Hoval UltraSource® T comfort
Hoval UltraSource® T compact

Modulating heat pump system for heating and cooling in the living area.
UltraSource® T compact C (8/200) and (13/200) additionally with integrated calorifier (200 litres) in the indoor unit.

UltraSource® T comfort

- Compact floor-mounted brine/water and water/water heat pumps with enclosed scroll compressor controlled by inverter
- UltraSource® T comfort (8) with modulating rotary compressor
  UltraSource® T comfort (13,17) with modulating scroll enclosed compressor
- Casing made from painted, galvanised sheet steel. Colour flame red/brown red (RAL 3000/RAL 3011)
- Acoustically insulated casing with triple mounting of the compressor
- Evaporator and plate-type condenser made of stainless steel/copper
- Integrated components:
  - One speed-regulated high-efficiency pump each on the heating and brine sides
  - Flow sensor/flow meter or heat meter
  - 3-way switching ball valve for heating/domestic hot water (see accessories for domestic hot water set)
  - Brine side diaphragm pressure expansion tank 18 litres mounted
- Safety set consisting of safety valve, automatic air vent and pressure gauge (see accessories)
- Diaphragm pressure expansion tanks see “Various system components”
- Sensor set consisting of outdoor sensor, flow sensor and domestic hot water sensor included in the scope of delivery
- TopTronic® E controller installed
- With corresponding separating plate heat exchanger in the primary circuit can also be used as water/water heat pump
- Hydraulic connections
  - Heating connections R 1″ on left or right side. See accessories for connecting hoses
- Brine connection R 1″ on left or right side See accessories for connecting hoses
- Electrical connections at rear

UltraSource® T compact

- Compact floor-mounted brine/water and water/water heat pumps with enclosed scroll compressor controlled by inverter
- UltraSource® T compact (8/200) with modulating rotary compressor
  UltraSource® T compact (13/200) with modulating scroll enclosed compressor
- Casing made from painted, galvanised sheet steel. Colour flame red/brown red (RAL 3000/RAL 3011)
- Acoustically insulated casing with triple mounting of the compressor
- Evaporator and plate-type condenser made of stainless steel/copper
- Integrated calorifier 200 litres
  (can be divided for easier transport into the building; weight 1294 x 770 x 602 mm)
- Enamel painted calorifier with PU hard-foam insulation energy efficiency class A, load profile XL. Maintenance flange and magnesium protection anode built in

Model range

UltraSource® T comfort type	Water/water 35 °C	Water/water 55 °C	Brine/water 35 °C	Brine/water 55 °C	Heat output [1] B0W35 kW	Heat output [1] W10W35 kW
(8)	A+++	A+++	A+++	A+++	1.8-7.9	2.6-10.0
(13)	A+++	A+++	A+++	A+++	2.9-13.3	3.7-13.2
(17)	A+++	A+++	A+++	A+++	4.3-17.6	6.0-21.9

UltraSource® T compact type	Water/water 35 °C	Water/water 55 °C	Brine/water 35 °C	Brine/water 55 °C		Heat output [1] B0W35 kW	Heat output [1] W10W35 kW
(8/200)	A+++	A+++	A+++	A+++	A	1.8-7.9	2.6-10.0
(13/200)	A+++	A+++	A+++	A+++	A	2.9-13.3	3.7-13.2

Energy efficiency class of the compound system with control
[1] Modulation range

- Integrated components:
  - One speed-regulated high-efficiency pump each on the heating and brine sides
  - Flow sensor/flow meter or heat meter
  - Electric heating element 1 to 6 kW
  - Brine side diaphragm pressure expansion tank 18 litres mounted
- Safety set consisting of safety valve, automatic air vent and pressure gauge (see accessories)
- Diaphragm pressure expansion tanks see “Various system components”
- Sensor set consisting of outdoor sensor, flow sensor and domestic hot water sensor included in the scope of delivery
- TopTronic® E controller installed
- With corresponding separating plate heat exchanger in the primary circuit can also be used as water/water heat pump
- Internally decoupled against solid-borne noise and can be connected directly
- Hydraulic connections
  - Heating connections R 1″ top
  - Hot and cold water connections Rp ¾″ top
- Brine connection R 1″ on right or left side
- Electrical connections at top

Brine/water application

- Integrated brine pressure monitoring
- Brine safety set consisting of safety valve, automatic air vent and pressure gauge see accessories
- Brine connection on right or left side (comfort version: connection hoses see accessories)
- Hydraulic connection brine/water version see engineering

Water/water application

- For water/water applications, an intermediate circuit is required see engineering
- Safety heat exchanger set consisting of heat exchanger, safety group and diaphragm pressure expansion tank see accessories
- Ground water pump kit see accessories
- Flow monitor see accessories
- Hydraulic connection water/water version see engineering

Cooling

- UltraSource® T comfort and compact can be equipped with a passive cooling set (see accessories)
- Hydraulic version of the cooling functions see engineering

TopTronic® E controller

Control panel
- 4.3-inch colour touchscreen
- Heat generator blocking switch for interrupting operation
- Fault signalling lamp

TopTronic® E control module
- Simple, intuitive operating concept
- Display of the most important operating states
- Configurable start screen
- Operating mode selection
- Configurable day and week programmes
- Operation of all connected Hoval CAN bus modules
- Commissioning wizard
- Service and maintenance function
- Fault message management
- Analysis function
- Weather display (with online HovalConnect)
- Adaptation of the heating strategy based on the weather forecast (with online HovalConnect)

TopTronic® E basic module heat generator TTE-WEZ
- Integrated control functions for
  - 1 heating/cooling circuit with mixer
  - 1 heating/cooling circuit without mixer
  - 1 hot water charging circuit
  - Bivalent and cascade management
- Outdoor sensor
- Immersion sensor (calorifier sensor)
- Contact sensor (flow temperature sensor)
- RAST 5 basic plug set

Options for TopTronic® E controller
- Can be expanded by max. 1 module expansion:
  - Module expansion heating circuit or
  - Universal module expansion or
  - Heat balancing module expansion
- Can be networked with up to 16 controller modules in total:
  - Heating circuit/DHW module
  - Solar module
  - Buffer module
  - Measuring module

Number of additional modules that can be installed in the heat generator:
- 1 module expansion and 1 controller module
  or
- 2 controller modules

The supplementary plug set must be ordered in order to use expanded controller functions.

For further information about the TopTronic® E,
see “Controls” section

EnergyManager PV smart
Feature to increase self-generated power consumption in use with HovalConnect.

If a HovalConnect gateway is used together with the heat pump, the EnergyManager PV smart feature is available. This allows the heat pump to be operated preferentially at times of higher solar radiation. The feature uses online weather data on the current solar radiation for this purpose and can be adjusted by means of an associated threshold value. The self-consumption of electricity from an existing photovoltaic plant is thus increased and the purchase of grid electricity is reduced. This results in a lasting and significant cost-saving potential without further investment costs for the customer

Delivery
- One-piece design. Compact unit wired-up internally ready for connection, supplied fully packaged
- Sensor set supplied loose

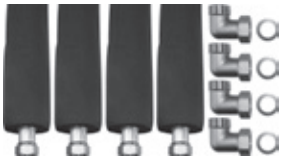
Brine/water heat pump

Hoval UltraSource® T comfort

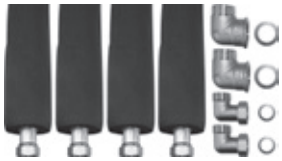
Heat pump system
Refrigerant R 410A
Max. flow temperature 65 °C

UltraSource® T comfort type	Heat output [1] B0W35 kW	W10W35 kW	Part No.
(8)	1.8-7.9	2.6-10.0	7016 666
(13)	2.9-13.3	3.7-13.2	7016 672
(17)	4.3-17.6	6.0-21.9	7016 678

[1] Modulation range



Hose set SPCH25-25-10-4 — 6058 819
for UltraSource® T cf/cp (8,13)
Consisting of:
- 4 reinforced hoses PN 10 DN 25 1″ IT
insulated for brine and heating side
flat-sealing with union nut
- Length: 1.0 m
- 4 brackets DN 25
- Seals



Hose set SPCH25-32-10-4 — 6058 820
for UltraSource® T comfort (17)
Consisting of:
- 2 reinforced hoses PN 10 DN 25 1″ IT
insulated for heating side
flat-sealing with union nut
- Length: 1.0 m
- 2 reinforced hoses PN 10 DN 32 1¼″ IT
insulated for brine side
flat-sealing with union nut
- Length: 1.0 m
- 2 brackets DN 25
- 2 brackets DN 32
- Seals

Hoval UltraSource® T compact

Heat pump system with integrated calorifier
Refrigerant R 410A
Max. flow temperature 65 °C

UltraSource® T compact type	Heat output [1] B0W35 kW	W10W35 kW	Part No.
(8/200)	1.8-7.9	2.6-10.0	7016 667
(13/200)	2.9-13.3	3.7-13.2	7016 673

[1] Modulation range

Energy efficiency class
see “Description”

EnergyManager PV smart
Free feature to increase self-generated power consumption in use with HovalConnect.

