Air-to-water heat pumps
Output: 24 - 88 kW

elco heating solutions

AEROTOP®

Heat pumps for commercial solutions

Sustainable and efficient system solutions for commercial applications

Tested systems

As a provider of heating systems, ELCO not only focuses on efficient and sustainable products, but also ensuring seamless interaction between the various components of a heating system. In ELCO's 350m² System Laboratory, extensive testing is carried out to ensure the products and systems developed meet the highest standards and requirements.

THISION® L PLUS and TRIGON® L PLUS

Flexible floor standing gas-condensing boiler

- Up to 200 kW per boiler, up to 1.6 MW in cascade
- Unique design with two heat exchangers
- Pump and check valve already integrated
- Robust and durable stainless steel heat exchanger
- High modulation range of up to 1:10
- Modular solutions with integrated plate heat exchanger and hydraulic separator
- Wall mounted solution available with THISION® L PLUS

TRIGON® XL

Ideal for challenging environments

- Comprehensive control functions with integrated master-slave cascading
- Compact dimensions
- Lightweight construction
- Wide range of applications thanks to maximum water pressure of 8 bar

TRIGON® XXL

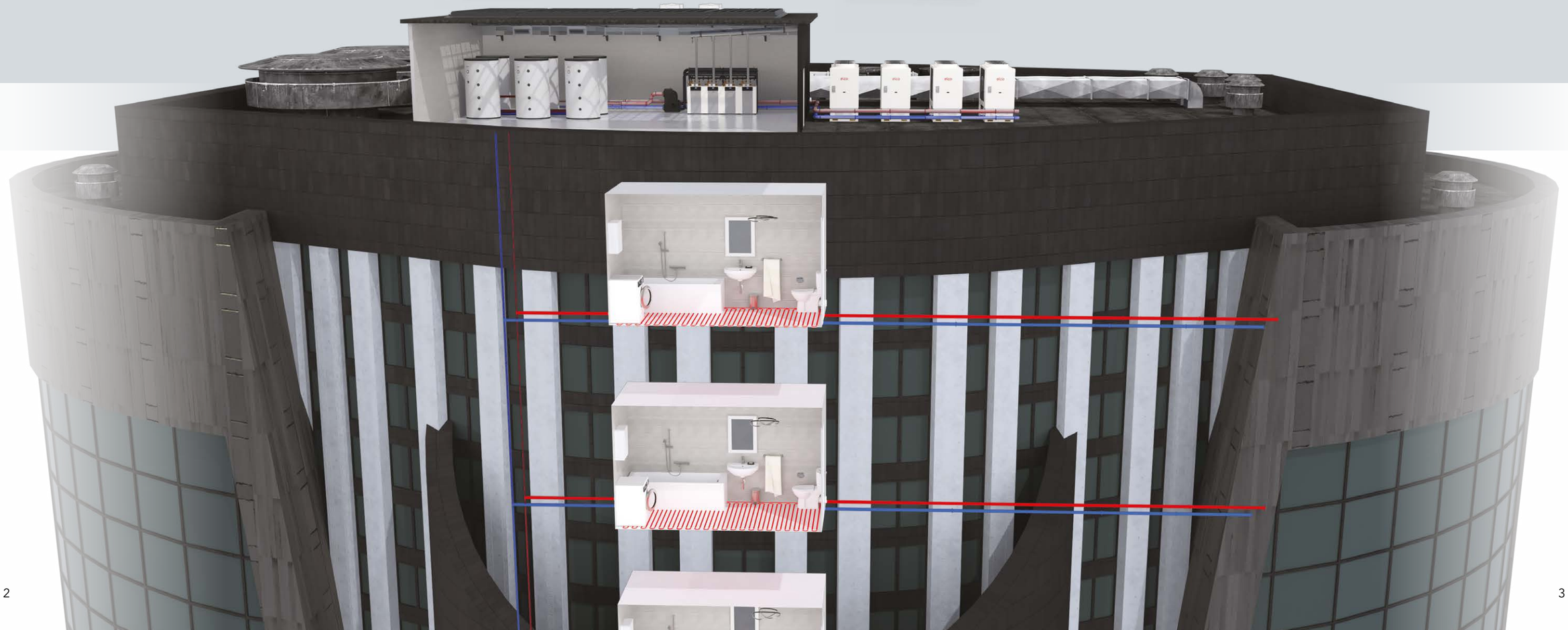
High performance at low emissions

- Up to 2 MW output per boiler
- Can be dismantled into individual parts thanks to modular design
- Low water content enables roof installations
- Lowest NOx and CO emissions thanks to unique heat exchanger geometry and water-cooled burner with cold flame

