Beretta

TOWER GREEN M

HEAT PUMP

Air-to-water split all-in-one heat pumps in R32

TOWER GREEN M THE NEW RANGE OF ALL-IN-ONE AIR-TO-WATER HEAT PUMPS

TOWER GREEN M split heat pumps are designed to provide heating, cooling and domestic hot water. Available in 10 different power sizes, they offer a wide range of single-phase (4 to 16 kW) and three-phase (12 to 16 kW) models. Thanks to the compressor's DC Inverter technology, they can reach a heating temperature of up to 65°C. On-board control as standard facilitates the management of various functions. TOWER GREEN M are designed to be integrated into a hybrid system, in combination with a gas heating source (*). (*) For further information, please refer to the documentation dedicated to Beretta hybrid systems.

ALL-SEASONS COMFORT

EFFICIENT PERFORMANCE

SILENT OPERATION

COMPACT DIMENSIONS

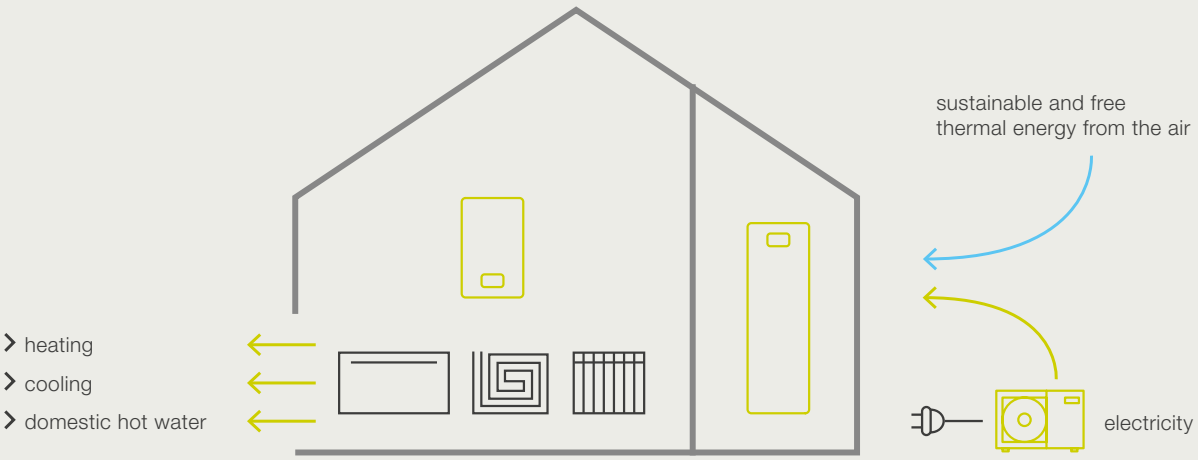
REFRIGERANT GAS R32

WIDE RANGE

HOW IT WORKS

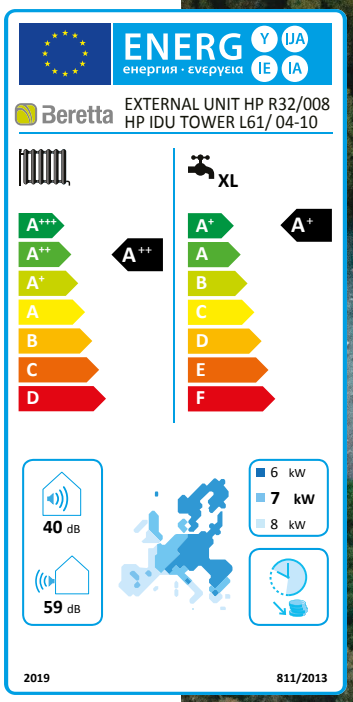
TOWER GREEN M is an air-to-water split heat pump that uses thermal energy from the air, a renewable and free source, by extracting it through the outdoor unit, and domestic electricity, to provide comfort in all seasons, producing heating, cooling and domestic hot water.

Thanks to the Inverter compressor and the refrigerant gas, thermal energy from the air is transferred to the water for sanitary use and to the circuit water to heat underfloor system, fan coils, and radiators.



ENERGY CLASS A+++

The entry into force of the European ErP Directive (09/26/2015) requires that heat pumps, like other generators for the production of heating and domestic hot water, be classified through the appropriate energy label indicating the class. The mandatory labeling provides greater transparency on the characteristics of the products, which will be able to be easily compared, favoring the user in searching for those with higher efficiency.
TOWER GREEN M heat pumps achieve class A+++* (A7;W35°C) and class A+** for domestic hot water.