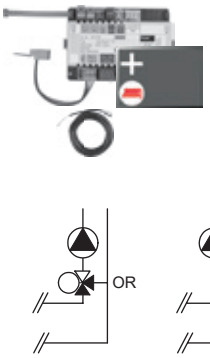
Further information
see “Description”

No hose set necessary

Electric heating elements
see “Calorifiers” -
chapter “Electric heating elements”

TopTronic® E module expansions

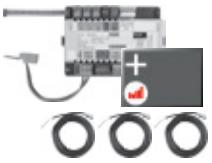
for TopTronic® E basic module heat generator

	Part No.
	6034 576

TopTronic® E module expansion heating circuit TTE-FE HK
Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/domestic hot water module for implementing the following functions:
- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer

Consisting of:
- Fitting accessories
- 1 contact sensor ALF/2P/4/T, L = 4.0 m
- Basic plug set FE module

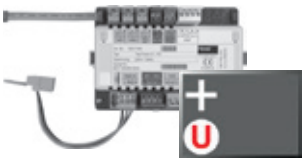
Notice
The supplementary plug set may have to be ordered to implement functions differing from the standard!



6037 062

TopTronic® E module expansion heating circuit incl. energy balancing
TTE-FE HK-EBZ
Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/domestic hot water module for implementing the following functions:
- 1 heating/cooling circuit w/o mixer or
- 1 heating/cooling circuit with mixer

incl. energy balancing in each case
Consisting of:
- Fitting accessories
- 3 contact sensors ALF/2P/4/T, L = 4.0 m
- Plug set FE module



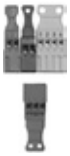
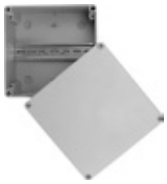
6034 575

TopTronic® E module expansion Universal TTE-FE UNI
Expansion to the inputs and outputs of a controller module (basic module heat generator, heating circuit/domestic hot water module, solar module, buffer module) for implementing various functions
Consisting of:
- Fitting accessories
- Plug set FE module

Further information
see “Controls” section - “Hoval TopTronic® E module expansions” chapter

Notice
Refer to the Hoval System Technology to find which functions and hydraulic arrangements can be implemented.

Accessories for TopTronic® E

		Part No.
	**TopTronic® E controller modules**	
	TTE-HK/WW TopTronic® E heating circuit/ hot water module	6034 571
	TTE-SOL TopTronic® E solar module	6037 058
	TTE-PS TopTronic® E buffer module	6037 057
	TTE-MWA TopTronic® E measuring module	6034 574
	**Supplementary plug set**	
	for basic module heat generator TTE-WEZ	6034 499
	for controller modules and module expansion TTE-FE HK	6034 503
	**TopTronic® E room control modules**	
	TTE-RBM TopTronic® E room control modules	
	easy white	6037 071
	comfort white	6037 069
	comfort black	6037 070
	**Enhanced language package TopTronic® E** one SD card required per control module Consisting of the following languages: HU, CS, SL, RO, PL, TR, ES, HR, SR, JA, DA	6039 253
	**HovalConnect**	
	HovalConnect LAN	6049 496
	HovalConnect WLAN	6049 498
	HovalConnect Modbus	6049 501
	HovalConnect KNX	6049 593
	TopTronic® E interface modules GLT module 0-10 V	6034 578
	**TopTronic® E sensors**	
	AF/2P/K Outdoor sensor H x W x D = 80 x 50 x 28 mm	2055 889
	TF/2P/5/6T Immersion sensor, L = 5.0 m	2055 888
	ALF/2P/4/T Contact sensor, L = 4.0 m	2056 775
	TF/1.1P/2.5S/6T Collector sensor, L = 2.5 m	2056 776
	**Bivalent switch** for various release or switching functions	
	Bivalent switch 1-piece	2056 858
	Bivalent switch 2-piece	2061 826
	**System housing**	
	System housing 182 mm	6038 551
	System housing 254 mm	6038 552
	**TopTronic® E wall casing**	
	WG-190 Wall casing small	6052 983
	WG-360 Wall casing medium	6052 984
	WG-360 BM Wall casing medium with control module cut-out	6052 985
	WG-510 Wall casing large	6052 986
	WG-510 BM Wall casing large with control module cut-out	6052 987

Further information
see “Controls”

Heating accessories

Pressure expansion tanks
see “Various system components”

Safety set SG15-1″ — Part No. 641 184
Suitable up to max. 50 kW
complete with safety valve (3 bar)
Pressure gauge and autom.
aspirator with shut-off valve.
Connection: DN 15, 1″ internal thread

System water protection filter FGM025-200 — Part No. 6058 256
For horizontal installation in return
For filtration of heating and cooling water, with high filtration capacity for corrosion particles and dirt without significant pressure drop
Consisting of:
- Filter head and bowl in brass
- Magnetic insert (nickel-neodymium)
- 2 pressure gauges
- Very large filter surface in stainless steel
- Filter fineness 200 µm
- With drain valve
- Connections Rp 1″ internal thread with integrated shut-off valves and union connection (outlet)

Max. flow rate (Δp < 0.1 bar): 5.5 m³/h
Weight: 6.8 kg
Water temperature: max. 90 °C
- incl. steam diffusion-tight insulating shells

Notice
Fulfills the function of sludge separator and strainer

Strainers
see “Various system components”

Vibration decoupler
for reducing structure-borne noise from heat pumps in the indoor area
Consisting of:
- 1 vibration decoupler insulated for heating side flat-sealing with union nut
- 2 flat seals

Nominal pressure: PN 10

Dimension	Connection inches	Nominal length mm	Part No.
DN 25	1″	300	2082 222
DN 25	1″	500	2082 223
DN 25	1″	1000	2080 794
DN 32	1¼″	300	2082 224
DN 32	1¼″	500	2082 225
DN 32	1¼″	1000	2080 796
DN 40	1½″	500	2082 226
DN 40	1½″	1000	2080 798
DN 50	2″	500	2082 227
DN 50	2″	1000	2080 800

		Part No.
	**Connection set AS32-2/H** for compact mounting of all required fittings of a direct circuit consisting of: 2 thermometer ball valves Wall bracket included separately Connection T-piece DN 32 in the return flow for connecting the sludge separator CS 32 bottom and the diaphragm pressure expansion tank on the side on connection set installation option for an overflow valve incl. non-return valve	6039 793
	**Differential pressure relief valve DN 20** for free installation with flexible centre distance Connections at both ends 1″ external thread Operating pressure: max. 10 bar Operating temperature: max. 120 °C Setting range: 0.05-0.5 bar Length: 93 mm Casing made of brass with setting handle made of plastic	240 554
	**Differential pressure relief valve DN 32** for installation in a HA group DN 32 both ends 1¼″ external thread Self-sealing with O-ring and screw connections Operating pressure: max. 10 bar Operating temperature: max. 110 °C Setting range: 0.1-0.6 bar Connections: 1¼″ internal thread/ 1¼″ external thread Centre distance: 125 mm Casing and spring hood made of brass Spring made of stainless steel Seals made of EPDM Setting handle made of plastic with hexagon socket fastening screw	6014 849

Domestic hot water accessories

	**Domestic hot water set SPW25-25-10-1MD** for UltraSource® B comfort C (8-17), Belaria® comfort ICM (8) and UltraSource® T comfort (8-17) Consisting of: - 1 actuator for installed 3-way switching ball valve for heating/ domestic hot water - 1 reinforced hose PN 10 DN 25 1″ IT insulated for domestic hot water side flat-sealing with union nut - Length: 1.0 m - Seals	6058 815
	**Correx® impressed current anode** for UltraSource® B compact C, UltraSource® T compact for long-term corrosion protection for installation in the enamelled calorifier	6046 662

Brine accessories

		Part No.
	**Instantaneous water heater kit DN 50** consisting of electrical box ready for connection for electrical protection incl. assembly fittings. for combination with all screw-in electric heating elements EP. Screw-in electric heating element must be ordered separately. Connection hoses brine already included in hose set for UltraSource® T comfort	6044 070
	**Safety group SG15-¾″** Retaining bar incl. safety valve, pressure gauge, air vent and connection fittings for expansion chambers	2015 354
	**Brine filling station in compact design DN 25** with shut-off valves, filter and EPS insulation. Application temperatures: -20 °C to +60 °C Frost protection: max. 50 % Connections: DN 25 G 1″ Kvs: 12.5 m³/h Max. operating pressure: 1.0 MPa (10 bar) Dirt screen integrated	6037 537
	**Brine filling station in compact design DN 32** with shut-off valves, filter and EPS insulation. Application temperatures: -20 °C to +60 °C Frost protection: max. 50 % Connections: DN 32 G 1¼″ Kvs: 22 m³/h Max. operating pressure: 1.0 MPa (10 bar) Dirt screen integrated	6033 364

Ground water accessories

Ground water pump set
Consisting of:
Protection for control of a 3-phase ground water pump. Ready to connect without thermal overload protection

	Part No.
UltraSource® T comfort (13)	6046 182
UltraSource® T compact (13)	6046 183
UltraSource® T comfort (17)	6048 004

Notice
The pump of the UltraSource® T (8) is mono-phase (230 V). Therefore, no ground water kit is required. In case of a 3-phase (400 V) ground water pump, a ground water kit is required.