AEROTOP® M & L

System and sustainability

The commercial AEROTOP® heat pumps can be combined with the highly efficient GAS condensing boilers for hybrid systems. This creates the best possible hybrid solution for highly efficient heating, cooling and domestic hot water production.



Innovation meets sustainability

The new AEROTOP® M and AEROTOP® L range of heat pumps use the ambient air as an energy source, providing a sustainable solution within a heating system, highlighted by their A++ energy class. These models are reversible and also operate with R32 refrigerant, which very few models on the market are able to offer. In addition, the AEROTOP® M and AEROTOP® L heat pumps have many other advantages in commercial applications.

R32
REFRIGERANT

Cascades

Up to 4 heat pumps can be hydraulically interconnected and up to 16 units within one network. Models of different performance levels can also be connected to each other, which not only combines the strengths of the individual modules, but also the advantages of the entire system, including:

- Increased system efficiency
- Increased reliability
- Simplified handling and installation
- Quick and easy maintenance
- Scalability

Refrigerant circuit

The R32 refrigerant circuit is completed by:

- Electronic expansion valve
- Preheater for increased efficiency
- Control panel cooling by supercooled liquid
- Reduces global warming potential (GWP) by 70% and maximises efficiencies (compared with R410A refrigerant).

Integrated components

The commercial AEROTOP® heat pumps are equipped with a wide range of extras, including an inverter pump, anti-vibration mounts and a water filter. Plus, the heat exchanger on the AEROTOP® L features an anti-corrosion coating, making it suitable for coastal installations.

Innovative capacity control:

The AEROTOP® commercial heat pumps represent a new level in energy efficiency for cooling systems and heat pumps in their category. Depending on the energy demand, the reversible system precisely adjusts the rotation frequency of the compressor.

This ensures:

- Longer running times and lower number of start/stop operations
- Heating temperatures are reached in less time than in systems without inverter
- Lower temperature fluctuations during operation

DC compressor

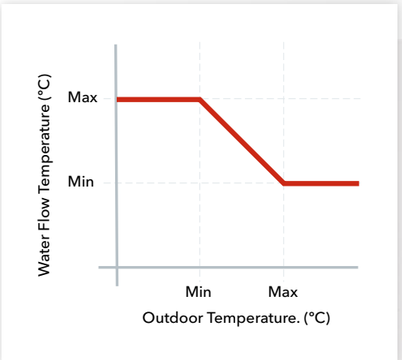
The DC compressor ensures high performance and reliability. Built-in vibration dampers and a special sound-absorbing cover ensure particularly quiet operation. The complete DC conversion significantly reduces power consumption by more than 30%.

DC inverter fan

DC brushless fan motors help to meet heating and cooling demands with low noise emission and low power consumption. Both fans and fan guards are designed with CFD technology, ensuring silent and highly efficient operation.

High functionality, low noise

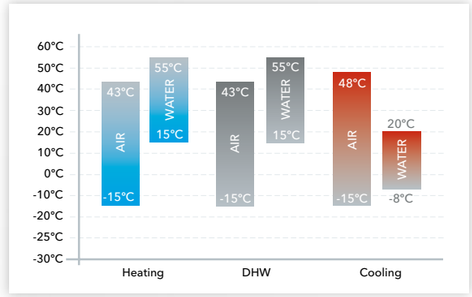
User interface
With the function keys, graphic display and multilevel menu, the new user interface offers comprehensive control features.