REFRIGERANT GAS R32

The new TOWER GREEN M range uses R32 refrigerant gas, which has many advantages over R410A refrigerant and is in line with European goals to reduce **CO_2**.

ADVANTAGES OF R32 REFRIGERANT

- LOW GLOBAL WARMING POTENTIAL (GWP):
  R410A: 2,088 > R32: 675***
- **IMPROVED ENERGY EFFICIENCY COMPARED TO PRODUCTS WITH R410A**

* The range of energy efficiency class of this product category is between D and A+++
** The range of energy efficiency class of this product category is between F and A+
*** Pursuant to Regulation (EU) 2024/573

HI, COMFORT T300-I

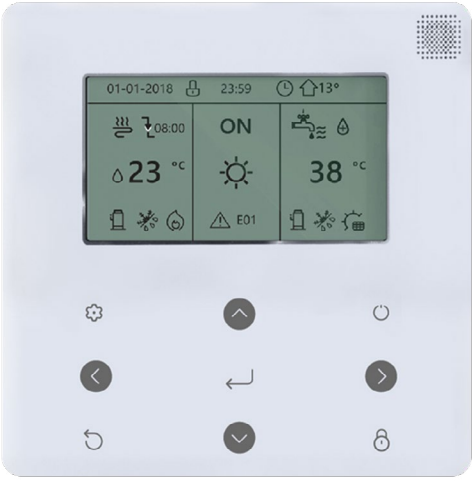
Hi, Comfort T300-I is an advanced control system with a modern and elegant design, which, thanks to the integrated gateway, allows remote management of home comfort via the App
Hi, Comfort. Hi, Comfort T300-I functions as a true System Manager for heating and cooling systems, including heat pump, full-electric and hybrid systems. Its display is easy to read and features intuitive icons for quick and easy operation.

USB FUNCTION

Easily transfers parameter settings between different wire controllers.
Convenient update of the program with a key and time saving for on-site installation.

ON-BOARD CONTROL AS STANDARD

The onboard wired control is supplied as standard with each heat pump split system indoor unit. It is easy to navigate and enables you to activate all the available functions, including “Antifreeze” and “Holiday”, and set a weekly program for home comfort management.
The large backlit display features intuitive icons that simplify reading, which is also made easier thanks to the multi-language menu.



OUTDOOR UNIT

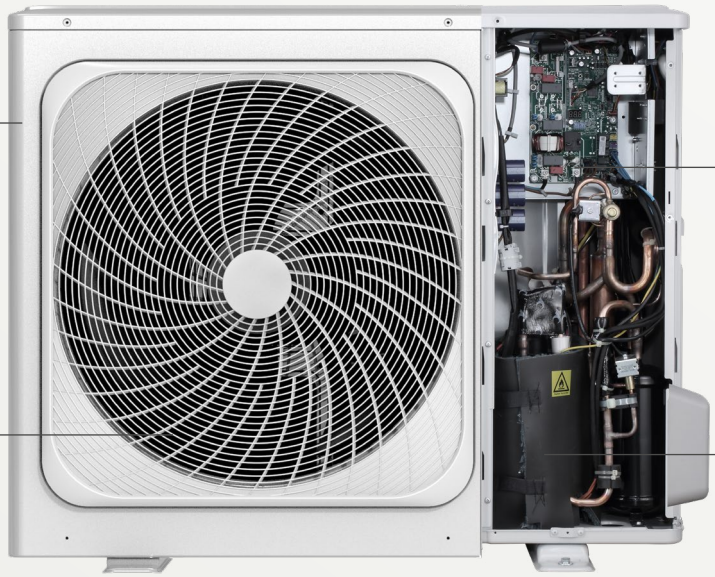
HIGH EFFICIENCY EXCHANGE BATTERY

Large heat exchange surface:

- Aluminum fins with large exchange surface to maximize heat transfer.
- Blue-Fin Treatment: Hydrophilic and anti-corrosive coating for greater durability and weather resistance, even in harsh environments.

INVERTER CONTROL BOARD

Optimized power management: maximizes power under critical load conditions, providing high performance and delivering stability and efficiency at part loads.