Float body flow meter — Part No. 2040 707
Bistable Reed contact as NC contact
Area of application 300-3000 l/h
Temperature range 0-80 °C
Nominal pressure: 10 bar
Connection: Rp 1½″
Pressure drop: 25 mbar
Installation length: 335 mm
Max. voltage: 230 V
Max. continuous current: 0.2 A

Float body flow meter — Part No. 2040 708
Bistable Reed contact as NC contact
Area of application 600-6000 l/h
Temperature range 0-80 °C
Nominal pressure: 10 bar
Connection: Rp 1½″
Pressure drop: 25 mbar
Installation length: 335 mm
Max. voltage: 230 V
Max. continuous current: 0.2 A

Notice
In ground water applications, the ground water pump (submersible pump) cannot be directly connected in the heat pump. Here, corresponding connections must be provided on site.

Plate heat exchanger set
for system separation when using the ground water heat source
Consisting of:
- Plate heat exchanger (soldered)
- Holder for installation
- Safety group DN 15-1" insulated
- 5 litres frost protection

	Part No.
UltraSource® T comfort (8) / compact (8/200)	6058 809
UltraSource® T comfort (13) / compact (13/200)	6058 810
UltraSource® T comfort (17)	6058 811

Notice
Connection screw fittings are only included in part number 6058 811.

Passive cooling accessories

Set for passive cooling
for passive cooling via the probe or the ground water
Consisting of:
- Plate heat exchanger (screwed)
- Holder for installation
- Connection screw fittings

	Part No.
UltraSource® T comfort (8) / compact (8/200)	6058 812
UltraSource® T comfort (13) / compact (13/200)	6058 813
UltraSource® T comfort (17)	6058 814

Baking out

The baking out of buildings and floors cannot be done with brine/water heat pumps. If this instruction is not observed, the additional load can lead to irreparable damage on the heat source side. Alternative heating systems should thus be used for the baking out. This is generally done by installing an electric water heater. However, mobile heaters running on electricity, oil or gas can also be used.

More detailed information on rental devices can be obtained from Hotmobil®.

UltraSource® T comfort C (8-17)
UltraSource® T compact C (8/200), (13/200)

Type		(8) (8/200)	(13) (13/200)	(17)
• Energy efficiency class of the compound system with control	35 °C/55 °C	A+++/A+++	A+++/A+++	A+++/A+++
• Energy efficiency class load profile XL UltraSource® T compact	Hot water	A	A	-
Brine/water application B0W35				
• Room heating energy efficiency “moderate climate” 35 °C ηS [1), 2)]	%	209	213	226
• Room heating energy efficiency “moderate climate” 55 °C ηS [1), 2)]	%	158	162	164
• Water heating energy efficiency consumption profile/ηwh 35 °C/55 °C	-/%	XL/100	XL/106	-/-
• Seasonal coefficient of performance moderate climate 35 °C/55 °C	SCOP	5.4/4.2	5.5/4.2	5.9/4.3
Water/water application W10W35				
• Room heating energy efficiency “moderate climate” 35 °C ηS [1), 2)]	%	309	313	311
• Room heating energy efficiency “moderate climate” 55 °C ηS [1), 2)]	%	245	217	226
• Water heating energy efficiency consumption profile/ηwh 35 °C/55 °C	-/%	XL/100	XL/115	-/-
• Seasonal coefficient of performance moderate climate 35 °C/55 °C	SCOP	7.9/6.3	8.0/5.6	8.0/5.9
Max./min. performance data heating in acc. with EN 14511				
• Max. heat output B0W35	kW [3)]	7.9	13.3	17.6
• Min. heat output B0W35	kW [3)]	1.8	2.9	4.3
• Max. heat output W10W35	kW	10.0	13.2	21.9
• Min. heat output W10W35	kW	2.6	3.7	6.0
Nominal performance data heating in acc. with EN 14511				
• Nominal heat output B0W35	kW [3)]	4.1	6.6	11.4
• Coefficient of performance B0W35	COP	4.7	5.0	5.1
• Nominal heat output W10W35	kW	5.6	8.7	15.2
• Coefficient of performance W10W35	COP	6.5	6.8	6.5
Sound data				
• Sound power level (nominal)	dB(A)	45	41	44
• Sound power level (maximum)	dB(A)	51	47	55
Hydraulic data				
• Max. flow temperature (without screw-in electric heating element)	°C	62	62	62
• Max. flow temperature (with screw-in electric heating element) UltraSource® T compact	°C	65	65	-
• Max. operating pressure source side	bar	3	3	3
• Max. operating pressure on the heating side	bar	3	3	3
• Heating flow and return connection	R	1″	1″	1″
• Connections source side	R	1″	1″	1¼″
Nominal flow rate and pressure drop brine/water				
Heating (ΔT = 5 K)				
• Max. flow rate B0/W35	m^3/h	1.4	2.3	3.0
• Nominal flow rate	m^3/h	0.7	1.1	2.0
• Pressure drop	kPa	7	9	35
• Residual overpressure (max. pump speed)	kPa	69	76	47
Heat source (ΔT = 3 K)				
• Max. flow rate B0/W35	m^3/h	1.8	3.0	4.1
• Nominal flow rate	m^3/h	1.0	1.6	2.8
• Pressure drop	kPa	9	9	22
• Residual overpressure (max. pump speed)	kPa	72	76	49
Nominal flow rate and pressure drop water/water				
Heating (ΔT = 5 K)				
• Max. flow rate W10/W35	m^3/h	1.7	2.3	3.8
• Nominal flow rate	m^3/h	1.0	1.5	2.6
• Pressure drop	kPa	12	14	61
• Residual overpressure (max. pump speed)	kPa	62	78	13
Heat source (ΔT = 3 K)				
• Max. flow rate W10/W35	m^3/h	2.4	3.2	5.2
• Nominal flow rate	m^3/h	1.4	2.1	3.7
• Pressure drop UltraSource® T comfort	kPa	5	13	44
• Pressure drop UltraSource® T compact	kPa	13	44	-
• Residual overpressure (max. pump speed)	kPa	69	64	18

Type		(8) (8/200)	(13) (13/200)	(17)
Cooling technical data				
• Refrigerant		R410A	R410A	R410A
• Compressor/stages		1-modulating	1-modulating	1-modulating
• Refrigerant filling quantity	kg	2.3	3.0	3.4
• Compressor oil filling quantity	l	0.35	0.74	1.00
• Type of compressor oil		DAPHNE HERMETIC OIL FV50S	Emkarate RL32 - 3MAF	DAPHNE HERMETIC OIL FVC68D
Electrical data				
• Electrical connection compressor	V/Hz	1~230/50	3~400/50	3~400/50
• Electrical connection electric heating element UltraSource® T compact	V/Hz	1~230/50 3~400/50	3~400/50	-
• Control electrical connection	V/Hz	1~230/50	1~230/50	1~230/50
• Compressor operating current max.	A	15.8	9	14.79
• Starting current	A	< 15.8	< 9	< 14.79
• Electric heating element operating current max. UltraSource® T compact	A	13	13	-
• Max. output for electric heating element UltraSource® T compact	kW	6	6	-
• Output factor		0.99	0.97	0.95
• Main current fuse	A	16	13	16
- Type		C,K	C,K	C,K
• Control current fuse	A	13	13	13
- Type		B,Z	B,Z	B,Z
• Fuse electric heating element	A	13	13	-
- Type		B,Z	B,Z	-
Dimensions/weight				
• Dimensions (H x W x D)	mm		see Dimensions	
• Tilting dimension UltraSource® T compact	mm	2150	2150	-
• Weight UltraSource® T comfort	kg	165	170	196
• Weight UltraSource® T compact	kg	265	270	-
• Minimum sizes of installation room [4]	m^3	5.2	6.8	8.6
Hot water storage tank UltraSource® T compact				
• Storage capacity	l	192	192	-
• Max. operating pressure	bar	10	10	-
• Storage tank temperature max.	°C	55	55	-
• Maximum storage tank temperature with electric heating element	°C	75	75	-
• Output capacity at 46 °C draw-off temperature - heat pump (= Tsp = 58°)[5]				
• Output capacity at 40 °C draw-off temperature - heat pump (= Tsp = 58°)[5]				

