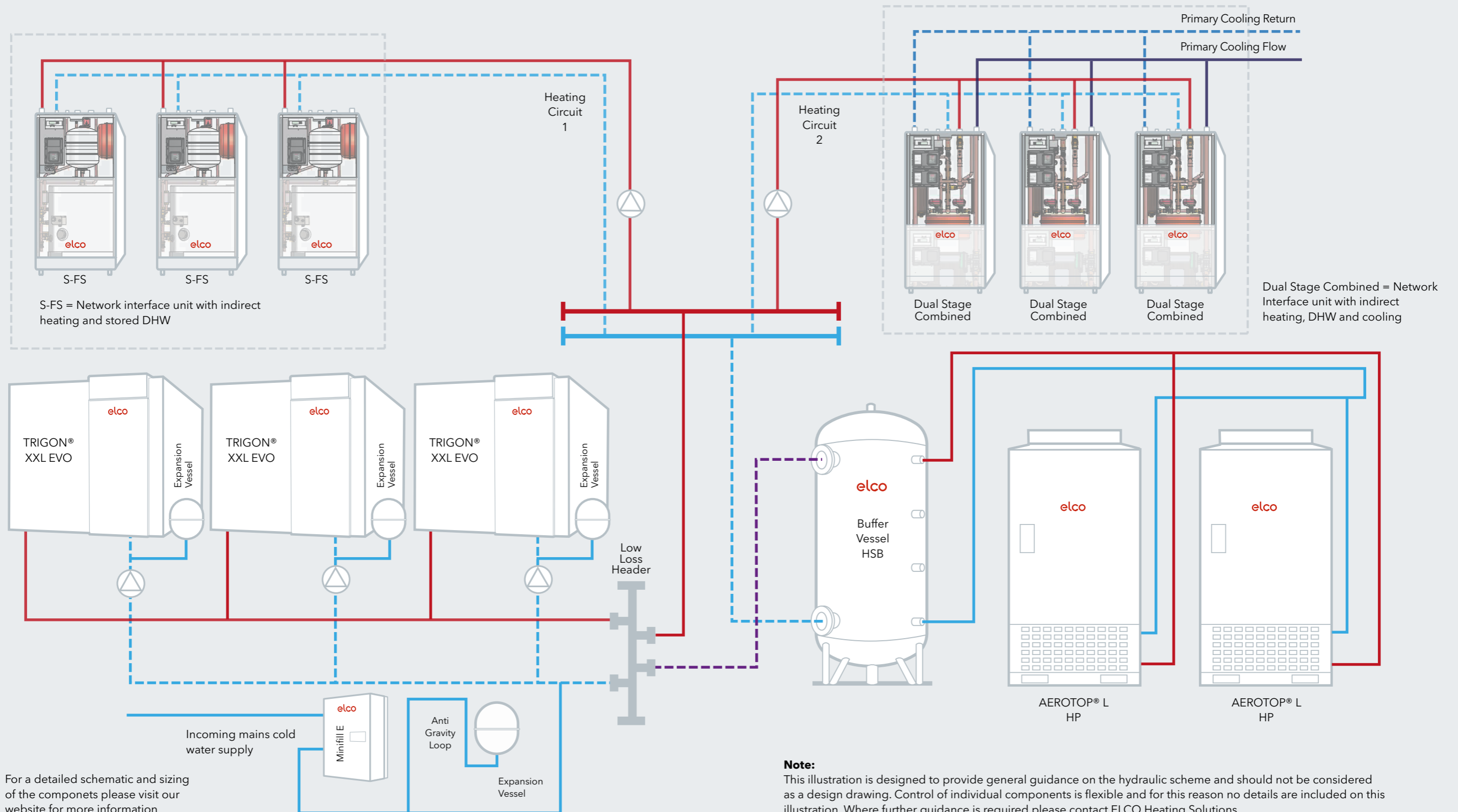
What are the benefits of attending ELCO's CPDs?