FAN

The innovative design of the blade and its edge has been optimized to maximize the airflow surface. This configuration allows to significantly improve the efficiency of the fan, while reducing the overall noise.

HIGH EFFICIENCY TWIN ROTARY DC INVERTER COMPRESSOR

State-of-the-art design: the Twin Rotary compressor with DC Inverter technology, combined with the fan motor and pump, offers precise control of the motor speed. Optimal energy efficiency: the ability to modulate power according to the actual load allows you to minimize energy consumption and maximize savings.

ALL-IN-ONE INDOOR UNIT

- **WATER FLOW SWITCH** For accurate control of water flow.
- **BRAZED PLATE HEAT EXCHANGER** High efficiency.
- **HYDRAULIC AND REFRIGERANTCONNECTION ON THE TOP:** Easily accessible by service.

- **EXPANSION VESSEL** 8 liters.
- **BACK-UP HEATER:** Various configurations: 3kW (single phase) or 2/ 4/ 6kW(single-phase) or 3/ 6/ 9kW (three-phase).
- **VARIABLE SPEED WATER PUMP** High efficiency and automatic configuration. Proportional flow rate offers fast heat pump start-up.
- **ELECTRICAL BOX** Easy access for service.
- **DOMESTIC HOT WATERCYLINDER** Built-in stainless steel tank with 190-liter or 240-liter capacity.

TOWER GREEN M STRENGTHS

SILENT OPERATION

The low noise level is achieved thanks to the construction measures and can be reduced up to 39 dB(A)* by setting the Silent Mode.

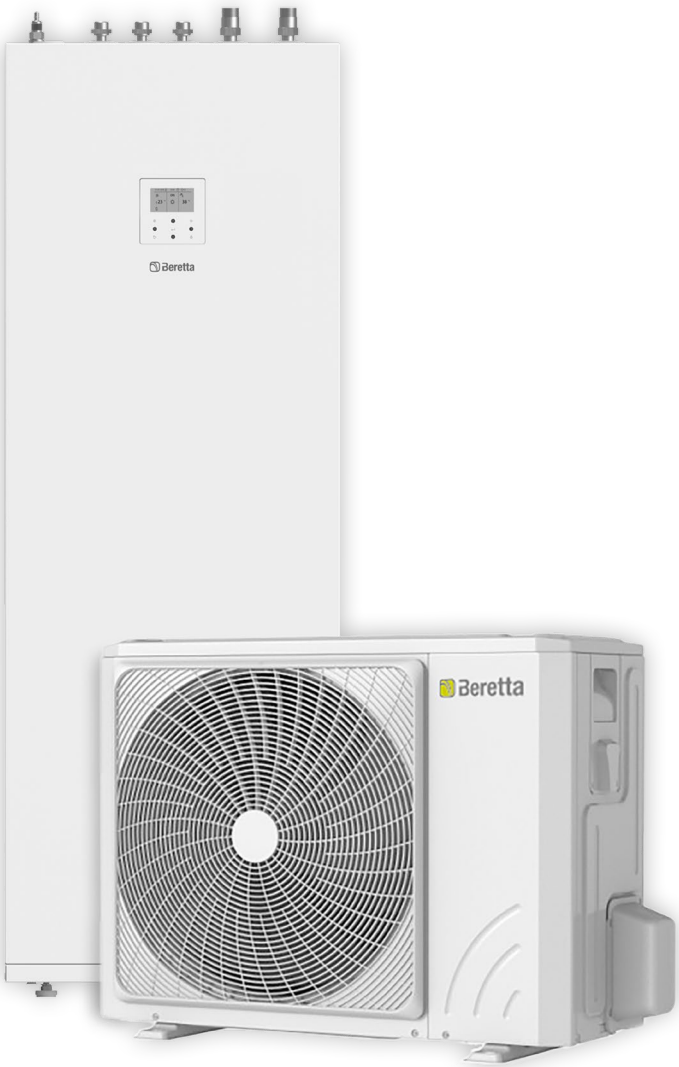
EFFICIENT PERFORMANCE

All power sizes of TOWER GREEN M have energy class A+++ ** in heating (air 7°C, water 35°C) and can reach a heating temperature of up to 65°C.