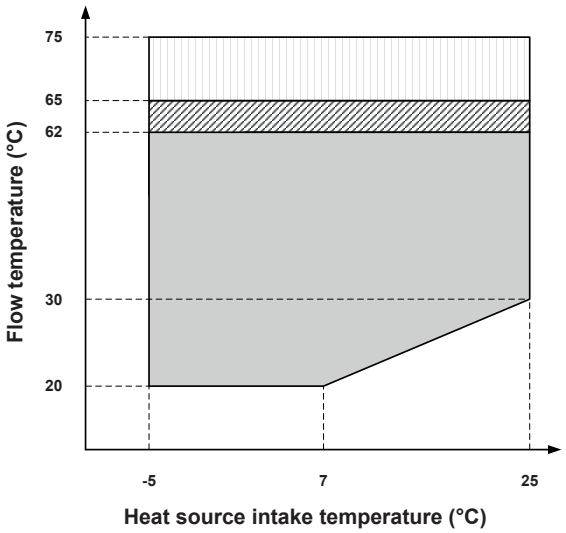
[1] 2 % can be added for class II heat pump incl. control.
[2] 4 % can be added for class IV heat pump incl. control and room thermostat.
[3] kW = Standard values according to EN 14511; Values for B0W35 with 25 % monopolypropylene
[4] If the installation room is smaller than the required minimum size. it must be designed as a machine room in accordance with EN 378.
[5] 12 °C cold water temperature/58 °C storage tank temperature

Using a fault-current circuit breaker RCCB type B, IΔn ≥ 300 mA is recommended. Country-specific regulations must be observed.

Diagrams of areas of application

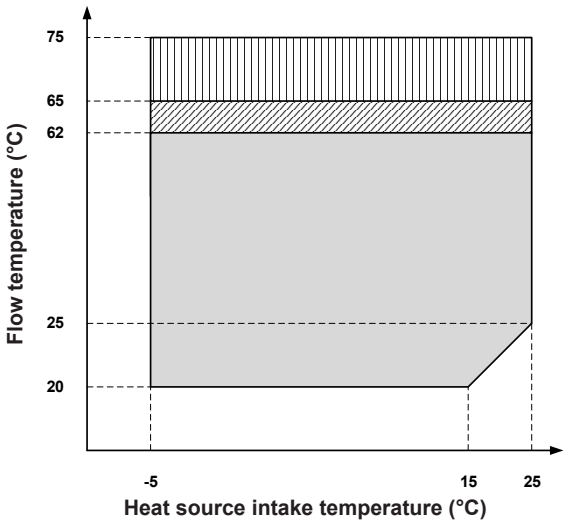
Heating and hot water

UltraSource® T comfort (8), UltraSource® T compact (8/200)



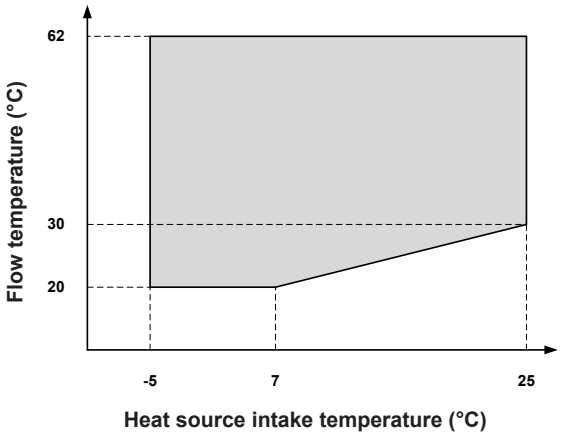
- Area of application of the heat pump for heating (UltraSource® T comfort C and compact C)
- Extended area of application of the heat pump for heating including electric heating element (only UltraSource® T compact)
- Extended area of application of the heat pump for domestic hot water including electric heating element (only UltraSource® T compact)

UltraSource® T comfort (13), UltraSource® T compact (13/200)



- Area of application of the heat pump for heating (UltraSource® T comfort C and compact C)
- Extended area of application of the heat pump for heating including electric heating element (only UltraSource® T compact)
- Extended area of application of the heat pump for domestic hot water including electric heating element (only UltraSource® T compact)

UltraSource® T comfort (17)



- Area of application of the heat pump for heating (UltraSource® T comfort C and compact C)

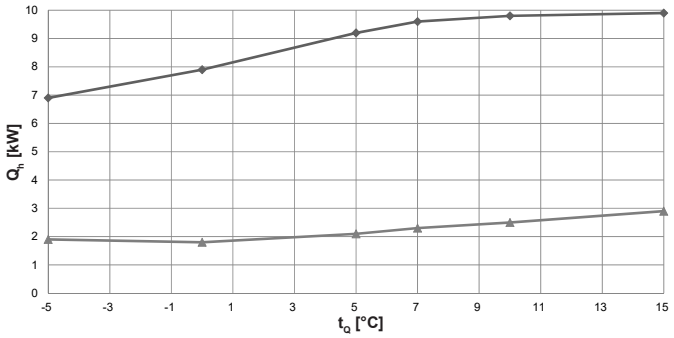
Performance data – heating

Maximum heat output

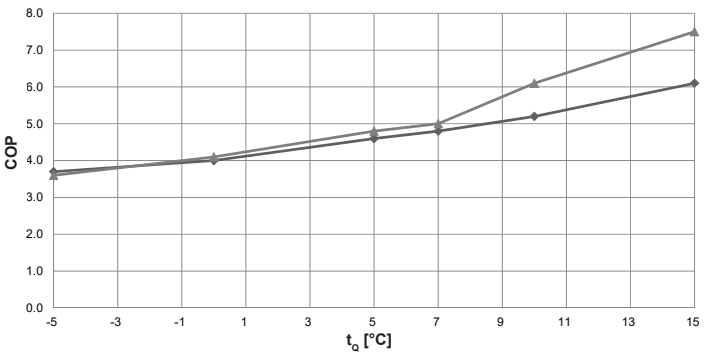
UltraSource® T comfort (8), compact (8/200) with R410A

Data according to EN 14511

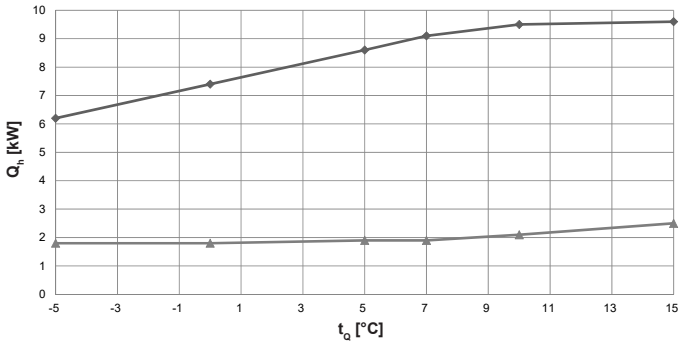
Heat output - t_{VL} 35 °C



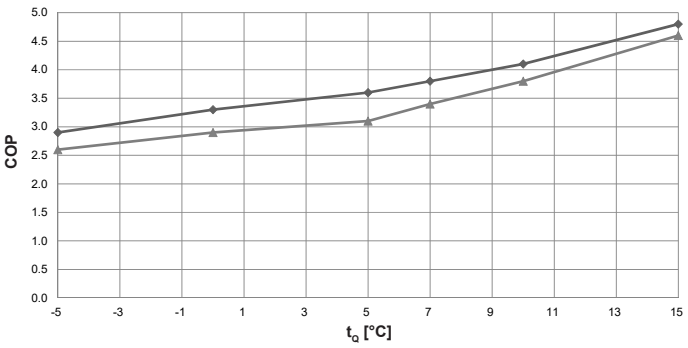
Coefficient of performance - t_{VL} 35 °C



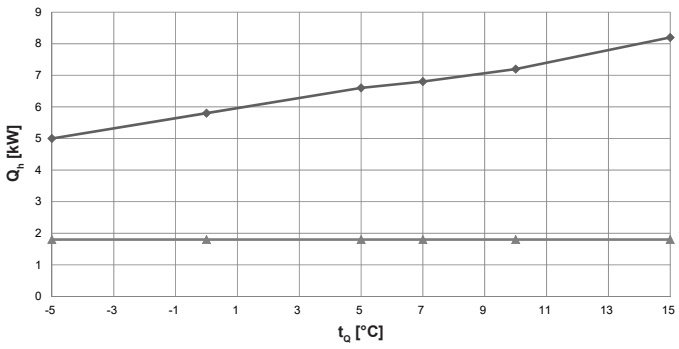
Heat output - t_{VL} 45 °C



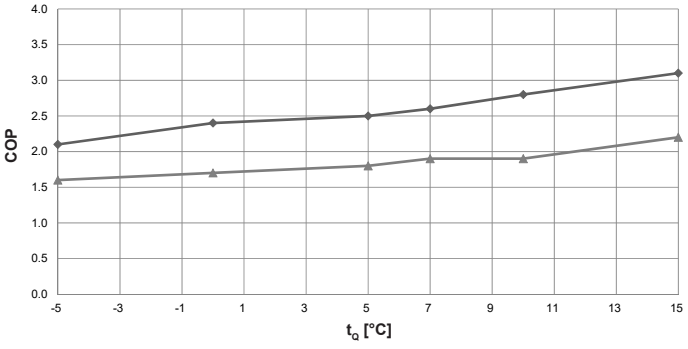
Coefficient of performance - t_{VL} 45 °C



