

Description

Hoval UltraSource T comfort
Hoval UltraSource T compact
Modulating heat pump system for heating and cooling in the living area.
UltraSource T compact (8,13/200) version additionally with hot water storage tank.

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 rotary compressor controlled by inverter
- UltraSource T comfort (13,17) with scroll capsule compressor controlled by inverter
- 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/CU
- Integrated components:
 - One speed-regulated high-efficiency pump each on the heating and brine sides
 - Flow sensor/flow meter or heat meter
 - 3-way changeover ball cock for heating/domestic hot water (see accessories for domestic hot water set)
 - Brine side diaphragm pressure expansion tank mounted
- Safety set consisting of safety valve, automatic air vent and pressure gauge (see accessories)
- Diaphragm pressure expansion tanks see "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 rotary compressor controlled by inverter
- UltraSource T compact (13/200) with scroll capsule compressor controlled by inverter
- 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/CU
- Integrated calorifier 200 litres (can be divided for easier transport into the building; weight 1294 x 770 x 602)
- Enamel painted calorifier with PU hard-foam insulation energy efficiency class A, load profile XL. Maintenance flange and magnesium protection anode built in



Indoor unit
UltraSource T comfort



Indoor unit
UltraSource T compact

Hoval UltraSource T comfort (8-17)

Hoval UltraSource T compact (8,13/200)

Water/water		Brine/water		Type	Heat output ¹⁾	
35 °C	55 °C	35 °C	55 °C		B0W35 kW	W10W35 kW
				(8)	1.8-7.8	2.5-9.8
				(8/200)	1.8-7.8	2.5-9.8
				(13)	2.9-13.3	3.5-13.3
				(13/200)	2.9-13.3	3.5-13.3
				(17)	4.3-17.6	5.7-21.5

Energy efficiency class of the compound system with control

¹⁾ Modulation range

The built-in high-efficiency pumps fulfil the Eco-design requirements of 2015 with an EEL of ≤ 0.23.

Seal of approval FWS

The UltraSource T series is certified by the CH certification commission.

- Integrated components:
 - One speed-regulated high-efficiency pump each on the heating and brine sides
 - Flow sensor/flow meter or heat meter
 - E-heating element 1 to 6 kW
 - Brine side diaphragm pressure expansion tank mounted
- Safety set consisting of safety valve, automatic air vent and pressure gauge (see accessories)
- Diaphragm pressure expansion tanks see "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 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

UltraSource T comfort (8,17)
UltraSource T compact (8/200)
 available starting July 2019



■ Description

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 DHW charging circuit
 - Bivalent and cascade management
- Outdoor sensor
- Immersion sensor (calorifier sensor)
- Contact sensor (flow temperature sensor)
- Rast5 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

Delivery

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

■ Part No.

Brine/water heat pump
Hoval UltraSource T comfort
Hoval UltraSource T compact

Part No.

Modulating brine/water heat pump system
for indoor installation with
built-in TopTronic® E controller

UltraSource T comfort (8,17)
available starting July 2019

- Integrated control functions for
- 1 heating/cooling circuit with mixer
 - 1 heating/cooling circuit without mixer
 - 1 DHW charging circuit
 - Bivalent and cascade management
 - Can be optionally expanded with
max. 1 module expansion:
 - Module expansion heating circuit or
 - Module expansion heat balancing or
 - Module expansion universal
 - Can be optionally networked with up to
16 controller modules in total
(incl. solar module)

Delivery

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



Hoval UltraSource T comfort
Heat pump system
Working medium R 410A
Max. flow temperature 65 °C

Type	Heat output ¹⁾	
	B0W35 kW	W10W35 kW
(8)	1.8-7.8	2.5-9.8
(13)	2.9-13.3	3.5-13.3
(17)	4.3-17.6	5.7-21.5

7016 666
7016 672
7016 678

¹⁾ Modulation range

Hose set

for UltraSource T comfort (8,13)

Consisting of:

Flexible connection hoses for
heating and brine side insulated 1"
L = 1.0 m, can be shortened on one side

6046 175



Hose set

for UltraSource T comfort (17)

Consisting of:

flexible connection hoses for
heating side insulated 1"
L = 1.0 m, can be shortened on one side
And insulated for brine side 1 1/4"
L = 1.5 m

6046 176



Available starting July 2019

■ Part No.



Energy efficiency class
 see "Description"

Hoval UltraSource T compact
 Heat pump system with integrated calorifier
 Working medium R 410A
 Max. flow temperature 65 °C

Type	Heat output ¹⁾	
	B0W35 kW	W10W35 kW
(8/200)	1.8-7.8	2.5-9.8
(13/200)	2.9-13.3	3.5-13.3

¹⁾ Modulation range

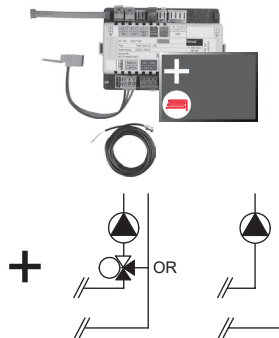
No hose set necessary

Part No.

UltraSource T compact (8/200)
 available starting July 2019

7016 667
 7016 673

■ Part No.



TopTronic® E module expansions
for TopTronic® E basic module heat generator

Part No.

TopTronic® E module expansion heating circuit TTE-FE HK

6034 576

Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/hot water module for implementing the following functions:

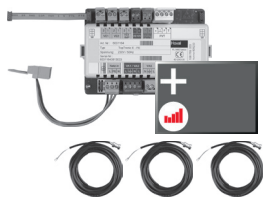
- 1 heating/cooling circuit without mixer or
- 1 heating/cooling circuit with mixer

incl. assembly material
1x contact sensor ALF/2P/4/T, L = 4.0 m

Can be installed in:
Boiler control, wall housing, control panel

Notice

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



TopTronic® E module expansion heating circuit incl. energy balancing TTE-FE HK-EBZ

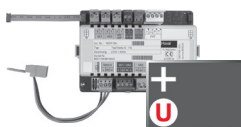
6037 062

Expansion to the inputs and outputs of the basic module heat generator or the heating circuit/hot water module for implementing the following functions:

- 1 heating/cooling circuit without mixer or
 - 1 heating/cooling circuit with mixer
- each incl. energy balancing

incl. assembly material
3x contact sensor ALF/2P/4/T, L = 4.0 m

Can be installed in:
Boiler control, wall housing, control panel



TopTronic® E module expansion universal TTE-FE UNI

6034 575

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

incl. assembly material

Can be installed in:
Boiler control, wall housing, control panel

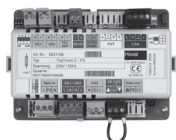
Further information

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.

■ Part No.



HovalConnect available from summer 2019

Up to that point, TopTronic® E online is delivered.



Accessories for TopTronic® E

Part No.

Supplementary plug set

for basic module heat generator (TTE-WEZ)
for controller modules and module expansion
TTE-FE HK

6034 499
6034 503

TopTronic® E controller modules

TTE-HK/WW TopTronic® E heating circuit/
hot water module
TTE-SOL TopTronic® E solar module
TTE-PS TopTronic® E buffer module
TTE-MWA TopTronic® E measuring module

6034 571
6037 058
6037 057
6034 574

TopTronic® E room control modules

TTE-RBM TopTronic® E room control modules
easy white
comfort white
comfort black

6037 071
6037 069
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 domestic starter LAN
HovalConnect domestic starter WLAN
HovalConnect commercial starter LAN
HovalConnect commercial starter WLAN
SMS remote control unit
System component SMS remote control unit

6049 496
6049 498
6049 495
6049 497
6018 867
6022 797

TopTronic® E interface modules

GLT module 0-10 V
HovalConnect domestic starter Modbus
HovalConnect domestic starter KNX
HovalConnect commercial starter Modbus
HovalConnect commercial starter KNX

6034 578
6049 501
6049 593
6049 500
6049 502

TopTronic® E wall casing

WG-190 Wall casing small
WG-360 Wall casing medium
WG-360 BM Wall casing medium with
control module cut-out
WG-510 Wall casing large
WG-510 BM Wall casing large with
control module cut-out

6035 563
6035 564
6035 565
6035 566
6038 533

TopTronic® E sensors

AF/2P/K Outdoor sensor
TF/2P/5/6T Immersion sensor, L = 5.0 m
ALF/2P/4/T Contact sensor, L = 4.0 m
TF/1.1P/2.5S/6T Collector sensor, L = 2.5 m

2055 889
2055 888
2056 775
2056 776

System housing

System housing 182 mm
System housing 254 mm

6038 551
6038 552

Bivalent switch

2061 826

Further information
see "Controls"

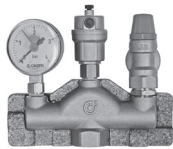
Outdoor sensor, immersion sensor and
contact sensor supplied with the heat pump.