*Sound pressure of a 4 kW outdoor unit in silent mode 2, measured at 1m distance in front of the unit (1m + height of the unit) and at 2 m above the floor (with air +7°C, water 35°C)
** The range of energy efficiency class of this product category is between D and A+++

INSTALLATION FLEXIBILITY

TOWER GREEN M represents a valid solution both for the replacement of a wall-hung gas boiler and for new construction. It is also possible to combine it with a Beretta condensing boiler in the case of a hybrid system.
The condensing boiler can be an auxiliary source of heat in colder climates.



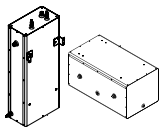
TERMINAL UNITS

fan coils

floor system

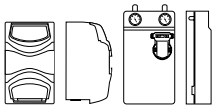
radiators

ACCESSORIES



INERTIAL BUFFER TANK

50-liter buffer tank suitable for vertical or horizontal installation, inside or outside the building

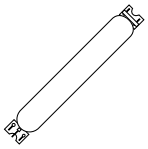


MANAGEMENT MODULEOF THE AREAS

Pre-assembled modules, possibility of creating direct and/or mixed circuits, single or multiple, both in heating and cooling

TEMPERATURE SENSOR

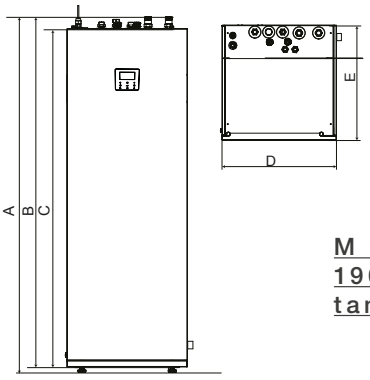
Allows to manage temperature operation for the balancing of tanks or the 2 zone flow temperature or the solar temperature



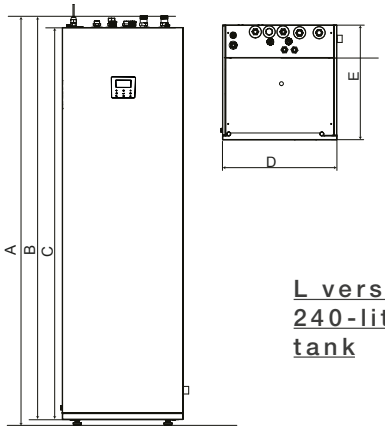
EXPANSION VESSEL KIT FOR DHW

Kit expansion vessel for domestic hot water includes 8-litre expansion vessel, connection piping, safety valve and support to be installed on the back of the all-in-one indoor unit

TECHNICAL DRAWINGS

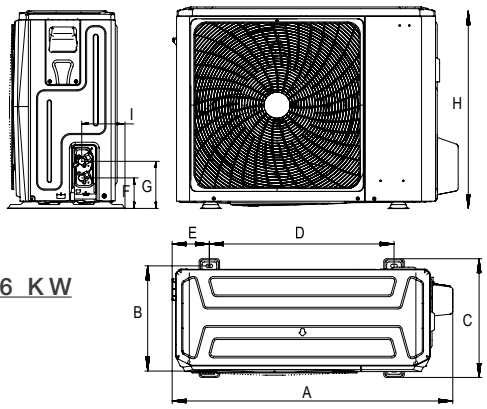


M version with 190-liter DHW tank

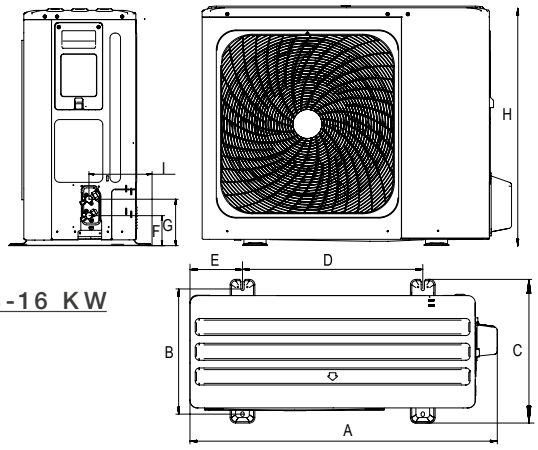


L version with 240-liter DHW tank

MODEL	uom	A	B	C	D	E
M version	mm	1775	1748	1682	600	600
L version	mm	2034	2007	1942	600	600