Heat output - t_{VL} 62 °C



Coefficient of performance - t_{VL} 62 °C



t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Maximum output
Minimum output

Performance data – heating

UltraSource® T comfort (8), compact (8/200) with R410A

Data according to EN 14511

Type flow t_{VL} (°C)		t_Q °C	Maximum output Q_h kW	P kW	COP	Minimum output Q_h kW	P kW	COP
35	Brine	-5	6.9	1.9	3.7	1.9	0.5	3.6
		0	7.9	1.9	4.0	1.8	0.4	4.1
		5	9.2	2.0	4.6	2.1	0.4	4.8
		7	9.6	2.0	4.8	2.3	0.5	5.0
		10	9.8	1.9	5.2	2.5	0.4	6.1
		15	9.9	1.6	6.1	2.9	0.4	7.5
	Water	7	9.8	1.9	5.2	2.4	0.4	5.5
		10	10.0	1.8	5.5	2.6	0.4	6.7
		15	10.1	1.6	6.4	3.0	0.4	8.3
45	Brine	-5	6.2	2.1	2.9	1.8	0.7	2.6
		0	7.4	2.3	3.3	1.8	0.6	2.9
		5	8.6	2.4	3.6	1.9	0.6	3.1
		7	9.1	2.4	3.8	1.9	0.6	3.4
		10	9.5	2.3	4.1	2.1	0.6	3.8
		15	9.6	2.0	4.8	2.5	0.5	4.6
	Water	7	9.2	2.3	3.9	2.0	0.5	3.8
		10	9.8	2.3	4.3	2.3	0.5	4.2
		15	9.9	2.0	5.1	2.6	0.5	5.1
50	Brine	-5	5.9	2.3	2.6	1.8	0.8	2.3
		0	7.0	2.5	2.9	1.8	0.7	2.5
		5	8.2	2.6	3.2	1.8	0.7	2.6
		7	8.6	2.6	3.3	1.8	0.6	2.9
		10	9.2	2.6	3.5	2.0	0.6	3.3
		15	9.4	2.2	4.2	2.4	0.6	4.0
	Water	7	8.9	2.6	3.4	1.9	0.6	3.1
		10	9.6	2.5	3.8	2.1	0.6	3.4
		15	9.7	2.2	4.4	2.4	0.6	4.1
55	Brine	-5	5.4	2.2	2.5	1.8	0.9	2.0
		0	6.3	2.3	2.8	1.8	0.9	2.1
		5	7.2	2.4	3.0	1.8	0.8	2.3
		7	7.5	2.4	3.1	1.9	0.8	2.4
		10	8.0	2.4	3.3	1.8	0.7	2.5
		15	9.1	2.5	3.7	2.2	0.7	3.1
	Water	7	8.0	2.4	3.3	2.0	0.7	2.6
		10	8.6	2.5	3.4	1.9	0.7	2.8
		15	9.5	2.6	3.7	2.3	0.7	3.4
62	Brine	-5	5.0	2.4	2.1	1.8	1.1	1.6
		0	5.8	2.5	2.4	1.8	1.1	1.7
		5	6.6	2.6	2.5	1.8	1.0	1.8
		7	6.8	2.6	2.6	1.8	1.0	1.9
		10	7.2	2.6	2.8	1.8	1.0	1.9
		15	8.2	2.6	3.1	1.8	0.8	2.2
	Water	7	7.4	2.7	2.7	1.9	1.0	1.9
		10	8.0	2.8	2.9	1.9	0.9	2.1
		15	9.0	2.8	3.2	1.9	0.8	2.4

t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
P = power consumption, overall unit (kW)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Observe daily power interruptions!
see “Engineering heat pumps general”

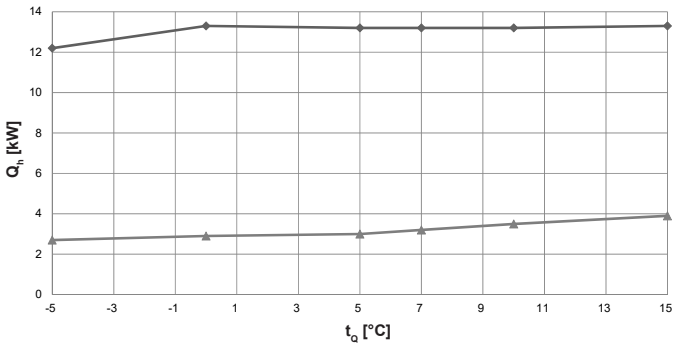
Performance data – heating

Maximum heat output

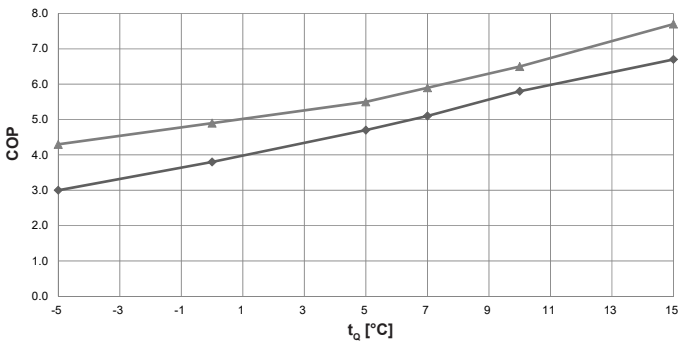
UltraSource® T comfort (13), compact (13/200) with R410A

Data according to EN 14511

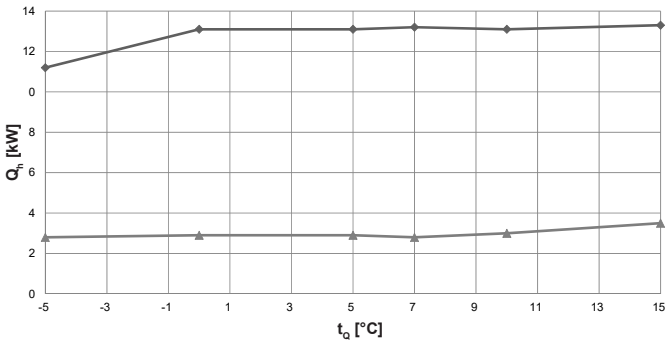
Heat output - t_{VL} 35 °C



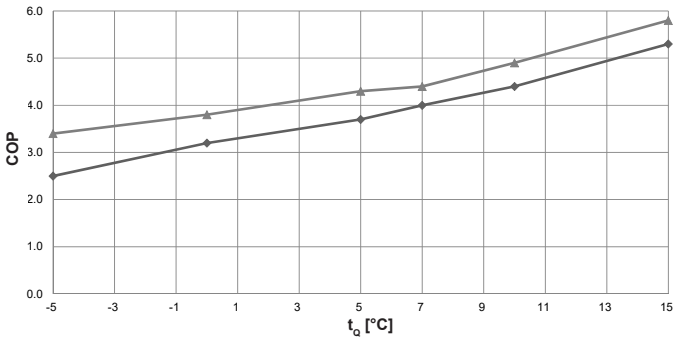
Coefficient of performance - t_{VL} 35 °C



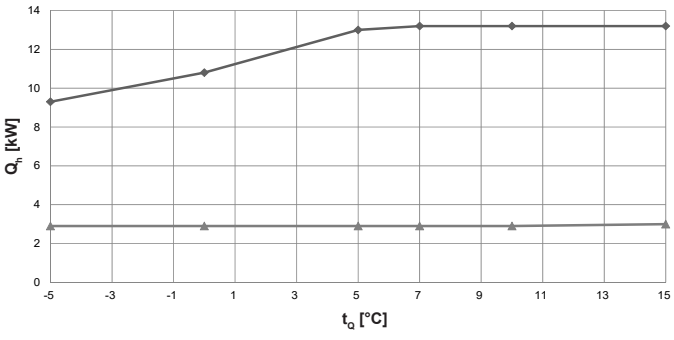
Heat output - t_{VL} 45 °C



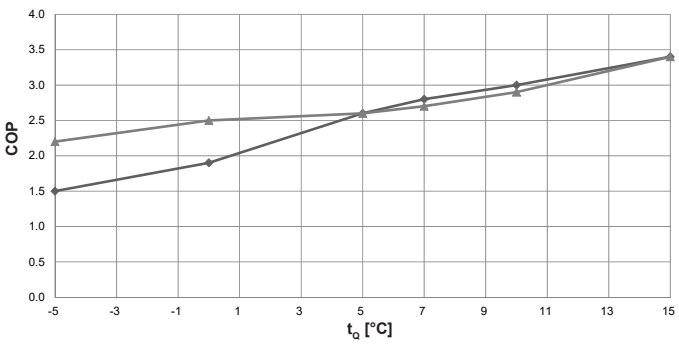
Coefficient of performance - t_{VL} 45 °C