Flexible operating points
In both heating and cooling modes, the user interface allows a fix setpoint or a climate correlation curve to be simply managed. With this function available as standard, the system will set the outlet water temperature according to the outdoor ambient temperature automatically. If the outdoor temperature increases in cooling operation, the outlet water setpoint will decrease automatically to allow a higher cooling capacity to the system. Conversely, if the outdoor temperature decreases in heating operation, outlet water setpoint will increase automatically to allow a higher heating capacity to the system.

ECO mode
The ECO mode was developed to achieve maximum energy savings while maintaining acceptable comfort conditions. With this function it is possible to define, during daily operation, a period in which it is necessary to maintain maximum comfort conditions (for example working hours in the office) and one in which energy saving is preferred (for example the night hours).

Quiet operation
The construction of the AEROTOP® heat pumps, beyond increasing the efficiency of the unit, minimise the sound level making it particularly quiet. In addition, all models feature 'Silent' and 'Super Silent' modes, while anti-vibration kits are supplied as standard.



Extended operation range
The AEROTOP® L heat pumps offer a complete solution for various heating and cooling needs. In all operating modes, wide operation ranges are guaranteed both in terms of outdoor air temperature and supply water temperature. Compressor and heat exchangers are sized only to guarantee the best performances.

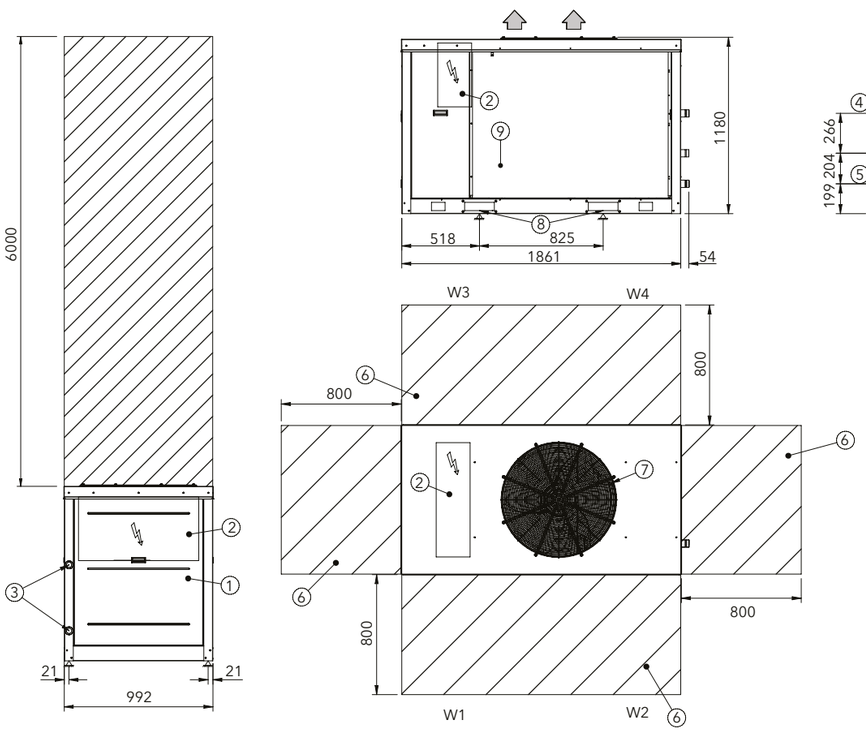
For example, they can supply a heat capacity of 80% at -7°C for the heat pump version.

Primary water production
In heating mode, the AEROTOP® L heat pumps can generate primary water temperatures up to a maximum of 55°C, at an outside temperature anywhere between -4°C and +30°C. Similarly, the AEROTOP® M heat pumps can generate primary water temperatures up to a maximum of 54°C, at the same outside temperature range. Reduced temperature primary water will be generated, if operating beyond the aforementioned outside temperature parameters (see Planner Manuals for full Heating Envelope).

Domestic hot water production
In combination with other products, both the AEROTOP® L & M are capable of generating primary water for production of domestic hot water.

Primary Cooling
In cooling mode, both the AEROTOP® L & M heat pumps can generate chilled water to a minimum temperature of 5°C, at an outside temperature anywhere between +15°C and +48°C. ELCO Heating Solutions recommends the addition of glycol when the primary water temperature is below 5°C (see Planner Manuals for full Cooling Envelope).