■ Part No.

Heating accessories

Part No.

Pressure expansion tanks
see "Various system components"



Safety set SG15-1"
Suitable up to max. 50 kW
complete with safety valve (3 bar)
Pressure gauge and automatic air vent
with cut off valve
Connection: 1" internal thread

641 184

Strainers
see "Various system components"



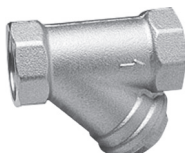
Sludge separator CS 25-1" with magnet
for flow rates of 1.0 - 2.0 m³/h
for flow speed of 1.0 m/s
Housing made of plastic PPA with
diffuser and partial flow removal
with 4 extra-strong Neodymium magnets
Magnets removable for draining
EPP insulation 20 mm
Connections made of brass G 1"
Drain made of brass: hose connection
Any inst. orientation -360° rotating
Temperature range -10 to 120 °C
Operating pressure max.: 10 bar
Glycol proportion max.: 50 %
Weight: 1.21 kg

2063 735



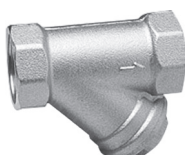
Sludge separator CS 32-1 1/2" with magnet
for flow rates of 2.0 - 3.0 m³/h
for flow speed of 1.0 m/s
Housing made of plastic PPA with
diffuser and partial flow removal
with 4 extra-strong Neodymium magnets
Magnets removable for draining
EPP insulation 20 mm
Connections made of brass G 1 1/2"
Drain made of brass: hose connection
Any inst. orientation -360° rotating
Temperature range -10 to 120 °C
Operating pressure max.: 10 bar
Glycol proportion max.: 50 %
Weight: 1.37 kg

2063 736



Strainer PN 16 B50-25-1"
Casing brass, PN 16
Connections Rp 1"
Operating temperature max.: 110 °C
Sieve made of stainless steel
Mesh size 0.5 mm

2046 978



Strainer PN 16 B50-32-1 1/2"
Casing brass, PN 16
Connections Rp 1 1/2"
Operation temperature max.: 110 °C
Sieve made of stainless steel
Mesh size 0.5 mm

2046 980

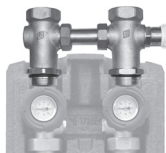
■ Part No.



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 expansion tank on the side
on connection set
installation option
for an overflow valve
incl. non-return valve

Part No.

6039 793



Bypass valve DN 32 (1 1/4")
for the installation in a HA group DN 32
Setting range 0.6-1.5 bar
Max. flow rate: 1.5 m³/h
with self-sealing screw connection for
mounting between flow and return
ball valve

6014 849

Domestic hot water accessories



Warm water set
for UltraSource B comfort C,
UltraSource T comfort
Consisting of:
Motor drive for installed
changeover valve
Includes distance wave and flexible
connection hose insulated 1"
L = 1.0 m

6046 181



Titanium impressed current anode
for UltraSource B compact C,
UltraSource T compact
as cathodic protection for
enamelled calorifier

6046 662



Screw-in electric immersion heater
for plants with buffer storage tank
as emergency heating.

Heat output		Install. length
Type	[kW]	
EP 2.5	2.35	390
EP 3.5	3.6	500
EP 5	4.9	620
EP 7.5	7.5	850

6049 557
6049 558
6049 559
6049 560

■ Part No.

Brine accessories

Part No.

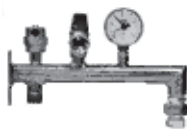
Connection hoses brine already included in hose set for UltraSource T comfort



Instantaneous water heater kit DN 50

6044 070

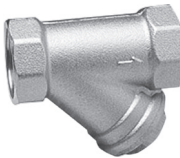
from ready electrical box
for electrical protection incl.
assembly fittings.
for combination with all screw-in
heating inset EP.
Screw-in heaters must be
ordered separately.



Safety group for brine circuit SI-Gr.

2015 354

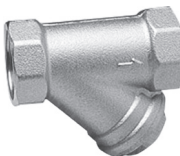
Retaining bar incl. safety valve,
pressure gauge, air vent and connection
fittings for expansion chambers



Strainer PN 16 B50-25-1"

2046 978

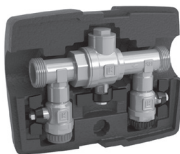
Casing brass, PN 16
Connections Rp 1"
Operating temperature max.: 110 °C
Sieve made of stainless steel
Mesh size 0.5 mm



Strainer PN 16 B50-32-1 1/4"

2046 980

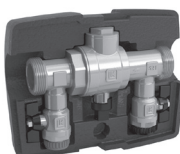
Casing brass, PN 16
Connections Rp 1 1/4"
Operation temperature max.: 110 °C
Sieve made of stainless steel
Mesh size 0.5 mm



Brine filling station in compact design DN 25

6037 537

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
Max. operating pressure 1.0 MPa (10 bar)
Dirt screen integrated



Brine filling station in compact design DN 32

6033 364

with shut-off valves,
filter and EPS insulation.
Application temperatures -20°C to +60°C
Frost protection max. 50 %
Connections DN 32 G 1 1/4", kvs 22
Max. operating pressure 1.0 MPa (10 bar)
Dirt screen integrated

■ Part No.



Ground water accessories

Ground water pump set US T (13)

for UltraSource T comfort (13)

Consisting of:

Protection for control of a 3-phase ground water pipe. Ready to connect without thermal surge protect

Ground water pump set US T (13)

for UltraSource T compact (13)

Consisting of:

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

Ground water pump set US T (17)

for UltraSource T comfort (17)

Consisting of:

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

Safety heat exchanger set

for UltraSource T comfort,

UltraSource T compact

for use of the ground water heat source

Consisting of:

Insulated heat exchanger and bracket for mounting

Safety heat exchanger set (stainless steel)

for UltraSource T comfort,

UltraSource T compact

for use of the ground water heat source

Consisting of:

Insulated heat exchanger (soldered stainless steel) and bracket for mounting

Flow monitor set

for UltraSource T comfort,

UltraSource T compact

for installation on ground water side

Consisting of:

Ground water float ball

Passive cooling accessories

Passive cooling set US T (8)

for UltraSource T comfort (8),

UltraSource T compact (8/200)

for passive cooling via

probe or ground water

Consisting of:

Insulated heat exchanger and bracket for mounting

Passive cooling set US T (13)

for UltraSource T comfort (13),

UltraSource T compact (13/200)

for passive cooling via

probe or ground water

Consisting of:

Insulated heat exchanger and bracket for mounting

Passive cooling set US T (17)

for UltraSource T comfort (17)

for passive cooling via

probe or ground water

Consisting of:

Insulated heat exchanger and bracket for mounting

Part No.

6046 182

6046 183

Available starting July 2019

6048 004

Notice:

The pump of the UltraSource T (8) is mono-phase (230 V). Therefore, no ground water kit is required.

6046 190

6046 194

6046 186

6046 177

Available starting July 2019

6046 178

6046 179

Available starting July 2019

■ Technical data

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

Brine/water application B0W35

• Energy efficiency class of the compound system with control 35/55°C		A+++/A+++	A+++/A+++	A+++/A+++	A+++/A+++	A+++/A+++
• Energy efficiency class load profile XL		-	-	-	A	A
• Seasonal coefficient of performance moderate climate 35 °C/55 °C	SCOP	5.4/4.2	5.5/4.2	5.9 / 4.3	5.4/4.2	5.5/4.2

Water/water application W10W35

• Energy efficiency class of the compound system with control 35/55°C		A+++/A+++	A+++/A+++	A+++/A+++	A+++/A+++	A+++/A+++
• Energy efficiency class load profile XL		-	-	-	A	A
• Seasonal coefficient of performance moderate climate 35 °C/55 °C	SCOP	7.9/6.3	8.0/5.6	8.0/5.9	7.9/6.3	8.0/5.6

Performance data in acc. with EN 14511

• Heat output B0W35	kW	4.1	6.6	11.42	4.1	6.6
• Power consumption B0W35	kW	0.87	1.3	2.26	0.87	1.3
• Coefficient of performance B0W35	COP	4.71	5	5.05	4.71	5
• Heat output W10W35	kW	5.55	8.6	15.24	5.55	8.6
• Power consumption W10W35	kW	0.85	1.3	2.36	0.85	1.3
• Coefficient of performance W10W35	COP	6.53	6.3	6.46	6.53	6.3

Sound data in acc. with EN 12102

• Sound power level (nominal)	dB(A)	45	41	44	45	41
• Sound power level (maximum)	dB(A)	51	47	55	51	47