Heat output - t_{VL} 62 °C



Coefficient of performance - t_{VL} 62 °C



t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Maximum output
Minimum output

Performance data – heating

UltraSource® T comfort (13), compact (13/200) with R410A

Data according to EN 14511

Type flow t_{VL} (°C)		t_Q °C	Maximum output Q_h kW	P kW	COP	Minimum output Q_h kW	P kW	COP
35	Brine	-5	12.2	4.0	3.0	2.7	0.6	4.3
		0	13.3	3.5	3.8	2.9	0.6	4.9
		5	13.2	2.8	4.7	3.0	0.5	5.5
		7	13.2	2.6	5.1	3.2	0.5	5.9
		10	13.2	2.3	5.8	3.5	0.5	6.5
		15	13.3	2.0	6.7	3.9	0.5	7.7
	Water	7	13.2	2.5	5.3	3.4	0.6	6.1
		10	13.2	2.2	6.0	3.7	0.6	6.7
		15	13.3	1.9	6.9	4.1	0.5	7.9
45	Brine	-5	11.2	4.4	2.5	2.8	0.8	3.4
		0	13.1	4.2	3.2	2.9	0.7	3.8
		5	13.1	3.6	3.7	2.9	0.7	4.3
		7	13.2	3.3	4.0	2.8	0.6	4.4
		10	13.1	3.0	4.4	3.0	0.6	4.9
		15	13.3	2.5	5.3	3.5	0.6	5.8
	Water	7	13.2	3.2	4.2	3.0	0.6	4.7
		10	13.1	2.8	4.6	3.2	0.6	5.1
		15	13.3	2.4	5.5	3.6	0.6	5.9
50	Brine	-5	10.6	4.8	2.2	2.9	0.9	3.2
		0	12.4	4.6	2.7	2.9	0.8	3.5
		5	13.3	4.1	3.3	3.0	0.7	4.0
		7	13.2	3.7	3.5	2.9	0.7	4.1
		10	13.1	3.4	3.9	2.9	0.7	4.5
		15	13.3	2.9	4.6	3.2	0.6	5.0
	Water	7	13.2	3.5	3.8	3.0	0.7	4.4
		10	13.1	3.2	4.1	3.1	0.7	4.7
		15	13.3	2.7	4.8	3.4	0.6	5.3
55	Brine	-5	10.1	5.7	1.8	2.9	1.0	2.8
		0	11.9	5.2	2.3	2.9	1.0	3.0
		5	13.2	4.5	3.0	2.9	0.8	3.4
		7	13.2	4.2	3.2	2.8	0.8	3.5
		10	13.1	3.8	3.5	2.8	0.7	3.8
		15	13.2	3.3	4.1	3.1	0.7	4.4
	Water	7	13.2	3.9	3.4	3.0	0.8	3.7
		10	13.1	3.6	3.7	3.0	0.8	4.0
		15	13.2	3.1	4.3	3.3	0.7	4.5
62	Brine	-5	9.3	6.3	1.5	2.9	1.3	2.2
		0	10.8	5.8	1.9	2.9	1.2	2.5
		5	13.0	5.0	2.6	2.9	1.1	2.6
		7	13.2	4.7	2.8	2.9	1.0	2.7
		10	13.2	4.4	3.0	2.9	1.0	2.9
		15	13.2	3.9	3.4	3.0	0.9	3.4
	Water	7	13.2	4.4	3.0	2.9	1.0	3.0
		10	13.2	4.2	3.2	3.0	1.0	3.1
		15	13.2	3.7	3.6	3.2	0.9	3.5

t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
P = power consumption, overall unit (kW)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Observe daily power interruptions!
see “Engineering heat pumps general”

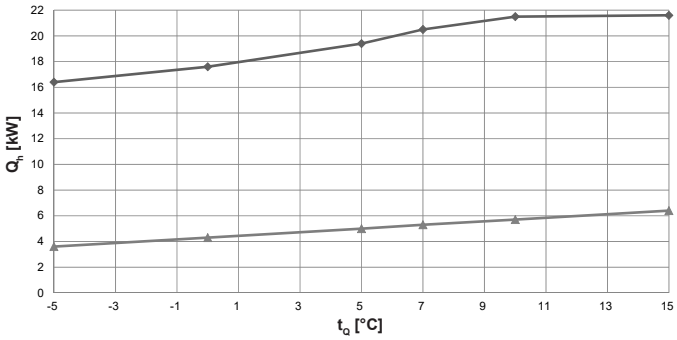
Performance data – heating

Maximum heat output

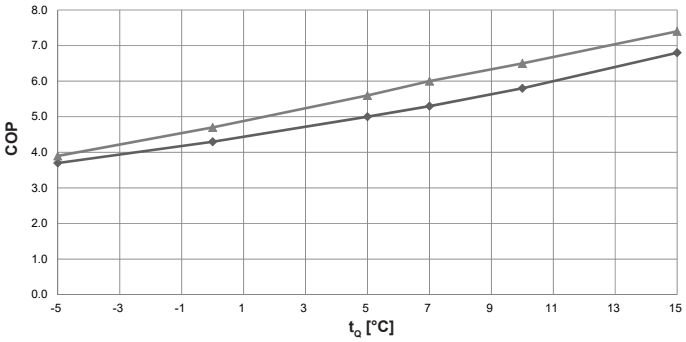
UltraSource® T comfort (17) with R410A

Data according to EN 14511

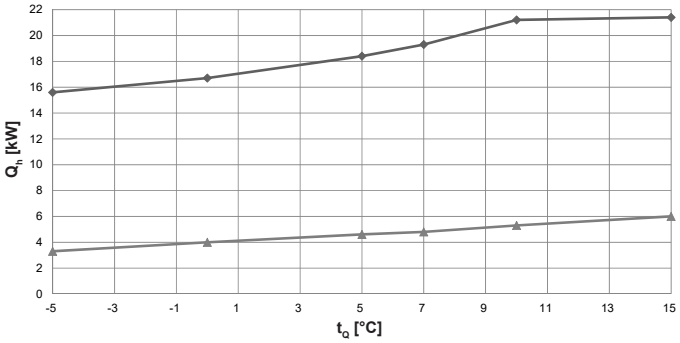
Heat output - t_{VL} 35 °C



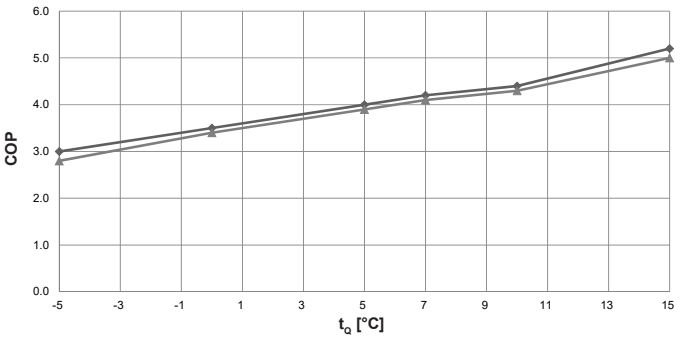
Coefficient of performance - t_{VL} 35 °C



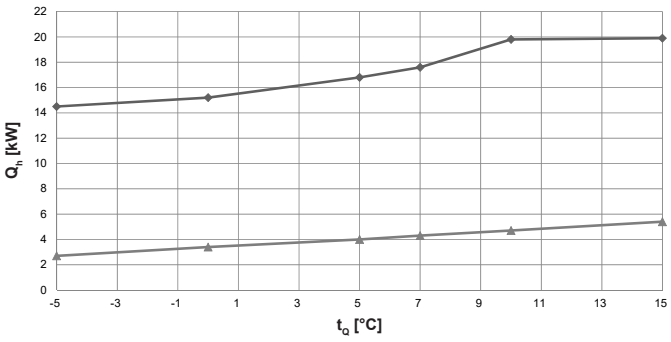
Heat output - t_{VL} 45 °C



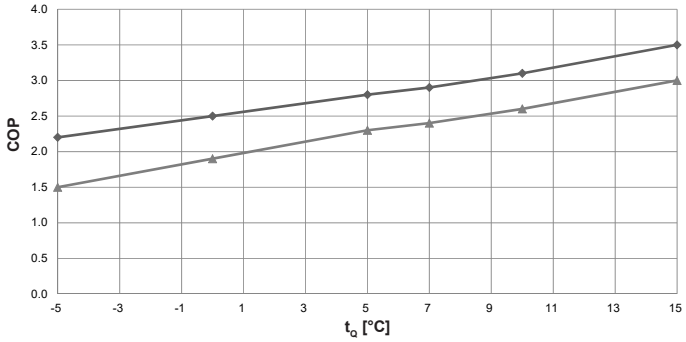
Coefficient of performance - t_{VL} 45 °C