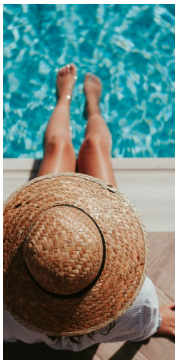
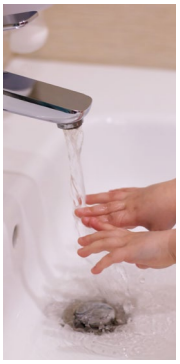
4-6 KW



8-16 KW

MODEL	uom	A	B	C	D	E	F	G	H	K
4-6 kW	mm	1008	375	426	663	134	110	170	712	160
8-10-12-14-16 kW	mm	1118	456	523	656	191	110	170	865	230

ALL-SEASONS COMFORT

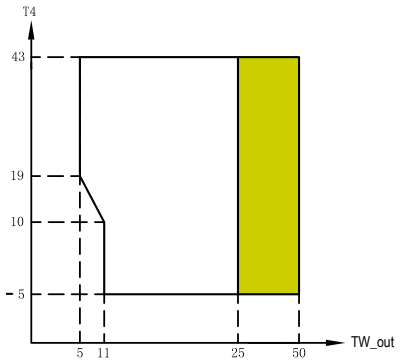



The TOWER GREEN M range of heat pumps can be used with different outdoor air temperatures. As the graphs show, in heating it can operate from -25°C outdoor temperature, in cooling up to +43°C, and for domestic hot water from -5°C to +43°C outdoor temperature.

OPERATING LIMITS

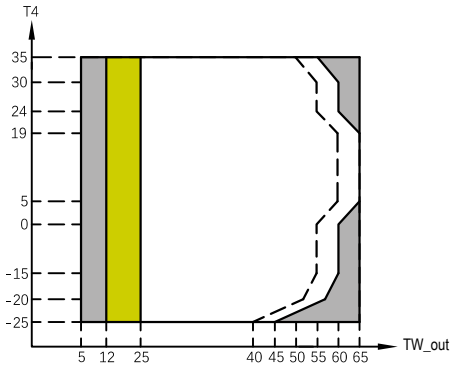
- Operating range only with gas boiler or electric resistance
- Operating range by heat pump with possible limitation and protection
- Maximum inlet water temperature line for heat pump operation

COOLING MODE



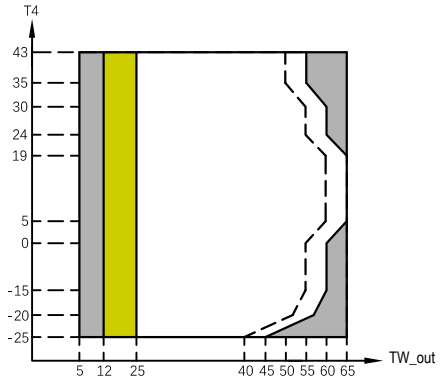
HEATING MODE

The maximum outlet water temperature (Tw_out) that the heat pump can reach at different outdoor temperatures (T4) is listed below:



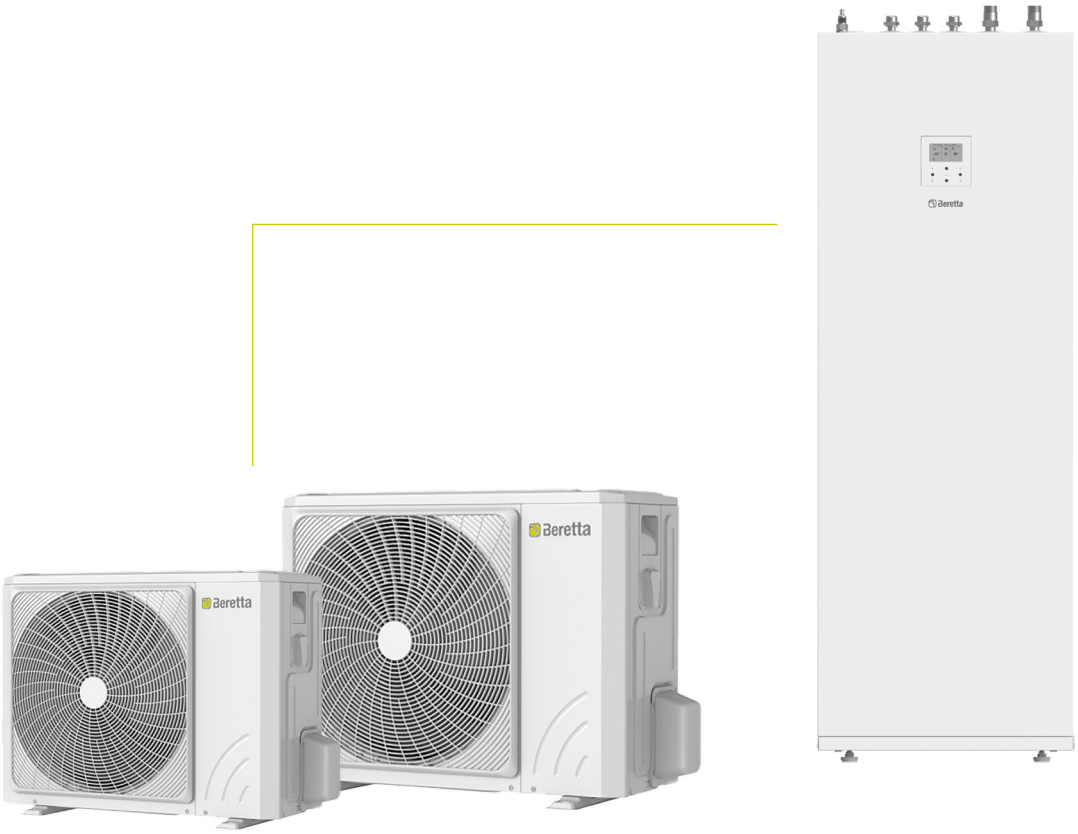
DHW MODE

The maximum outlet water temperature (Tw_out) that the heat pump can reach at different outdoor temperatures (T4) is listed below:



WIDE RANGE

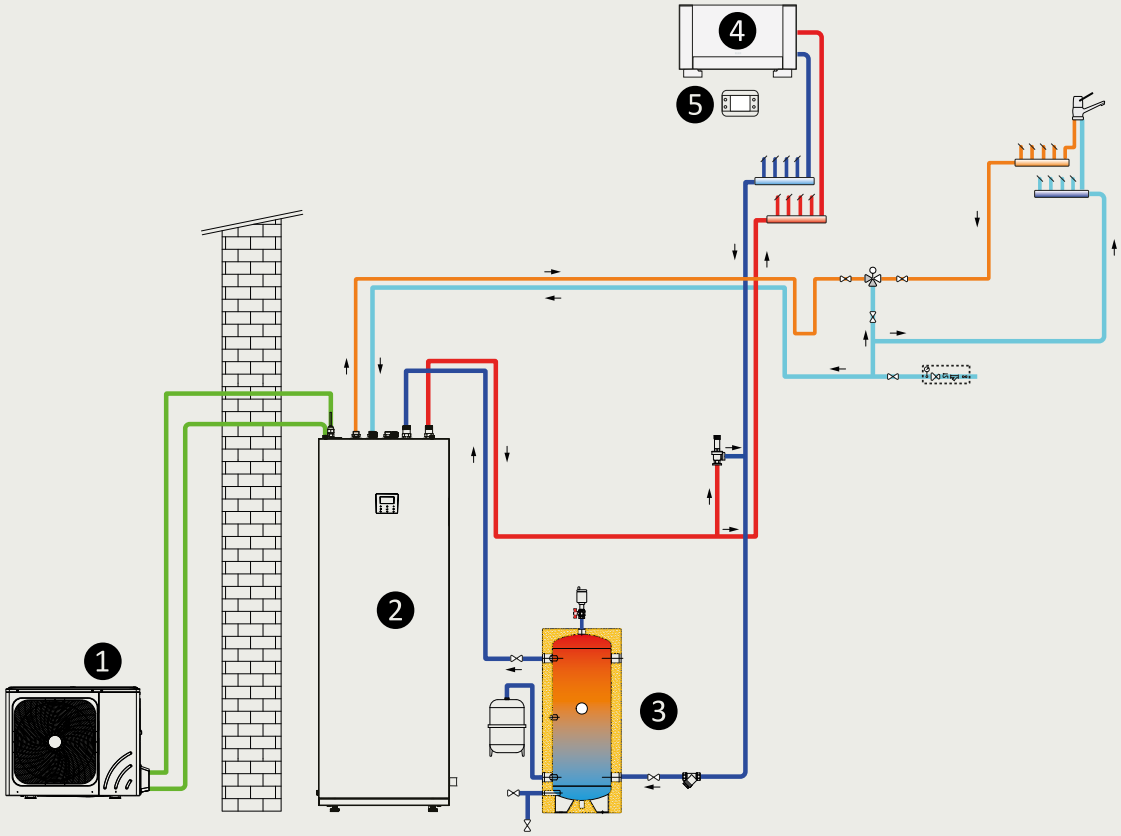
TOWER GREEN M is available in 10 different power sizes and offers a wide range of choices between single-phase (4 to 16 kW) and three-phase (12 to 16 kW) models.