Hydraulic data

• Max. flow temperature (without/with screw-in electrical heating inset)	°C	62	63	62	62/65	63/65
• Max. operating pressure source side	bar	3	3	3	3	3
• Max. operating pressure on the heating side	bar	3	3	3	3	3
• Heating flow and return connection	R	1"	1"	1"	1"	1"
• Connections source side	R	1"	1"	5/4"	1"	1"

Nominal flow rate and pressure drop brine/water

• Heating (dT = 5K)						
- Max. flow rate B5/W35	m³/h	1.6	2.3	3.3	1.6	2.3
- Nominal flow rate	m³/h	0.7	1.2	2	0.7	1.2
- Pressure drop	kPa	7	9	35	7	9
- Residual overpressure (max. pump speed)	kPa	67	76	44	67	76
• Heat source (dT = 3K)						
- Nominal flow rate	m³/h	0.94	1.6	2.8	0.94	1.6
- Pressure drop	kPa	9	9	22	9	9
- Residual overpressure	kPa	65	71	52	65	71

Nominal flow rate and pressure drop water/water

• Heating (dT = 5K)						
- Max. flow rate W10/W35	m³/h	1.7	2.3	3.7	1.7	2.3
- Nominal flow rate	m³/h	0.94	1.5	2.65	0.94	1.5
- Pressure drop	kPa	12	14	61	12	14
- Residual overpressure	kPa	67	72	20	67	72
• Heat source (dT = 3K)						
- Nominal flow rate	m³/h	1.36	2.1	4	1.36	2.1
- Pressure drop	kPa	5	6	10	5	6
- Residual overpressure max. pump speed	kPa	70	74	19	70	74

Cooling technical data

• Refrigerant		R410A	R410A	R410A	R410A	R410A
• Compressor/stages		1-modulating	1-modulating	1-modulating	1-modulating	1-modulating
• Refrigerant fill volume	kg	2.3	3	3.8	2.3	3
• Compressor oil fill volume	l	0.35	0.74	1	0.35	0.74
• Type of compressor oil		DAPHNE HERMETIC OIL FV50S	Emkarate RL32 - 3MAF	DAPHNE HERMETIC OIL FVC68D	DAPHNE HERMETIC OIL FV50S	Emkarate RL32 - 3MAF

Electrical data

• Electrical connection compressor	V/Hz	1x 230 / 50	3x 400 / 50	3x 400 / 50	1x 230 / 50	3x 400 / 50
• Electrical connection electric immersion heater	V/Hz	-	-	-	1~230/50 3~400/50	3x 400 / 50
• Control electrical connection	V/Hz	1x 230 / 50	1x 230 / 50	1x 230 / 50	1x 230 / 50	1x 230 / 50
• Compressor operating current max.	A	15.8	9	14.79	15.8	9
• Electric immersion heater operating current max.	A	-	-	-	13	13
• Starting current	A	<15.8	<9	<14.79	<15.8	<9
• Output factor	-	0.99	0.97	0.95	0.99	0.97
• Main current fuse	A	16	13	16	16	13
- Type		C,K	C,K	C,K	C,K	C,K
• Control current fuse	A	13	13	13	13	13
- Type		B,Z	B,Z	B,Z	B,Z	B,Z

■ Technical data

Type		(8)	(13)	(17)	(8/200)	(13/200)
• Fuse electric immersion heater	A	13	13	-	13	13
- Type		B.Z	B.Z	-	B.Z	B.Z

Dimensions/weight						
• Dimensions (H x W x D)	mm	1253x620x760	1253x620x760	1253x620x760	1950x602x770	1950x602x770
• Tilting dimension	mm	-	-	-	2150	2150
• Weight	kg	165	170	196	265	270
• Minimum sizes of installation room ¹⁾	m3	5.2	6.8	8.6	5.2	6.8

Hot water storage tank						
• Storage capacity	l	-	-	-	192	192
• Max. operating pressure	bar	-	-	-	10	10
• Storage tank temperature max.	°C	-	-	-	55	55
• Maximum storage tank temperature with electric immersion heater	°C	-	-	-	65	65
• Output capacity at 46 °C draw-off temperature - heat pump (=Tsp =58°) ²⁾		-	-	-	260	260
• Output capacity at 40 °C draw-off temperature - heat pump (=Tsp=58°) ²⁾		-	-	-	315	315

Using a residual current circuit breaker RCCB type B, I_{Δn} ≥ 300 mA is recommended. Country-specific regulations must be observed.

¹⁾ If the installation room is smaller than the required minimum size, it must be designed as a machine room in accordance with EN 378.

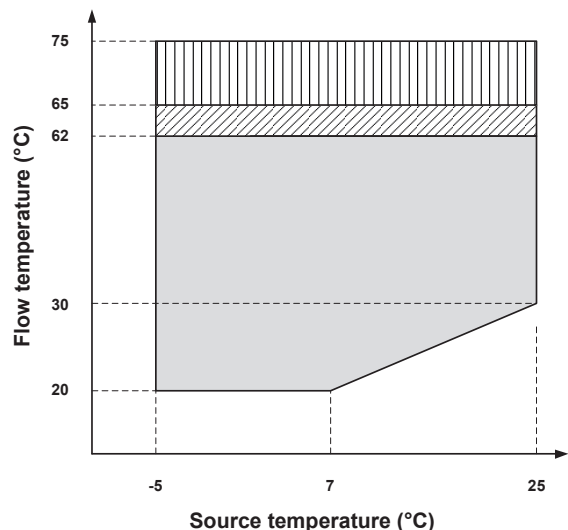
²⁾ 12 °C cold water temperature/58 °C storage tank temperature




■ Technical data

Diagram of area of application

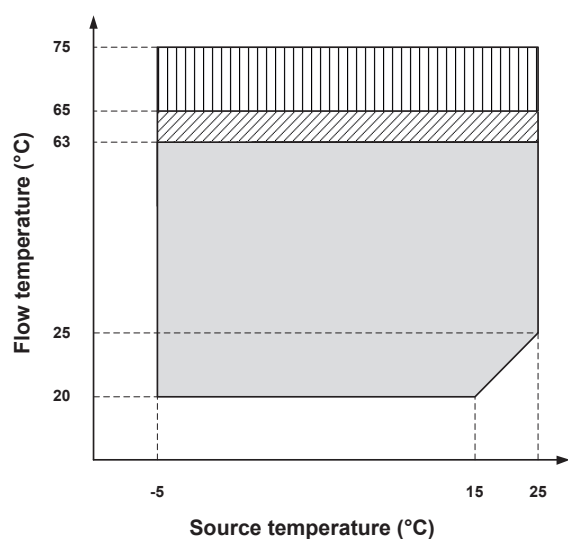
Heating and hot water




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



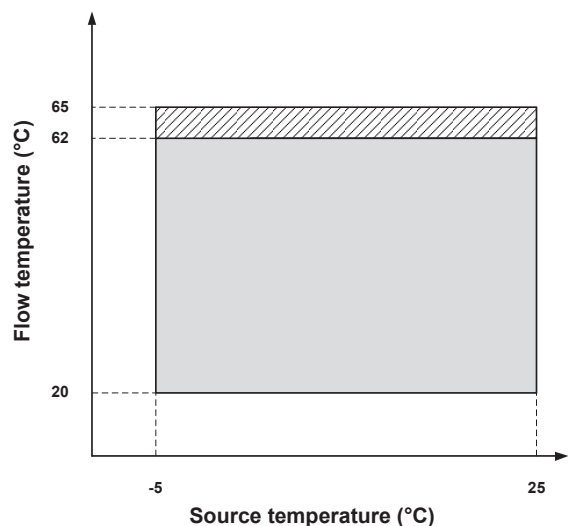
-  Application area heating heat pump (UltraSource T comfort C and compact C)
-  Extended application area heating heat pump including electric immersion heater (only UltraSource T compact)
-  Extended application area domestic hot water heat pump including electric immersion heater (only UltraSource T compact)



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



-  Application area heating heat pump (UltraSource T comfort C and compact C)
-  Extended application area heating heat pump including electric immersion heater (only UltraSource T compact)
-  Extended application area domestic hot water heat pump including electric immersion heater (only UltraSource T compact)

UltraSource T comfort (17)



-  Application area heating heat pump (UltraSource T comfort C and compact C)
-  Extended application area domestic hot water heat pump including electric immersion heater (only UltraSource T compact)