Heat output - t_{VL} 62 °C



Coefficient of performance - t_{VL} 62 °C



t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Maximum output
Minimum output

Performance data – heating

UltraSource® T comfort (17) with R410A

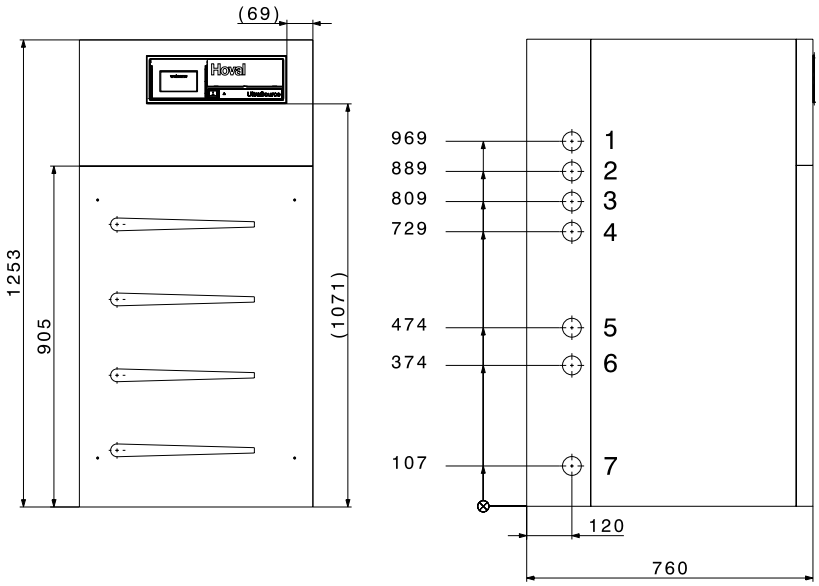
Data according to EN 14511

Type flow t_{VL} (°C)		t_Q °C	Maximum output Q_h kW	P kW	COP	Minimum output Q_h kW	P kW	COP
35	Brine	-5	16.4	4.5	3.7	3.6	0.9	3.9
		0	17.6	4.1	4.3	4.3	0.9	4.7
		5	19.4	3.8	5.0	5.0	0.9	5.6
		7	20.5	3.9	5.3	5.3	0.9	6.0
		10	21.5	3.7	5.8	5.7	0.9	6.5
		15	21.6	3.2	6.8	6.4	0.9	7.4
	Water	7	20.5	3.7	5.6	5.4	0.9	6.4
		10	21.9	3.9	5.7	6.0	0.8	7.1
		15	22.5	3.4	6.6	6.9	0.8	8.7
45	Brine	-5	15.6	5.2	3.0	3.3	1.2	2.8
		0	16.7	4.8	3.5	4.0	1.2	3.4
		5	18.4	4.6	4.0	4.6	1.2	3.9
		7	19.3	4.6	4.2	4.8	1.2	4.1
		10	21.2	4.8	4.4	5.3	1.2	4.3
		15	21.4	4.1	5.2	6.0	1.2	5.0
	Water	7	19.6	4.8	4.1	5.0	1.1	4.4
		10	21.6	5.0	4.3	5.4	1.1	4.7
		15	21.8	4.2	5.1	6.3	1.1	5.6
50	Brine	-5	15.2	5.6	2.7	3.1	1.3	2.4
		0	16.2	5.2	3.1	3.8	1.3	2.9
		5	17.7	5.0	3.5	4.4	1.3	3.4
		7	18.7	5.0	3.7	4.7	1.3	3.6
		10	20.7	5.3	3.9	5.1	1.4	3.7
		15	21.0	4.6	4.6	5.8	1.4	4.2
	Water	7	19.3	4.9	3.9	4.8	1.3	3.8
		10	21.1	5.3	4.0	5.3	1.3	4.1
		15	21.3	4.6	4.6	6.2	1.3	4.9
55	Brine	-5	15.0	5.9	2.6	2.9	1.5	1.9
		0	15.8	5.5	2.9	3.5	1.5	2.3
		5	17.3	5.3	3.2	4.2	1.5	2.9
		7	18.1	5.4	3.4	4.5	1.5	3.0
		10	20.2	5.6	3.6	4.9	1.5	3.2
		15	20.3	4.8	4.2	5.6	1.5	3.7
	Water	7	18.9	5.3	3.6	4.6	1.5	3.2
		10	20.6	5.7	3.6	5.2	1.5	3.5
		15	20.7	5.2	4.0	6.0	1.4	4.2
62	Brine	-5	14.5	6.7	2.2	2.7	1.8	1.5
		0	15.2	6.2	2.5	3.4	1.8	1.9
		5	16.8	6.1	2.8	4.0	1.8	2.3
		7	17.6	6.1	2.9	4.3	1.8	2.4
		10	19.8	6.4	3.1	4.7	1.8	2.6
		15	19.9	5.7	3.5	5.4	1.8	3.0
	Water	7	17.4	6.1	2.9	4.0	1.8	2.2
		10	20.1	6.7	3.0	4.5	1.8	2.5
		15	20.3	5.9	3.4	5.4	1.8	3.0

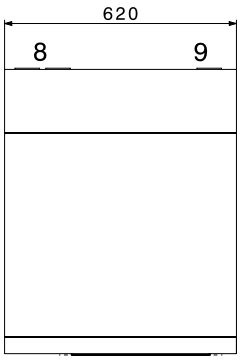
t_{VL} = heating flow temperature (°C)
t_Q = source temperature (°C)
Q_h = heat output (kW), measured in accordance with standard EN 14511 with 25 % ethylene glycol (Antifrogen N)
P = power consumption, overall unit (kW)
COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Observe daily power interruptions!
see “Engineering heat pumps general”

UltraSource® T comfort (8-17)
Indoor unit
(Dimensions in mm)



View from above

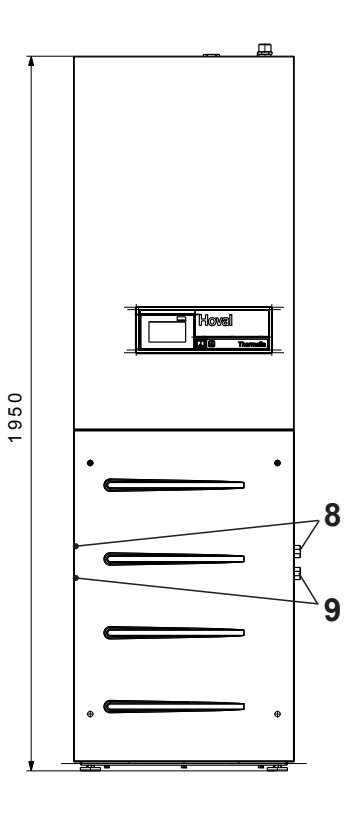


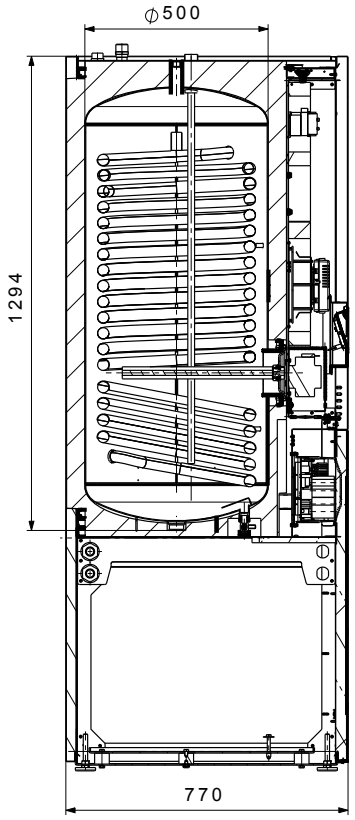
Connections (1-7) on either the left or right side

1	Free	
2	Brine outlet 1″	(8,13) 1″ (17) 1¼″
3	Flow heating 1″	
4	Flow hot water charging 1″	
5	Brine inlet	(8,13) 1″ (17) 1¼″
6	Free	
7	Return heating 1″	
8	Cable feed-in main current	
9	Cable feed-in sensors	

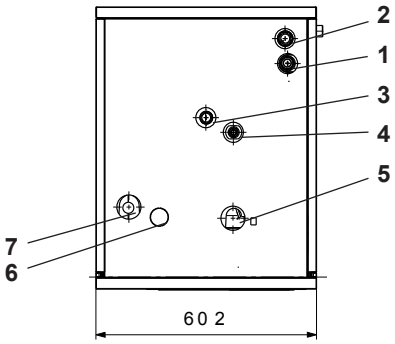
The indoor unit must be accessible from above.