Dimensions – AEROTOP® M 24 – 27 – 32

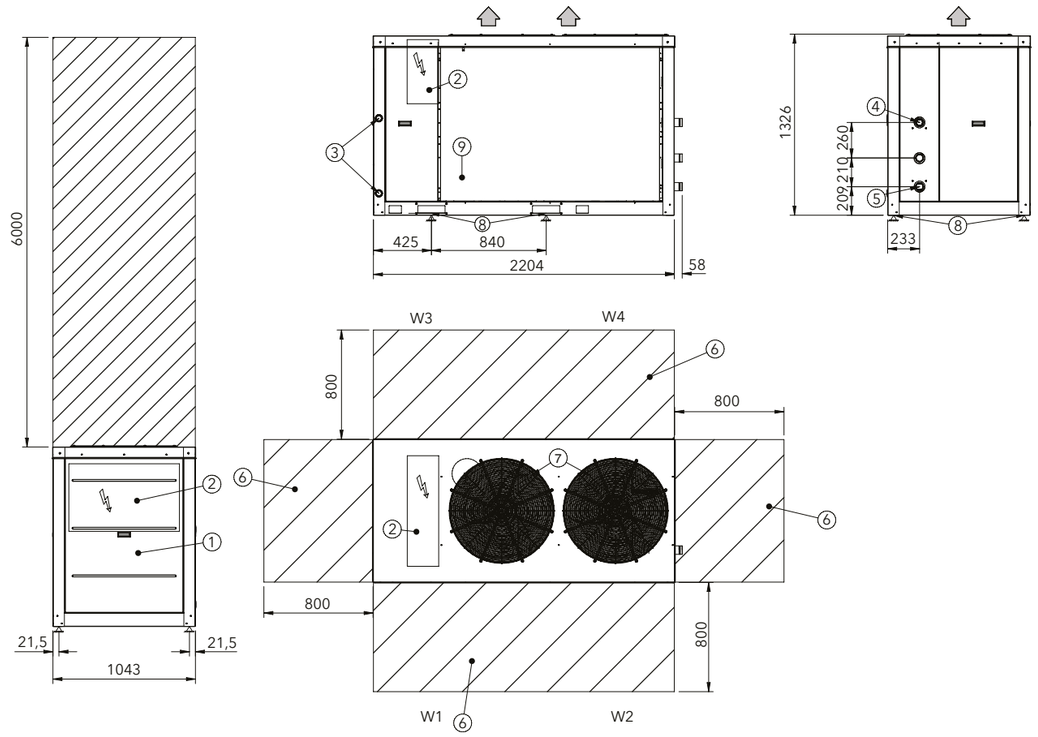


1. Compressor compartment
2. Electrical panel
3. Power input
4. Inlet water connection 1½"
5. Outlet water connection 1½"
6. Clearances
7. Electric fan
8. Unit fixing holes
9. External exchanger

AEROTOP® M		24	27	32
Size				
Length	mm	1861	1861	1861
Depth	mm	991	991	991
Height	mm	1180	1180	1180
Operational weight	kg	298	298	298
Transport weight	kg	356	356	356

The numbers in the table may vary depending on certain accessories.