OUTDOOR UNIT
Two dimensions for 10 power sizes.

ALL-IN-ONE INTERNAL UNIT
Six models with different electric back-up heaterconfigurations and two different DHW tank sizes(190lt or 240lt).

EXAMPLE OF APPLICATION



1 Heat pump external unit
2 Heat pump all-in-one internal unit
3 Inertial storage
4 Fan coil
5 Hi, Comfort T300-I

BASEMENT SET: VERSION WITH INTERNAL UNIT M (190L DHW TANK)

SET	OUTDOOR UNIT	INDOOR UNIT ALL-IN-ONE	OUTPUT
SET TOWER GREEN M 4M DHW M61	HP EXTERNAL UNIT R32/004	HP IDU TOWER GREEN M 61/ 04-10 (1)	4kW (single phase)
SET TOWER GREEN M 6M DHW M61	HP EXTERNAL UNIT R32/006		6kW (single phase)
SET TOWER GREEN M 8M DHW M61	HP EXTERNAL UNIT R32/008		8kW (single phase)
SET TOWER GREEN M 0M DHW M61	HP EXTERNAL UNIT R32/010		10kW (single phase)

ALL-IN-ONE SET: VERSION WITH INDOOR UNIT L (240L DHW TANK)

SET	OUTDOOR UNIT	INDOOR UNIT ALL-IN-ONE	OUTPUT
SET TOWER GREEN M 4M DHW L61	HP EXTERNAL UNIT R32/004	HP IDU TOWER GREEN M L61/ 04-10 (1)	4kW (single phase)
SET TOWER GREEN M 6M DHW L61	HP EXTERNAL UNIT R32/006		6kW (single phase)
SET TOWER GREEN M 8M DHW L61	HP EXTERNAL UNIT R32/008		8kW (single phase)
SET TOWER GREEN M 10M DHW L61	HP EXTERNAL UNIT R32/010		10kW (single phase)
SET TOWER GREEN M 12M DHW L61	HP OUTDOOR UNIT R32/012	HP IDU TOWER GREEN M L61/ 12-16 (1)	12kW (single phase)
SET TOWER GREEN M 14M DHW L61	HP OUTDOOR UNIT R32/014		14kW (single phase)
SET TOWER GREEN M 16M DHW L61	HP OUTDOOR UNIT R32/016		16kW (single phase)
SET TOWER GREEN M 12T DHW L93	HP OUTDOOR UNIT R32/012T	HP IDU TOWER GREEN M L93/ 12-16 (2)	12kW (three phase)
SET TOWER GREEN M 14T DHW L93	HP OUTDOOR UNIT R32/014T		14kW (three phase)
SET TOWER GREEN M 16T DHW L93	HP OUTDOOR UNIT R32/016T		16kW (three phase)

(1) Including 6kW (1ph) back-up heater. Default setting is 4kW, convertible on-site to either 2kW or 6kW.
(2) Including 9kW back-up heater (three-phase). Default setting is 9kW, convertible on-site to 3kW or 6kW.