- Increase your knowledge on how ELCO products can benefit your clients.
- Join us at 'Introduction to and application of heat pumps', and learn about heat pump technology; and discover how to apply it to commercial projects.
- Attend the 'Maximising the effectiveness of CHP Installations' CPD, and learn how to effectively size a CHP unit.
- Increase your knowledge of condensing boilers and system design at our 'Best use of modern condensing boilers' CPD.
- Better understand the latest legislation and regulations.
- All ELCO CPDs count towards a CIBSE member's annual CPD hours.
- You will receive a certificate of attendance, a summary form for future reading and an event feedback form to enable us to enhance our upcoming CPDs.





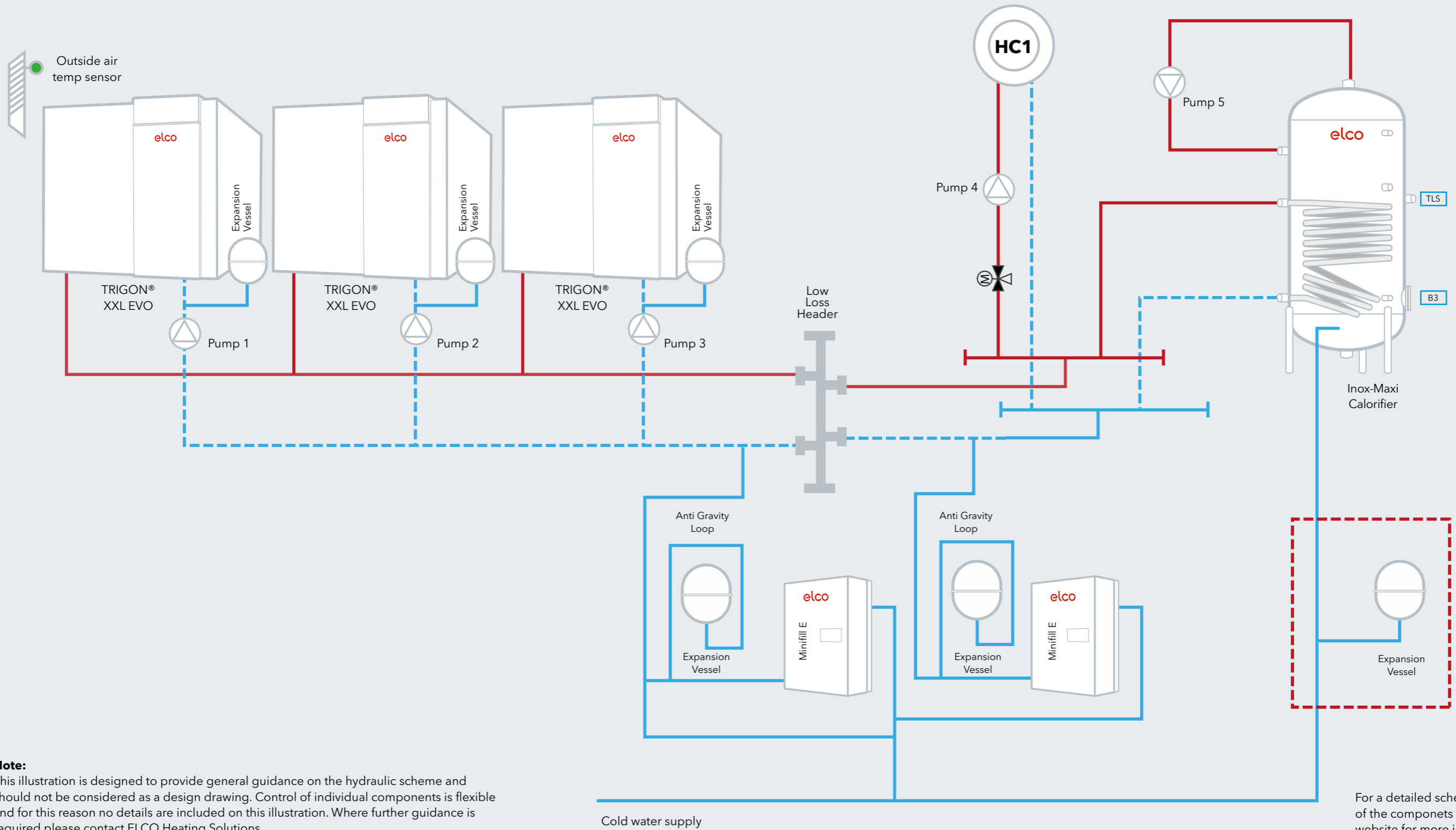
Schematic - TRIGON[®] XXL EVO



For a detailed schematic and sizing of the components please visit our website for more information