Dimensions – AEROTOP® M 48

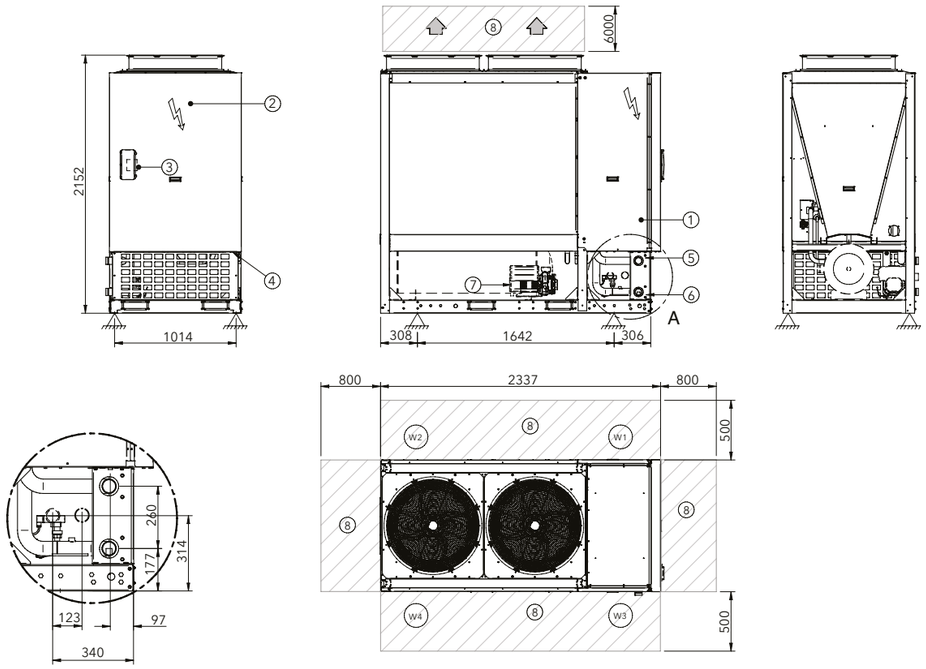


1. Compressor compartment
2. Electrical panel
3. Power input
4. Inlet water connection 2"
5. Outlet water connection 2"
6. Clearances
7. Electric fan
8. Unit fixing holes
9. External exchanger

AEROTOP® M		48
Size		
Length	mm	2204
Depth	mm	1042
Height	mm	1326
Operational weight	kg	530
Transport weight	kg	565

The numbers in the table may vary depending on certain accessories.

Dimensions – AEROTOP® L 54 – 61



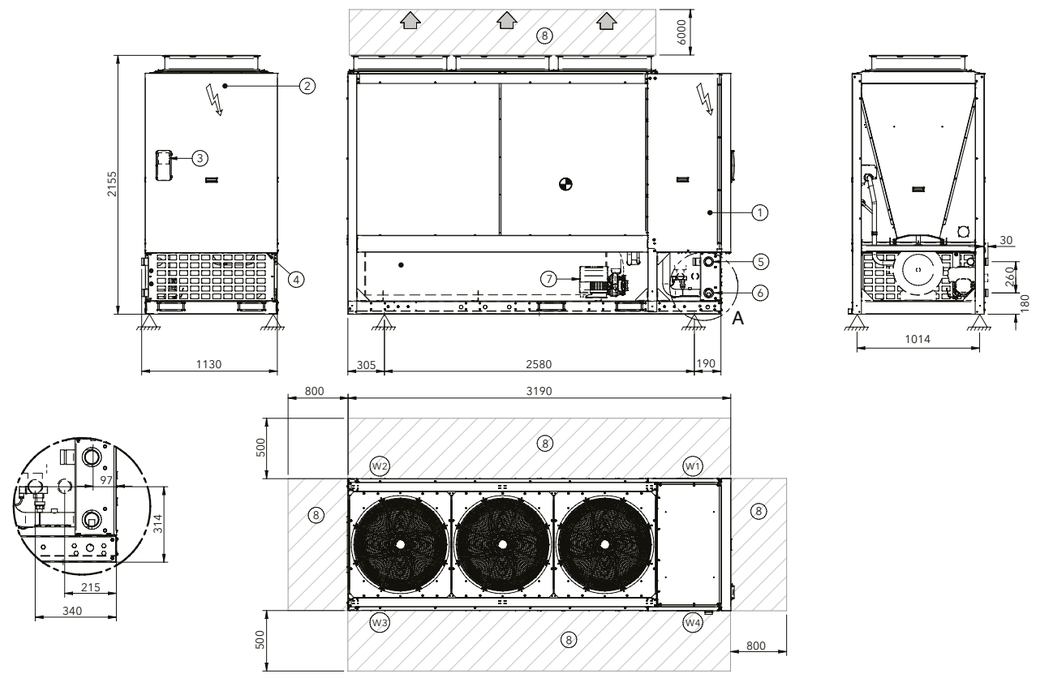
1. Compressor compartment
2. Electrical panel
3. Control keypad
4. Power input
5. Inlet water connection 2"
6. Outlet water connection 2"
7. Pump
8. Clearances

The AEROTOP® L cascade systems have 4" connections for the flow and return manifolds.