UltraSource® T compact (8,13/200)
Indoor unit with calorifier
(Dimensions in mm)





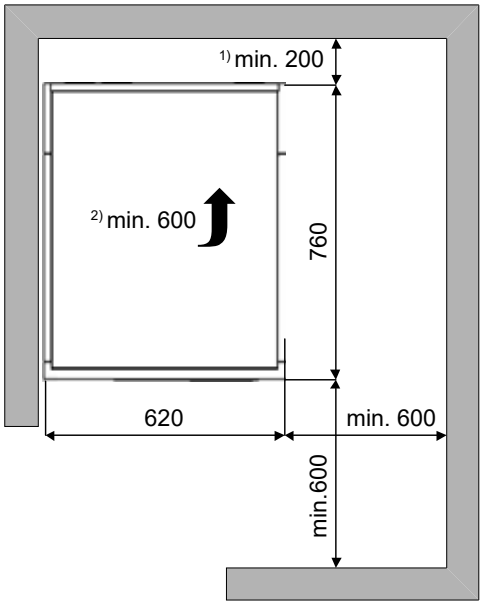
View from above



1	Flow heating 1″
2	Return heating 1″
3	Hot water connection ¾″
4	Cold water connection ¾″
5	Cable feed-in sensors
6	Circulation connection ¾″
7	Cable feed-in main current
8	Brine entry (connection right or left) 1″
9	Brine exit (connection right or left) 1″

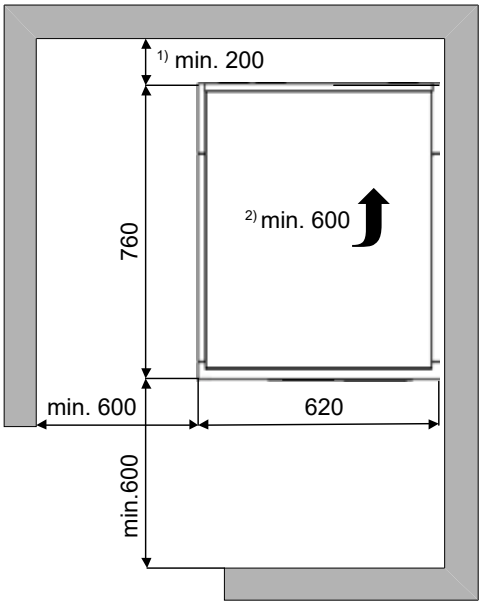
Space requirement
(Dimensions in mm)

UltraSource® T comfort (8-17) left
Indoor unit



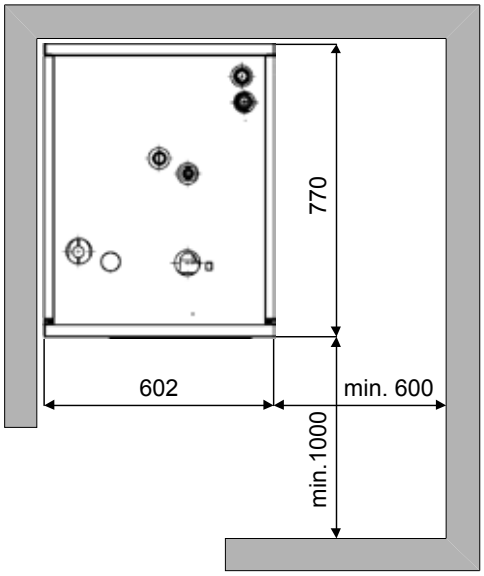
[1] A gap of at least 200 mm must be guaranteed at the rear for the electrical connection.

UltraSource® T comfort (8-17) right
Indoor unit



[2] To ensure accessibility to the electrical connections, a clearance of at least 600 mm must be provided **above** the UltraSource® T comfort C (8-17)!

UltraSource® T compact (8,13/200)
Indoor unit



Due to the need for access to the 3-way switching ball valve for heating and domestic hot water, a gap of at least 600 mm must be guaranteed on the right side.

Requirements and directives
The general requirements and directives listed in the Chapter Engineering apply.

Set-up
- The UltraSource® T comfort and UltraSource® T compact must be installed in a room protected against frost, by an approved specialist company.
  Room temperature must be between 5 °C and 25 °C.
- If the installation room is smaller than the required minimum size, it must be designed as a machine room in accordance with the provisions of EN 378.
- Installation in wet rooms, dusty rooms or rooms with a potentially explosive atmosphere is not permitted.
- To minimise vibration and noise inside the building, heat pumps should be isolated as well as possible from the building structure. For example heat pumps should never be installed on lightweight ceilings/floor. In the case of floating screed, a recess should be cut in the screed and the impact sound insulation around the heat pump.
- The connections for the brine flow and return in the UltraSource® T comfort and in the UltraSource® T compact can be on either the left or right side.
- The connections for the heating flow and return in the UltraSource® T comfort can be on either the left or right and in the UltraSource® T compact they are on the top.
- The connections for hot and cold water as well as hot water circulation are located on top of the UltraSource® T compact.
- The applicable laws, regulations and standards have to be observed, in particular EN 378 Parts 1 and 2 as well as BGR 500.
- A gap of at least 600 mm must be observed for maintenance work on the front and, depending on where the brine lines are connected, on the right or left side of the heat pump (see dimensions/space required). On the front of the UltraSource® T compact (8,13/200), the minimum distance to be maintained is 1000 mm.
- False flow rates as a result of incorrect dimensions of the pipework, incorrect fittings or improper pump operation can cause damage to the heat pump.

It is imperative that a system water protection filter is installed in the heating return upstream from the heat pump.

Installation on heating side
- All pertinent laws, regulations and standards for building heating system pipework and for heat pump systems must be complied with.
- The safety and expansion devices for closed heating systems must be provided in accordance with EN 12828.
- Dimensioning of the pipework must be done according to the required flow rates.
- Ventilation possibilities must be provided at the highest point and drainage possibilities at the lowest points of the connecting lines.
- To prevent energy losses, the connecting lines must be insulated with suitable material.

Installation on brine side
- The connection fittings for the brine line of the UltraSource® T comfort are located in the heat pump and can be pulled out either to the left or right through the openings provided.
- The connection fittings for the brine line of the UltraSource® T compact are located on the right side when delivered. If necessary, the brine line connections can also be taken out on the left side of the heat pump. The connections for the brine line are changed over on site. If the brine line connections are changed to the left, the hose of the brine entry line (upper line) must be shortened from 450 mm to 285 mm. Once the connection line has been shortened, it must be insulated again with Armaflex.

Connection on drinking water side
- The hydraulic connection is made according to the information in the corresponding diagrams from Hoval.
- According to the Drinking Water Regulation and DIN 50930-6, the domestic hot water storage tank is suitable for normal drinking water (pH value > 7.3).
- The connection piping can be made using galvanised pipes, stainless steel pipes, copper pipes or plastic pipes.
- The connections must be made pressure-tight.
- The safety devices tested for the components in accordance with DIN 1988 and DIN 4753 must be installed in the cold water pipe.
- The 10 bar operating pressure stated on the rating plate is not allowed to be exceeded. Install a pressure reducing valve if necessary.
- A suitable water filter must be installed in the cold water pipe.
- A water softener should be installed if the water is hard.

Electrical connections
- The electrical connection must be carried out by a qualified technician and registered with the responsible energy supply company. The relevant electrical installation company is responsible for ensuring that electrical connection is carried out in accordance with standards and that safeguard measures are put in place.
- The mains voltage at the connection terminals of the heat pump must be 400 V or 230 V ± 10 %. The dimensions of the connection line must be checked by the electrical company carrying out the work.
- A fault-current circuit breaker is recommended. Country-specific requirements must be complied with. If the “fault-current circuit breaker” safeguard measure is implemented by the electrical company, a separate fault-current circuit breaker is recommended for the heat pumps.
- This fault-current circuit breaker must be of the all-current-sensitive type B (IΔN ≥ 300 mA). The specified RCCB types apply to the heat pump regardless of externally connected components (refer to assembly instructions, data sheets).
- Owing to the starting currents that occur, circuit breakers with a type “C” or “K” tripping characteristic are to be used for the main circuit.
- For the control circuit and additional electric heating (if present), circuit breakers with a type “B” or “Z” tripping characteristic are sufficient.
- The electrical connecting and feeder lines must be copper cables.
- Please refer to the wiring diagram for electrical details.

For other engineering notices and guidelines regarding probes, flat plate collectors or ground water use,
see “Engineering”

**Looking for the appropriate hydraulic schematic?
Please contact your local Hoval partner.**