TECHNICAL SPECIFICATIONS	UOM	004	006	008	010	012	014	016	012T	014T	016T
PERFORMANCE DATA*											
Heating performance [A7/W35] (1)											
Rated capacity	kW	4,25	6,20	8,30	10,00	12,10	14,50	16,00	12,10	14,50	16,00
COP	kW/kW	5,20	5,00	5,20	5,00	4,95	4,70	4,50	4,95	4,70	4,50
SCOP**	kW/kW	4,85	4,95	5,22	5,20	4,81	4,72	4,62	4,81	4,72	4,62
ηs	%	191	195	206	205	189	186	182	189	186	182
Seasonal energy class	D→A+++***	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Heating performance [A7/W45] (2)											
Rated capacity	kW	4,35	6,35	8,20	10,00	12,30	14,20	16,00	12,30	14,20	16,00
COP	kW/kW	3,80	3,75	3,95	3,80	3,80	3,65	3,60	3,80	3,65	3,60
Heating performance [A7/W55] (3)											
Rated capacity	kW	4,40	6,00	7,50	9,50	12,00	13,80	16,00	12,00	13,80	16,00
COP	kW/kW	2,95	3,00	3,18	3,10	3,10	3,00	2,90	3,10	3,00	2,90
SCOP	kW/kW	3,31	3,52	3,37	3,47	3,45	3,47	3,41	3,45	3,47	3,41
ηs	%	130	138	132	137	135	136	133	135	136	133
Seasonal energy class	D→A+++***	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Cooling performance (A35/W18) (4)											
Rated capacity	kW	4,50	6,55	8,40	10,00	12,00	13,50	14,20	12,00	13,50	14,20
EER		5,55	4,90	5,05	4,80	4,00	3,61	3,61	4,00	3,61	3,61
SEER		7,77	8,21	8,95	8,78	7,10	6,90	6,75	7,04	6,85	6,71
Cooling performance (A35/W7) (5)											
Rated capacity	kW	4,70	7,00	7,40	8,20	11,60	12,70	14,00	11,60	12,70	14,00
EER		3,45	3,00	3,38	3,30	2,75	2,55	2,45	2,75	2,55	2,45
SEER		4,99	5,34	5,83	5,98	4,89	4,86	4,69	4,86	4,83	4,67
ηs	%	196	210	229	235	192	191	184	192	191	184
DOMESTIC HOT WATER PERFORMANCE****											
DHW COP (M version/L version)	kW/kW	3,10/3,34	3,10/3,34	3,10/3,36	3,10/3,36	na/3,00	na/3,00	na/3,00	na/3,00	na/3,00	na/3,00
DHW seasonal energy efficiency (M version/ L version)	%	127/136	127/136	125/137	125/137	na/123	na/123	na/123	na/123	na/123	na/123
Load profile (M version/ L version)		L / XL	L / XL	L / XL	L / XL	n.a./ XL	n.a./ XL	n.a./ XL	n.a./ XL	n.a./ XL	n.a./ XL
DHW energy class	F→A+ *****	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Vmax @ 40°C (M version/ L version)	L	200/275	200/275	200/275	200/275	na/280	na/280	na/280	na/280	na/280	na/280
DHW tank volume (M version/ L version)	L	190/240	190/240	190/240	190/240	na/240	na/240	na/240	na/240	na/240	na/240
DHW tank material		Stainless Steel									
SOUND LEVELS											
Sound pressure (6) outdoor unit	dB(A)	44	45	46	49	50	51	54	50	51	55
Sound pressure (7) outdoor unit	dB(A)	56	58	59	60	64	65	68	64	65	68
Sound pressure (6) indoor unit	dB(A)	22	24	22	22	24	25	24	24	25	24
Sound power (7) indoor unit	dB(A)	38	38	40	40	42	44	44	42	44	44
NET WEIGHT											
External unit	Kg	58	58	75	75	111	111	111	126	126	126
All-in-one indoor unit	Kg	157	157	157	157	159	159	159	159	159	159
COMPRESSOR TYPE		DC Twin rotary									
REFRIGERANT		R32 (GWP = 675)									
REFRIGERANT CHARGE	Kg	1,50	1,50	1,65	1,65	1,84	1,84	1,84	1,84	1,84	1,84

(1) Outside air temperature 7°C DB; water inlet/outlet 30/35°C
(2) Outside air temperature 7°C DB; water inlet/outlet 40/45°C
(3) Outside air temperature 7°C DB; water inlet/outlet 47/55°C
(4) Outside air temperature 35°C; water inlet/outlet 23/18°C
(5) Outside air temperature 35°C; water inlet/outlet 12/7°C
(6) Measured at a position 1m in front of the unit and (1+unit height)/2m above thefloor in semi-anechoic chamber
(7) Declared value in compliance with the EN 12102-1 standard
*Performance data refers to the combination of outdoor units and indoor units in accordance with EN 14511-3: 2022.
** In accordance with EN 14825:2022. Average climate.
***The range of energy efficiency class of this product category is between D and A+++.
**** Performance data are in accordance with EN 16147: 2017. Medium climate.
*****The range of energy efficiency class of this product category is between F and A+.

⚠ Performance is declared according to EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

Beretta

SCAN AND DISCOVER
TOWER GREEN M

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