AEROTOP® L		54	61
Size			
Length	mm	2337	2337
Depth	mm	1130	1130
Height	mm	2152	2152
Operational weight	kg	580	580
Transport weight	kg	655	655

The numbers in the table may vary depending on certain accessories.

Dimensions – AEROTOP® L 65 – 79 – 88



1. Compressor compartment
2. Electrical panel
3. Control keypad
4. Power input
5. Inlet water connection 2"
6. Outlet water connection 2"
7. Pump
8. Clearances

The AEROTOP® L cascade systems have 4" connections for the flow and return manifolds.

AEROTOP® L		65	79	88
Size				
Length	mm	3190	3190	3190
Depth	mm	1130	1130	1130
Height	mm	2155	2155	2155
Operational weight	kg	780	780	780
Transport weight	kg	860	860	860

The numbers in the table may vary depending on certain accessories.

Technical data – AEROTOP®

		AEROTOP® M							
		24		27		32		48	
Technical data									
Heating & DHW production	**Description**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**
	A 7/W35	25.30	4.17	28.20	4.25	32.00	4.16	48.60	4.01
	A 7/W50	23.80	2.91	26.50	2.92	30.90	2.86	47.80	2.98
	A 2/W35	21.90	3.65	24.40	3.97	27.80	3.58	41.80	3.62
	A 2/W50	20.70	2.64	23.2	2.66	26.90	2.58	41.30	2.66
	A-4/W35	18.00	3.15	20.30	3.48	23.30	3.18	34.40	3.10
	A-4/W50	17.20	2.33	19.30	2.38	22.50	2.33	34.00	2.32
	A-7/W35	16.30	2.88	18.30	3.2	21.2	2.9	31.1	2.8
	A-7/W50	15.60	2.17	17.50	2.2	20.5	2.2	30.7	2.1
	A18/W50	30.50	3.57	34.30	3.6	40.1	3.6	62.4	3.7
	SCOP - W35	4.30		4.25		4.24		3.91	
	Power input (kW)*	6.07		6.64		8.94		12.12	
Cooling	**Description**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**
	A35/W18	31.3	4.12	34.6	3.94	41	3.6	57.7	3.83
	A35/W7	22.3	3.02	25.8	2.84	29	2.8	42	2.69
	SEER	4.63		4.64		4.63		4	
	Power Input (kW)**	7.06		8.78		11.39		15.07	
Other Information	Start Current (A)	20		20		20		40.5	
	Run Current Maximum (A)	20		20		20		40.5	
	Type of compressor	Rotary inverter		Rotary inverter		Rotary inverter		Rotary inverter	
	Sound pressure level dB (A) standard mode (1)	59		60		60		68	
	Sound pressure level dB (A) silence mode (1)	57		58		59		67	
	Sound pressure level dB (A) super silence mode (1)	56		57		58		66	
	Sound Power level dB(A) (1)	75		76		76		84	
	Recommended Primary Buffer Capacity (l)	600		600		600		600	
	Minimum flow rate (l/s)	0.9		0.9		0.9		1.8	
	Nominal flow rate (l/s)	1.2		1.4		1.5		2.3	
	Maximum flow rate (l/s)	2.6		2.6		2.6		5.0	
	Maximum head at nominal flow rate (kPa)	185		166		155		120	
	Standard Air flow rate (m^3/h)	12500		12500		12500		24000	
	ErP Energy effciency - W35	A++		A++		A++		A++	
	Standard power supply (V/Ph/Hz)	400/3/50+N							

* Power input at A7/ W35°C
** Power input at A35/ W18°C

(1) The sound pressure level refers to a distance of 1 meter from the outer surface of the unit operating in open field. Noise levels are determined using the tensiometric method (UNI EN ISO 9614-2)