■ Technical data

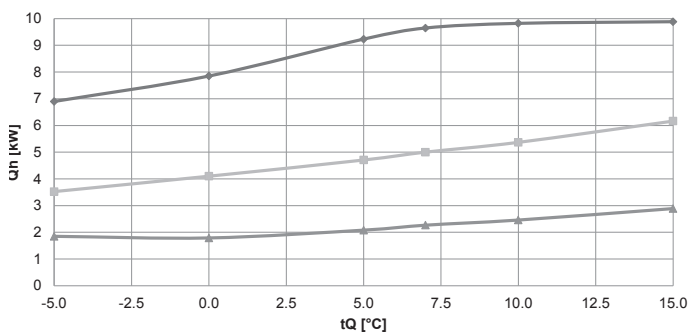
Performance data – heating

Maximum heat output

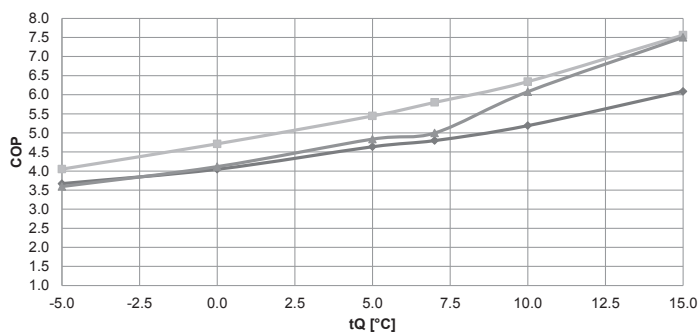
Hoval UltraSource T comfort (8), compact (8/200) with R410A

Data according to EN 14511

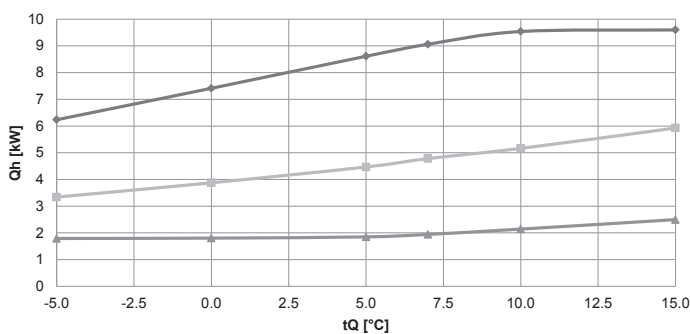
Heat output - t_{FL} 35 °C



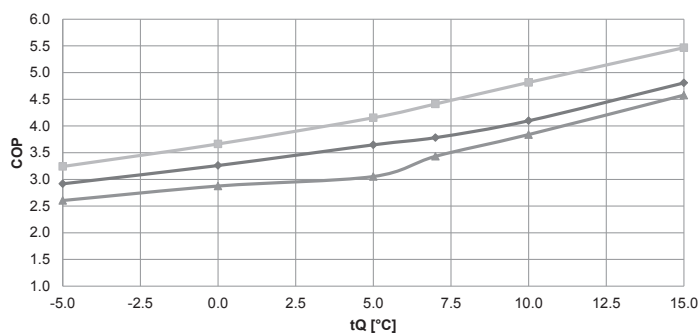
Coefficient of performance - t_{FL} 35 °C



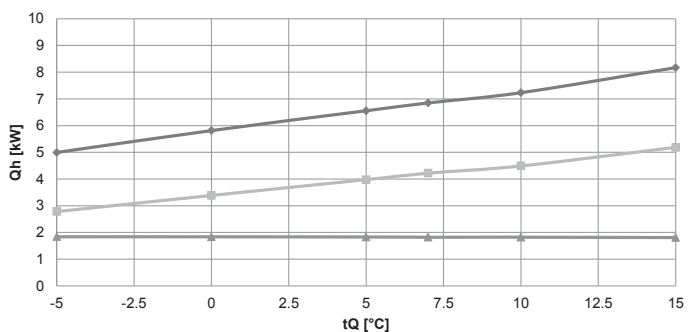
Heat output - t_{FL} 45 °C



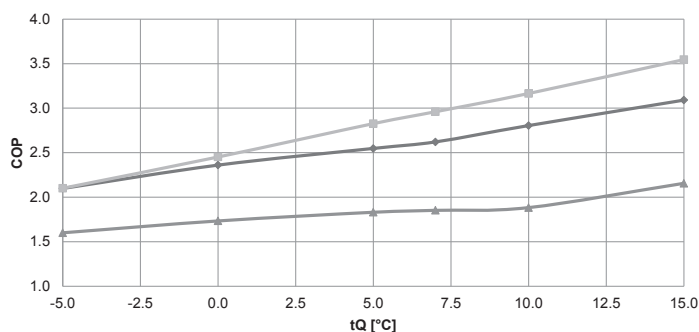
Coefficient of performance - t_{FL} 45 °C



Heat output - t_{FL} 62 °C



Coefficient of performance - t_{FL} 62 °C



t_{FL} = 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
■ Nominal output
▲ Minimum output

■ Technical data

Performance data – heating

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

Data according to EN 14511

Type Boiler tFL (°C)	Heat source Medium t1	tQ °C	Maximum output			Nominal output			Minimum output		
			Qh kW	P kW	COP	Qh kW	P kW	COP	Qh kW	P kW	COP
35	Brine	-5	6.90	1.88	3.67	3.52	0.87	4.05	1.85	0.51	3.59
		0	7.85	1.94	4.05	4.10	0.87	4.71	1.79	0.43	4.12
		5	9.23	1.99	4.64	4.71	0.86	5.44	2.08	0.43	4.84
		7	9.65	2.01	4.80	5.00	0.86	5.80	2.27	0.45	5.00
	Water	10	9.82	1.89	6.34	5.37	0.85	6.34	2.46	0.40	6.08
		15	9.88	1.62	7.56	6.16	0.81	7.56	2.89	0.39	7.50
45	Brine	-5	6.23	2.14	2.92	3.34	1.03	3.24	1.79	0.69	2.60
		0	7.41	2.27	3.26	3.88	1.06	3.66	1.80	0.63	2.88
		5	8.61	2.36	3.65	4.47	1.08	4.15	1.85	0.61	3.05
		7	9.06	2.40	3.78	4.78	1.08	4.41	1.94	0.57	3.43
	Water	10	9.54	2.33	4.10	5.16	1.07	4.81	2.14	0.56	3.84
		15	9.60	2.00	4.81	5.92	1.08	5.47	2.50	0.55	4.58
50	Brine	-5	5.92	2.29	2.59	3.19	1.13	2.82	1.84	0.81	2.26
		0	7.04	2.46	2.87	3.77	1.16	3.23	1.83	0.73	2.50
		5	8.18	2.57	3.18	4.35	1.19	3.65	1.82	0.69	2.64
		7	8.61	2.64	3.27	4.64	1.19	3.89	1.85	0.63	2.92
	Water	10	9.16	2.60	3.52	5.00	1.19	4.20	2.03	0.62	3.27
		15	9.36	2.23	4.20	5.71	1.21	4.71	2.37	0.60	3.95
55	Brine	-5	5.36	2.16	2.48	3.12	1.21	2.57	1.80	0.92	1.96
		0	6.31	2.27	2.78	3.61	1.25	2.89	1.85	0.87	2.11
		5	7.17	2.35	3.05	4.24	1.28	3.32	1.85	0.80	2.32
		7	7.53	2.40	3.14	4.51	1.29	3.48	1.86	0.78	2.39
	Water	10	8.02	2.41	3.33	4.85	1.28	3.77	1.79	0.72	2.49
		15	9.14	2.46	3.71	5.62	1.33	4.23	2.19	0.72	3.05
62	Brine	-5	5.00	2.38	2.10	2.78	1.32	2.10	1.84	1.15	1.60
		0	5.81	2.46	2.36	3.38	1.38	2.45	1.84	1.06	1.73
		5	6.56	2.57	2.55	3.98	1.41	2.83	1.83	1.00	1.83
		7	6.85	2.61	2.62	4.22	1.43	2.96	1.82	0.98	1.85
	Water	10	7.23	2.58	2.80	4.49	1.42	3.16	1.82	0.97	1.88
		15	8.17	2.64	3.09	5.19	1.46	3.55	1.81	0.84	2.16

tFL = Heating flow temperature (°C)

tQ = Source temperature (°C)