Schematic - TRIGON® XXL EVO



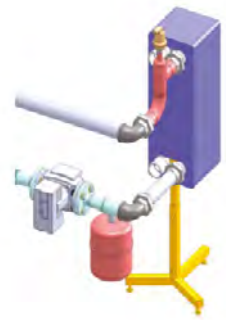
Note:
This illustration is designed to provide general guidance on the hydraulic scheme and should not be considered as a design drawing. Control of individual components is flexible and for this reason no details are included on this illustration. Where further guidance is required please contact ELCO Heating Solutions.

For a detailed schematic and sizing of the components please visit our website for more information

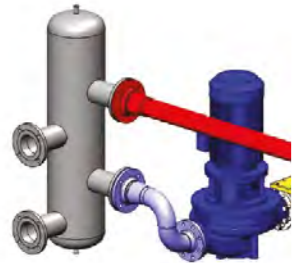


Accessories - TRIGON[®] XXL EVO

System selection



The TRIGON XXL is supplied from the factory with LMS14 boiler management unit.



The plug & play accessory kits enable a very easy selection and assembly of a complete system solution.

Safety devices



Min Water pressure switch



Max. Water pressure switch



Max. gas pressure switch



Gas valve leakage tester



External high limit thermostat

Controls



Header/hot water sensor QAZ36 cable 6M



Heating zone sensor QAD36



Outdoor sensor



Wireless receiver



Wireless outdoor sensor



Room controller



Extension module AVS75.390/101 TR-XXL



Commercial Gateway



Web server OZW672.01-.16



Cascade kit MASTER
Cascade kit SLAVE



Controller + wall hung box



Wiring for room fan and external gas valve

Hydraulics

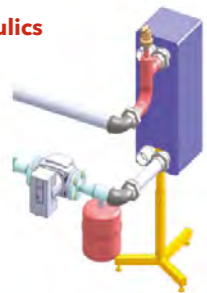
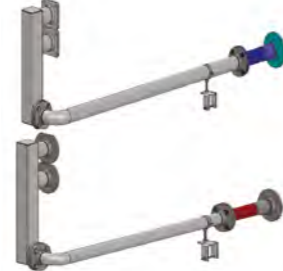
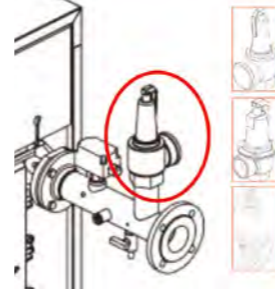


Plate heat exchanger + connection kit



2nd Return connection



Safety valve (3 or 6 bar)



Low loss header Mono header



Bypass



Speed controlled pump

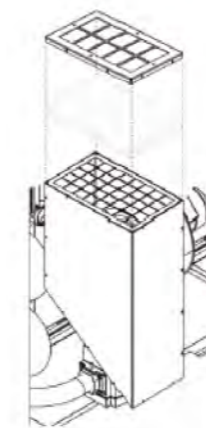
Other



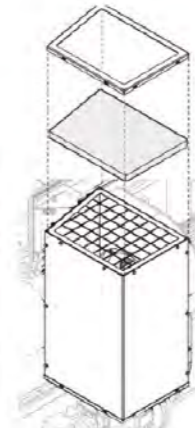
Gas pressure regulator 300mbar + connection kit



Gas filter



Air filter



Flue gas damper



Room sealed kit



Disassembly Set



ELCO – A partner you can rely on

As a specialist partner, you can rely on ELCO's extensive commercial heating 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 heat pumps, DHW, CHP and 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

Service Department	01268 546770	service@elco.co.uk
Spares Department	01268 546771	spares@elco.co.uk
Sales Department	01268 207244	enquiries@elco.co.uk
After Sales Technical	01268 546772	technical@elco.co.uk
Training	01268 207244	marketing@elco.co.uk



www.elco.co.uk

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