		AEROTOP® L									
		54		61		65		79		88	
Technical data											
Heating & DHW production	**Description**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**	**Heating Output (kW)**	**COP**
	A 7/W35	54.40	4.07	66.70	3.90	79.30	3.96	85.90	3.98	93.70	3.98
	A 7/W50	54.80	3.01	64.20	2.89	78.80	2.90	84.70	2.84	92.60	2.77
	A 2/W35	50.40	3.65	59.40	3.57	70.70	3.55	76.80	3.54	83.70	3.46
	A 2/W50	48.30	2.74	57.00	2.67	70.80	2.64	76.40	2.58	83.50	2.52
	A-4/W35	43.00	3.23	51.60	3.26	60.30	3.07	65.80	3.07	71.70	3.01
	A-4/W50	41.00	2.46	49.00	2.45	61.40	2.31	66.40	2.27	72.70	2.22
	A-7/W35	39.4	3.0	47.9	3.1	55.2	2.8	60.4	2.8	65.9	2.8
	A-7/W50	37.4	2.3	45.1	2.3	56.8	2.1	61.6	2.1	67.5	2.1
	A18/W50	69.7	3.6	80.9	3.4	96.7	3.4	105.0	3.4	114.0	3.3
	SCOP - W35	4.04		4.03		4.08		4.07		4.06	
	Power input (kW)*	13.37		17.10		20.03		21.58		23.54	
Cooling	**Description**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**	**Cooling Output (kW)**	**EER**
	A35/W18	73.8	4	81.5	3.7	98.2	4.15	108	4.02	117	3.83
	A35/W7	53.1	2.95	58.8	2.9	72.4	3.15	78.4	3.1	85.3	2.91
	SEER	4.57		4.51		4.64		4.62		4.5	
	Power Input (kW)**	18.45		22.03		23.66		26.87		30.55	
Other Information	Start Current (A)	46		46		60.2		60.2		60.2	
	Run Current Maximum (A)	38.5		38.5		59.7		59.7		59.7	
	Type of compressor	Rotary inverter		Rotary inverter		Scroll inverter		Scroll inverter		Scroll inverter	
	Sound pressure level dB (A) standard mode (1)	64		65		62		65		67	
	Sound pressure level dB (A) silence mode (1)	56		56		58		58		58	
	Sound pressure level dB (A) super silence mode (1)	52		53		53		53		53	
	Sound Power level dB(A) (1)	82		82		81		84		85	
	Recommended Primary Buffer Capacity (l)	1000		1000		1500		1500		1500	
	Minimum flow rate (l/s)	1.9		1.9		2.9		2.9		2.9	
	Nominal flow rate (l/s)	2.6		2.9		3.1		3.8		4.2	
	Maximum flow rate (l/s)	6.4		6.4		6.4		6.4		6.4	
	Maximum head at nominal flow rate (kPa)	113		96		145		109		103	
	Standard Air flow rate (m^3/h)	24800		24800		37200		37200		37200	
	ErP Energy effciency - W35	A++		A++		A++		-		-	
	Standard power supply (V/Ph/Hz)	400/3/50+N									

* Power input at A7/ W35°C
** Power input at A35/ W18°C

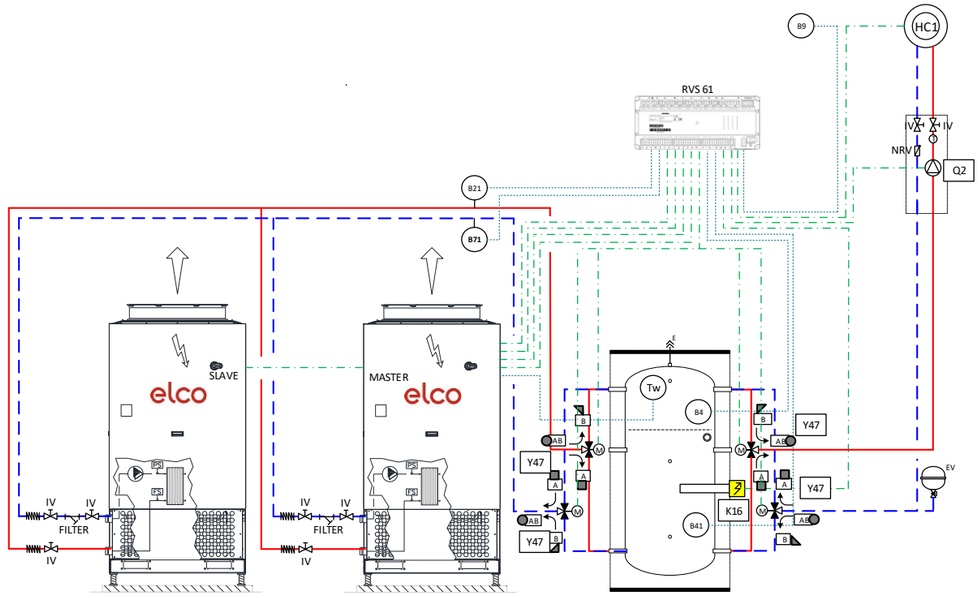
(1) The sound pressure level refers to a distance of 1 meter from the outer surface of the unit operating in open field. Noise levels are determined using the tensiometric method (UNI EN ISO 9614-2)