Qh = 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 project planning

■ Technical data

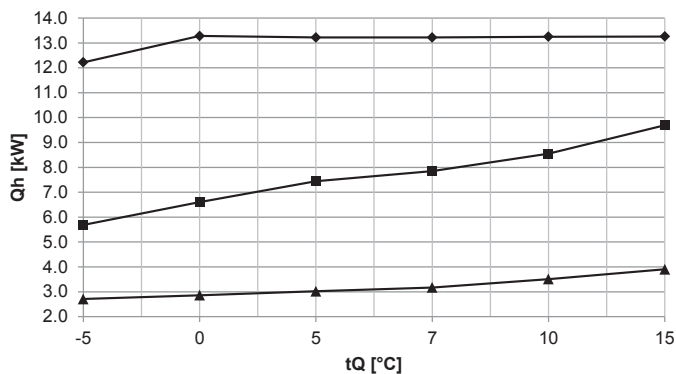
Performance data – heating

Maximum heat output

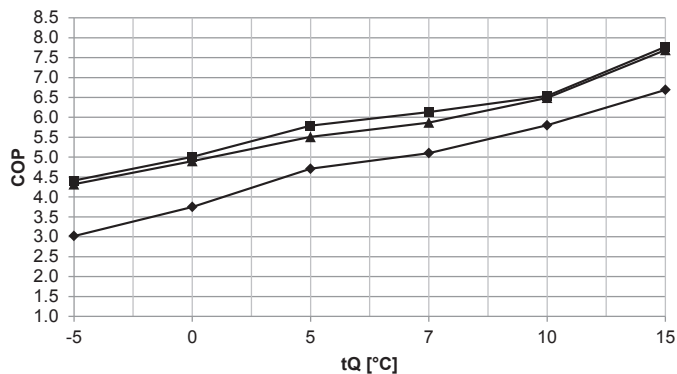
Hoval UltraSource T comfort (13), compact (13/200) with R410A

Data according to EN 14511

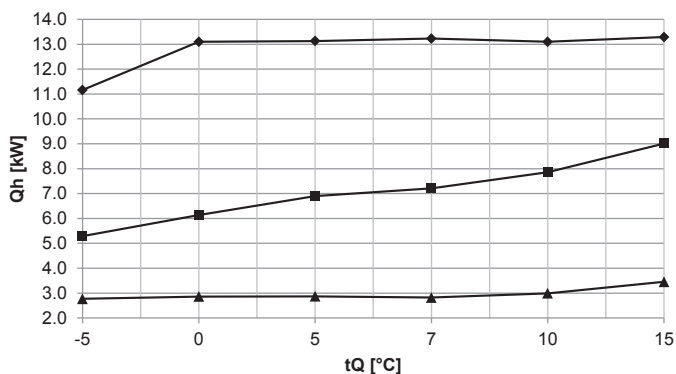
Heat output - t_{FL} 35 °C



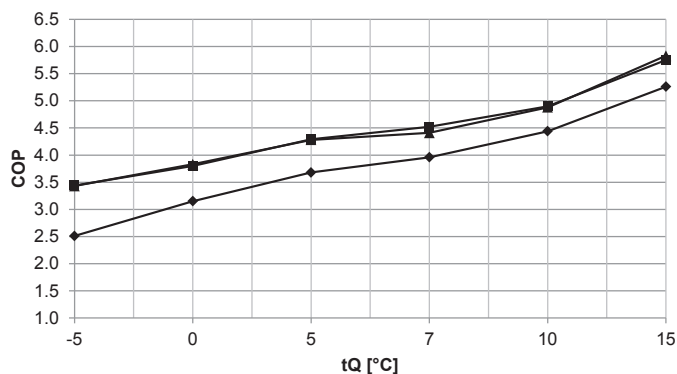
Coefficient of performance - t_{FL} 35 °C



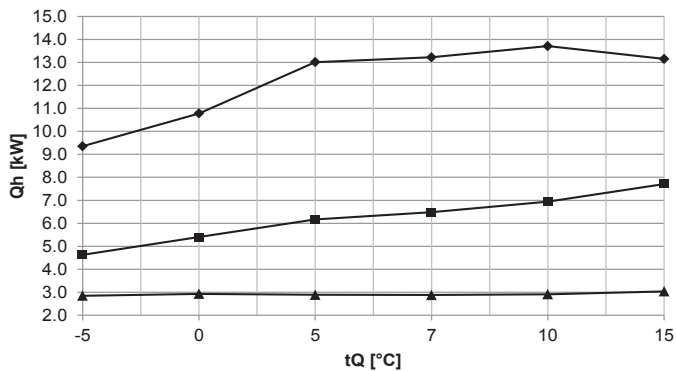
Heat output - t_{FL} 45 °C



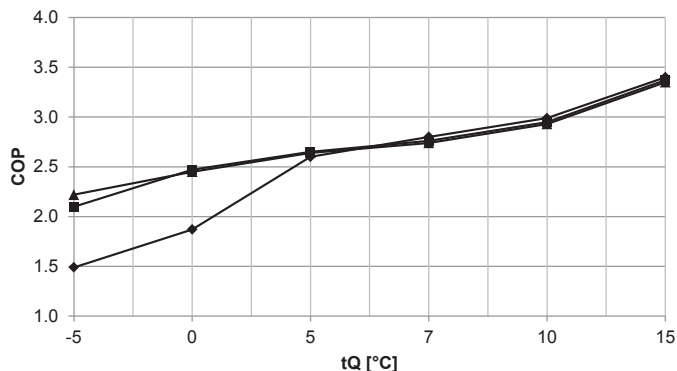
Coefficient of performance - t_{FL} 45 °C



Heat output - t_{FL} 62 °C



Coefficient of performance - t_{FL} 62 °C



t_{FL} = 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
■ Nominal output
▲ Minimum output

■ Technical data

Performance data – heating

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

Data according to EN 14511

Type Boiler tFL (°C)	Heat source Medium t1	tQ °C	Maximum output			Nominal output			Minimum output		
			Qh kW	P kW	COP	Qh kW	P kW	COP	Qh kW	P kW	COP
35	Brine	-5	12.2	4.1	3.0	5.7	1.3	4.4	2.7	0.6	4.3
		0	13.3	3.5	3.8	6.6	1.3	5.0	2.9	0.6	4.9
		5	13.2	2.8	4.7	7.4	1.3	5.8	3.0	0.6	5.5
		7	13.2	2.6	5.1	7.9	1.3	6.1	3.2	0.5	5.9
	Water	10	13.3	2.3	5.8	8.6	1.3	6.5	3.5	0.5	6.5
		15	13.3	2.0	6.7	9.7	1.3	7.8	3.9	0.5	7.7
45	Brine	-5	11.2	4.4	2.5	5.3	1.5	3.4	2.8	0.8	3.4
		0	13.1	4.2	3.2	6.1	1.6	3.8	2.9	0.8	3.8
		5	13.1	3.6	3.7	6.9	1.6	4.3	2.9	0.7	4.3
		7	13.2	3.3	4.0	7.2	1.6	4.5	2.8	0.6	4.4
	Water	10	13.1	3.0	4.4	7.9	1.6	4.9	3.0	0.6	4.9
		15	13.3	2.5	5.3	9.0	1.6	5.8	3.5	0.6	5.8
50	Brine	-5	10.6	4.8	2.2	5.1	1.7	3.0	2.9	0.9	3.2
		0	12.5	4.6	2.7	5.9	1.7	3.4	2.9	0.8	3.5
		5	13.3	4.1	3.3	6.6	1.8	3.8	3.0	0.7	4.0
		7	13.2	3.8	3.5	6.9	1.8	4.0	2.9	0.7	4.1
	Water	10	13.1	3.4	3.9	7.6	1.8	4.3	2.9	0.7	4.5
		15	13.3	2.9	4.6	8.7	1.8	4.9	3.2	0.6	5.0
55	Brine	-5	10.1	5.7	1.8	4.9	1.9	2.6	2.9	1.0	2.8
		0	11.9	5.2	2.3	5.8	1.9	3.0	3.0	1.0	3.0
		5	13.2	4.5	3.0	6.4	2.0	3.3	2.9	0.9	3.4
		7	13.2	4.2	3.2	6.7	2.0	3.4	2.8	0.8	3.5
	Water	10	13.1	3.8	3.5	7.2	2.0	3.7	2.8	0.8	3.8
		15	13.2	3.3	4.1	8.2	2.0	4.2	3.1	0.7	4.4
62	Brine	-5	9.4	6.3	1.5	4.6	2.2	2.1	2.9	1.3	2.2
		0	10.8	5.8	1.9	5.4	2.2	2.5	2.9	1.2	2.5
		5	13.0	5.0	2.6	6.2	2.3	2.7	2.9	1.1	2.6
		7	13.2	4.7	2.8	6.5	2.4	2.8	2.9	1.1	2.7
	Water	10	13.7	4.4	3.0	6.9	2.4	3.0	2.9	1.0	2.9
		15	13.2	3.9	3.4	7.7	2.3	3.4	3.0	0.9	3.4

tFL = Heating flow temperature (°C)

tQ = Source temperature (°C)