System examples – AEROTOP® M & AEROTOP® L

Application examples

The following systems outline typical examples for commercial applications. Depending on the requirements, the commercial AEROTOP® heat pumps can be combined with additional components from ELCO Heating Solutions, such as buffer, gas condensing boilers of has water heaters. This provides efficient and sustainable heating, cooling and domestic hot water production throughout the whole year.

Example schematic:
Cascade of AEROTOP® L ASHP producing heating or cooling with a single buffer

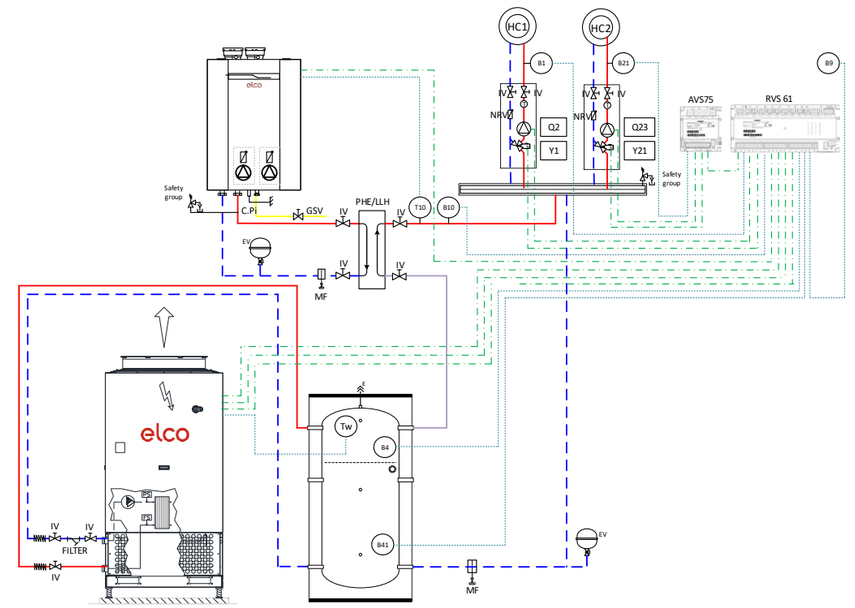


This schematic is designed to be used for general guidance and not to be considered as a design drawing.

- 2 x AEROTOP® L heat pumps
- 1 x buffer for both heating and cooling
- 4 x three way diverting valves to switch between heating or cooling
- 1 x heating or cooling circuit

System examples – AEROTOP® M & AEROTOP® L

Example schematic:
Hybrid system: AEROTOP® L ASHP and THISION® L Plus boiler producing heating with a single buffer and a PHE or LLH



This schematic is designed to be used for general guidance and not to be considered as a design drawing.

- 1 x AEROTOP® L heat pump
- 1 x THISION® L Plus boiler
- 1 x buffer
- 1 x plate heat exchanger or low loss header
- Optional outdoor sensor
- Optional clip-in for up to 3 mixing circuits

ELCO – A partner you can rely on

As a specialist partner, you can rely on ELCO's extensive hybrid systems 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 hybrid systems – offering their experience and assistance when you need it the most.

Commissioning
Our specialists always work together with you in commissioning an ELCO product 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 all our products are maintained to the highest standards.

More information

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