Qh = 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 project planning

■ Technical data

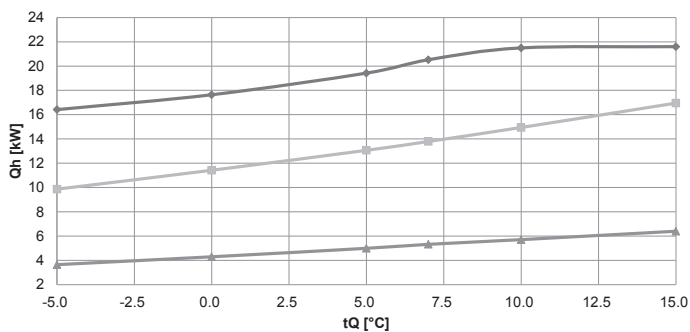
Performance data – heating

Maximum heat output

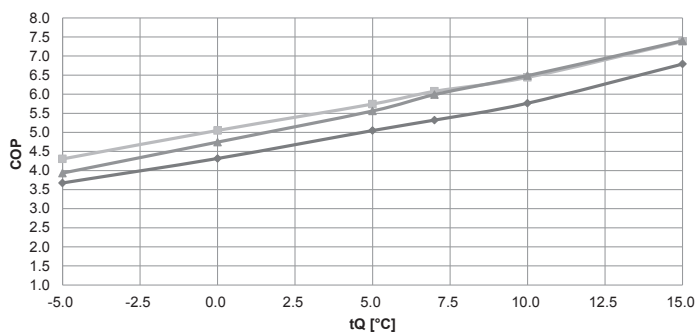
Hoval UltraSource T comfort (17) with R410A

Data according to EN 14511

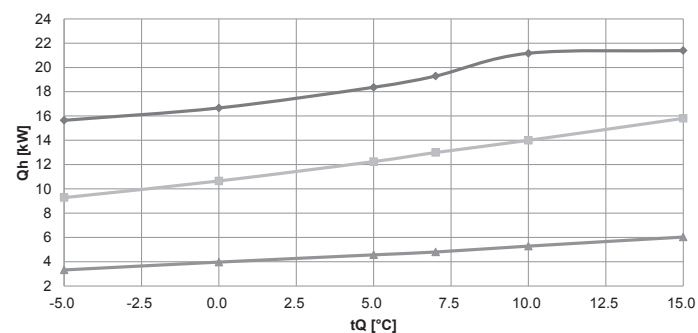
Heat output - t_{FL} 35 °C



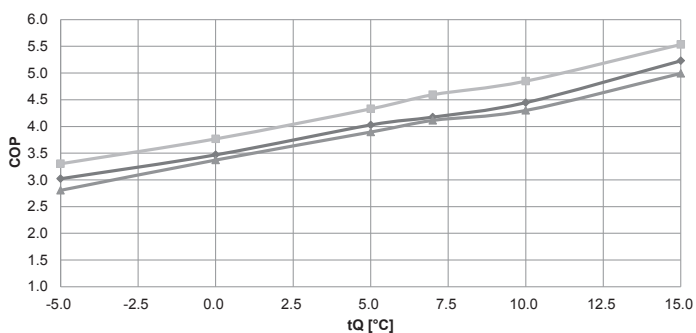
Coefficient of performance - t_{FL} 35 °C



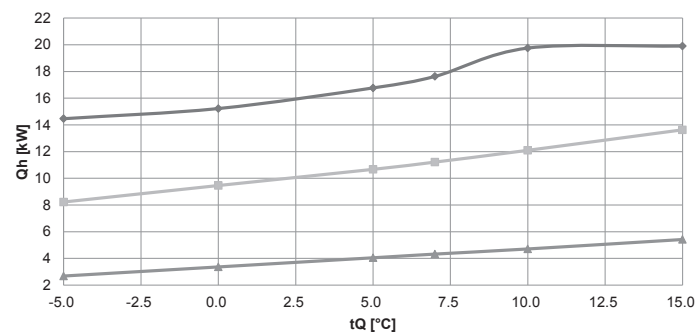
Heat output - t_{FL} 45 °C



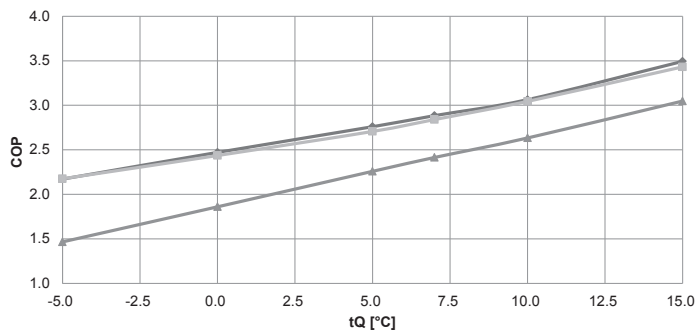
Coefficient of performance - t_{FL} 45 °C



Heat output - t_{FL} 62 °C



Coefficient of performance - t_{FL} 62 °C



t_{FL} = 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
■ Nominal output
▲ Minimum output

■ Technical data

Performance data – heating

Hoval UltraSource T comfort (17) with R410A

Data according to EN 14511

Type Boiler tFL (°C)	Heat source Medium t1	tQ °C	Maximum output			Nominal output			Minimum output		
			Qh kW	P kW	COP	Qh kW	P kW	COP	Qh kW	P kW	COP
35	Brine	-5	16.41	4.47	3.67	9.86	2.29	4.30	3.65	0.93	3.93
		0	17.64	4.09	4.32	11.42	2.26	5.05	4.29	0.91	4.74
		5	19.42	3.85	5.05	13.06	2.28	5.74	4.99	0.90	5.56
		7	20.52	3.86	5.32	13.79	2.27	6.08	5.32	0.89	5.99
	Water	10	21.50	3.73	5.76	14.94	2.32	6.44	5.71	0.88	6.49
		15	21.60	3.18	6.79	16.95	2.30	7.38	6.40	0.86	7.40
45	Brine	-5	15.64	5.18	3.02	9.28	2.29	4.30	3.65	0.93	3.93
		0	16.66	4.80	3.47	11.42	2.26	5.05	4.29	0.91	4.74
		5	18.37	4.56	4.03	13.06	2.28	5.74	4.99	0.90	5.56
		7	19.29	4.62	4.17	13.79	2.27	6.08	5.32	0.89	5.99
	Water	10	21.17	4.76	4.45	14.94	2.32	6.44	5.71	0.88	6.49
		15	21.39	4.09	5.23	16.95	2.30	7.38	6.40	0.86	7.40
50	Brine	-5	15.16	5.58	2.72	8.82	3.06	2.88	3.07	1.29	2.38
		0	16.18	5.22	3.10	10.22	3.11	3.29	3.76	1.30	2.90
		5	17.75	5.04	3.52	11.83	3.13	3.78	4.44	1.30	3.41
		7	18.69	5.05	3.70	12.51	3.14	3.99	4.71	1.30	3.62
	Water	10	20.72	5.29	3.92	13.49	3.21	4.20	5.12	1.38	3.70
		15	20.96	4.60	4.56	15.29	3.20	4.78	5.81	1.37	4.24
55	Brine	-5	15.00	5.88	2.55	8.70	3.28	2.65	2.87	1.49	1.92
		0	15.84	5.51	2.88	10.17	3.39	3.00	3.55	1.53	2.32
		5	17.27	5.34	3.23	11.49	3.38	3.40	4.23	1.48	2.85
		7	18.14	5.37	3.38	12.15	3.38	3.59	4.50	1.48	3.05
	Water	10	20.20	5.57	3.63	12.96	3.49	3.72	4.87	1.52	3.20
		15	20.34	4.85	4.19	14.66	3.48	4.21	5.61	1.50	3.73
62	Brine	-5	14.46	6.66	2.17	8.22	3.78	2.17	2.68	1.83	1.47
		0	15.23	6.16	2.47	9.46	3.88	2.44	3.36	1.81	1.86
		5	16.77	6.08	2.76	10.67	3.94	2.71	4.05	1.79	2.26
		7	17.63	6.11	2.88	11.22	3.95	2.84	4.32	1.79	2.41
	Water	10	19.75	6.45	3.06	12.10	3.97	3.04	4.71	1.79	2.63
		15	19.91	5.70	3.49	13.63	3.97	3.43	5.42	1.78	3.05

tFL = Heating flow temperature (°C)

tQ = Source temperature (°C)

Qh = 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

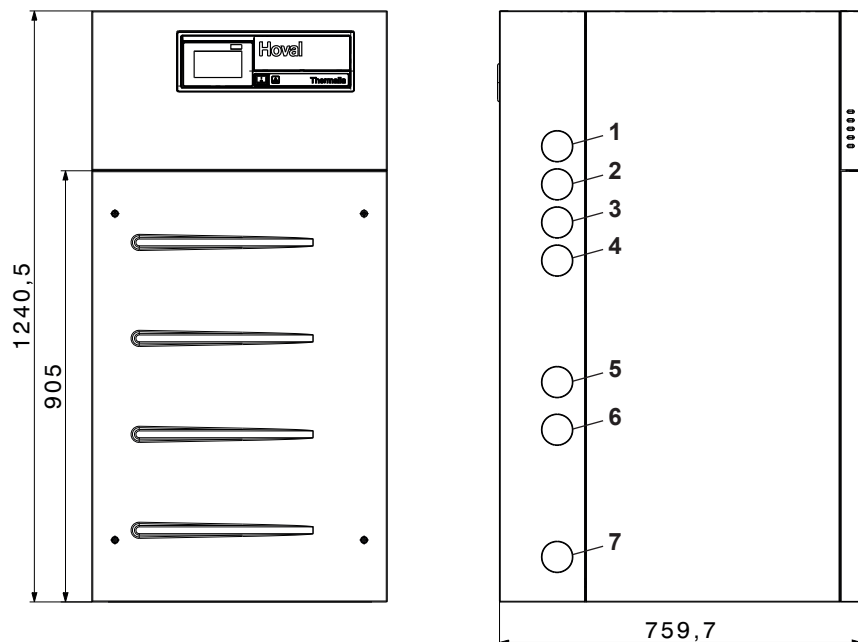
Observe daily power interruptions!
see project planning

■ Dimensions

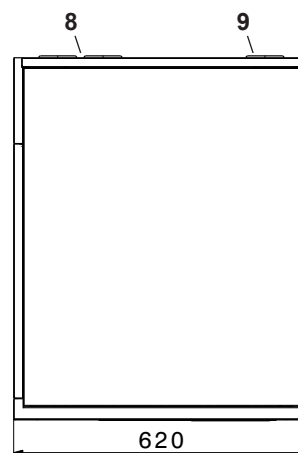
Hoval UltraSource T comfort (8-17)

Indoor unit

(Dimensions in mm)



View from above



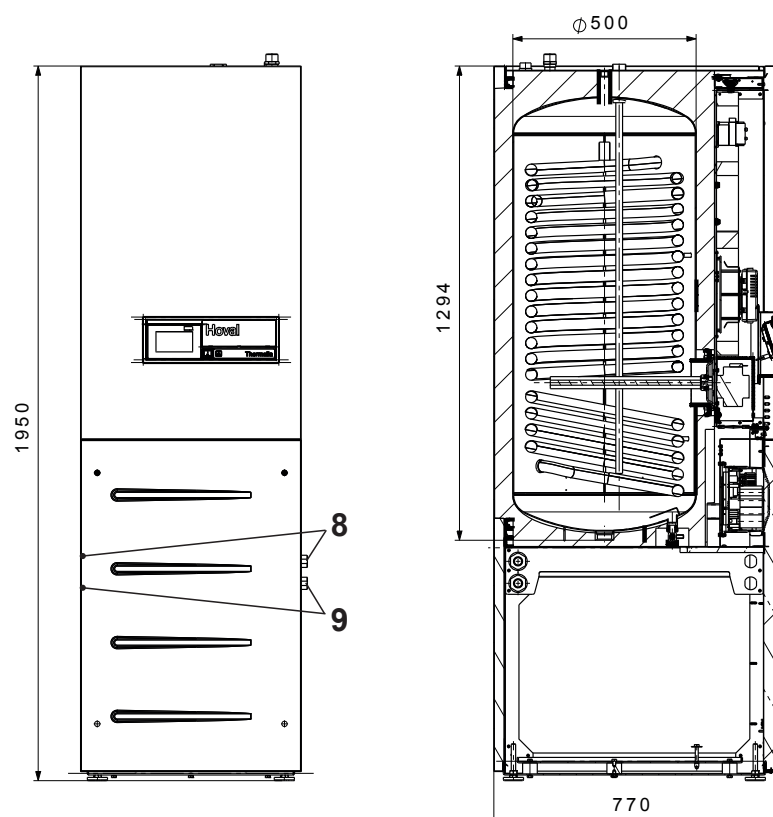
Connections (1-7) on either the left or right side

- 1 Free
- 2 Brine outlet 1"
- 3 Flow heating 1"
- 4 Flow hot water charging 1"
- 5 Brine inlet 1"
- 6 Free
- 7 Return heating 1"
- 8 Cable feed-in main current
- 9 Cable feed-in sensors

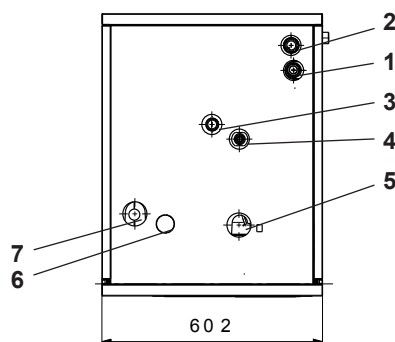
Hoval UltraSource T compact (8,13/200)

Indoor unit with calorifier

(Dimensions in mm)



View from above



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

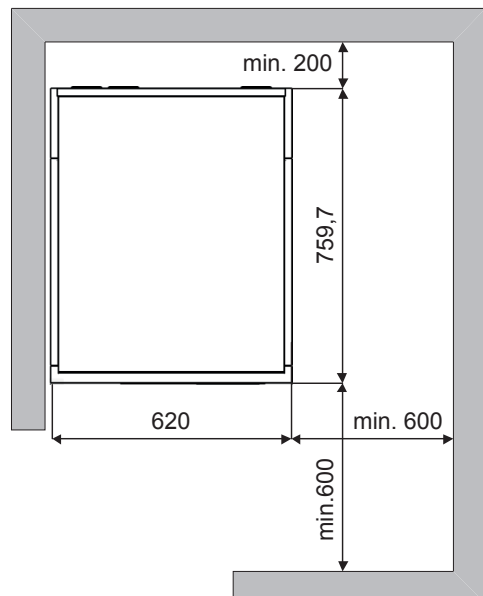
■ Dimensions

Space requirement

Hoval UltraSource T comfort (8-17) left

Indoor unit

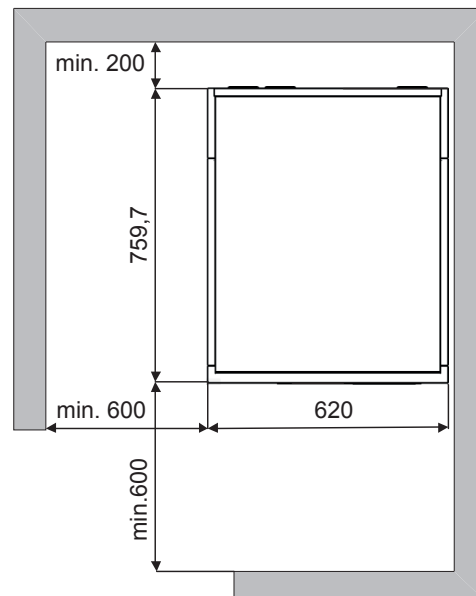
(Dimensions in mm)



Hoval UltraSource T comfort (8-17) right

Indoor unit

(Dimensions in mm)

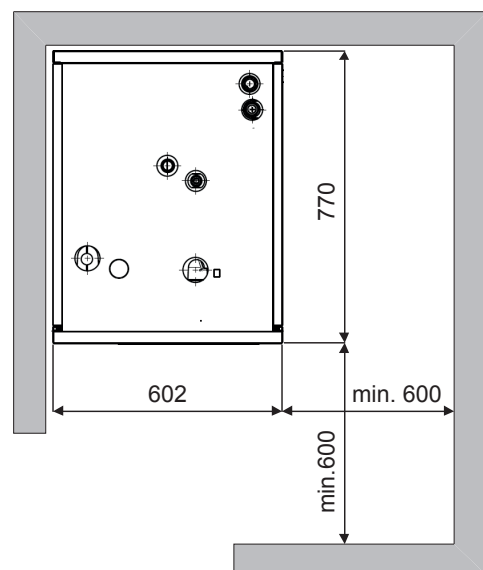


A gap of at least 200 mm must be guaranteed at the rear for the electrical connection.

Hoval UltraSource T compact (8,13/200)

Indoor unit

(Dimensions in mm)



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

■ Engineering

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.
- 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.

The installation of a magnetic sludge separator is mandatory.

Installation on heating side

- All pertinent laws, regulations and standards for building heating system pipework and for heat pump systems must be complied with.
- It is imperative that a strainer and a sludge separator are installed in the heating return upstream from the heat pump.
- 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 pipe 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 pipe 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 pipe are changed over on site. If the brine pipe 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. A "zeroing TN-S" can be used instead of the RCCB type B. Country-specific requirements must be complied with. If the "fault-current circuit breaker" safeguard measure is implemented nevertheless by the electrical company, a separate fault-current circuit breaker is recommended for the heat pumps.
- This residual-current circuit breaker must be of the all-current-sensitive type B ($I_{\Delta N} \geq 300$ 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"

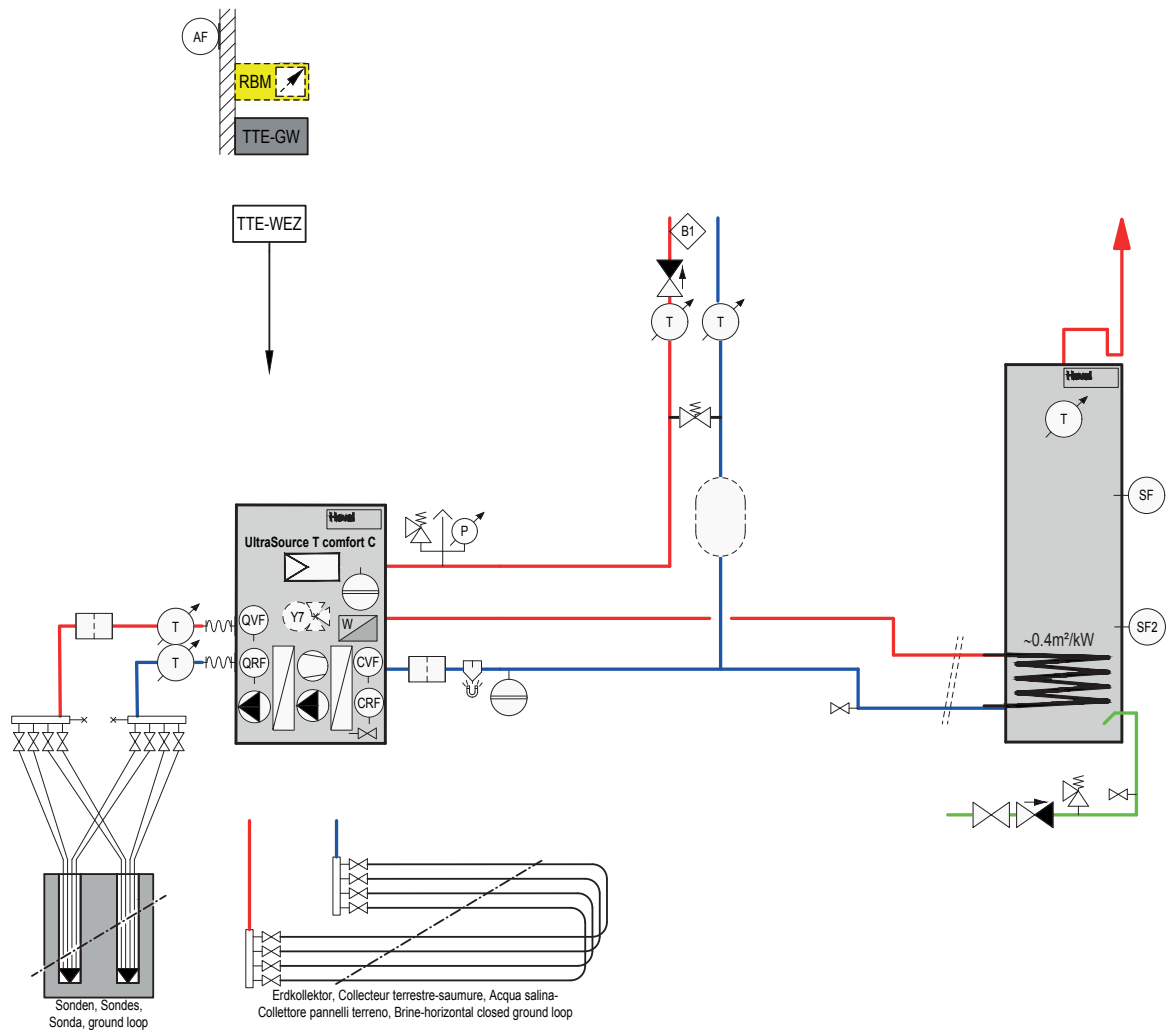
■ Examples

UltraSource T comfort

Brine/water and water/water heat pump with

- Earth probes
- 1 direct circuit

Hydraulic schematic BBBFE010



Important notices

- The example schematics merely show the basic principle and do not contain all information required for installation. Installation must be carried out according to the conditions on site, dimensioning and local regulations.
- With underfloor heating, a flow temperature monitor must be installed.
- Shut-off devices to the safety equipment (pressure expansion tank, safety valve, etc.) must be secured against unintentional closing!
- Install pockets to prevent single-pipe gravity circulation!

TTE-WEZ	TopTronic® E basic module heat generator (installed)
B1	Flow temperature monitor (if required)
AF	Outdoor sensor
SF	Calorifier sensor
SF2	Calorifier sensor 2
<i>Option</i>	
RBM	TopTronic® E room control module
TTE-GW	TopTronic® E Gateway
Y7	Switching valve

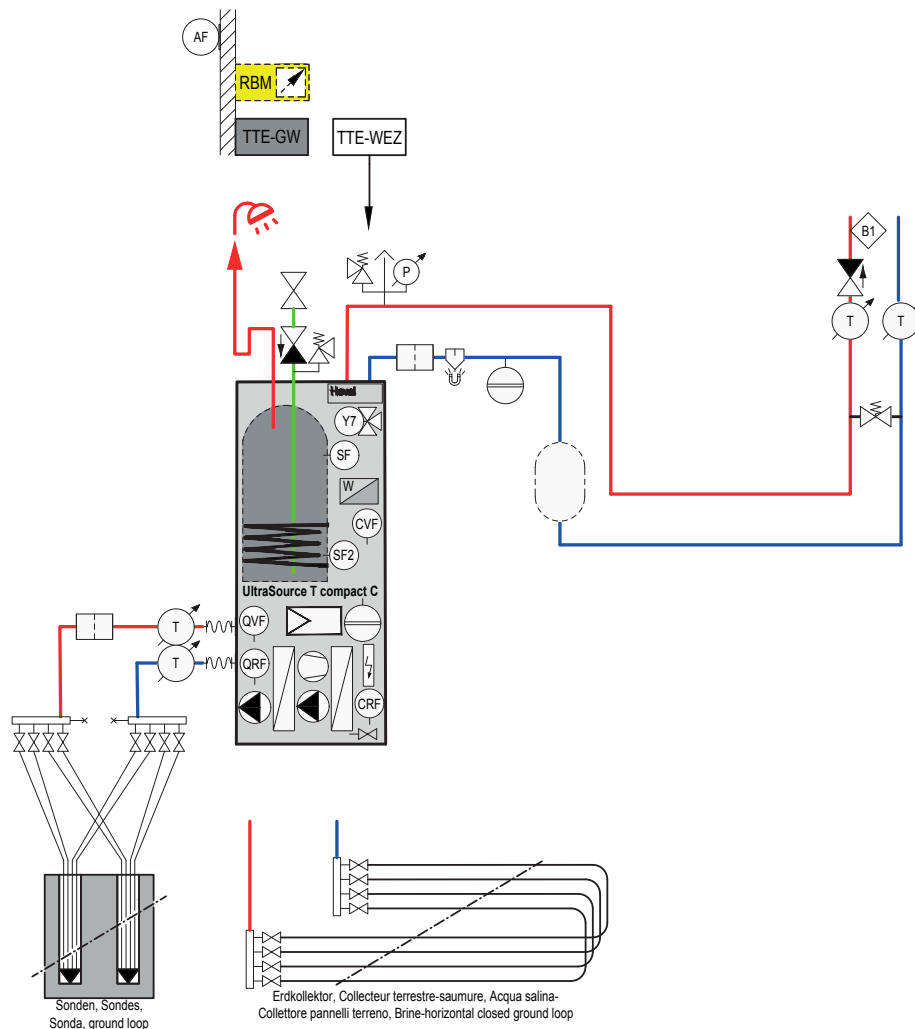
■ Examples

UltraSource T compact

Brine/water and water/water heat pump with

- Integrated calorifier
- Earth probes
- 1 direct circuit

Hydraulic schematic BBBEE010



Important notices

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