

■ Description

Hoval Belaria® SRM Hoval Belaria® compact SRM Modulating heat pump system for heating and cooling in the living area

Split system comprising indoor unit
and outdoor unit.
Modulation range 30 % to 100 %

Indoor unit Belaria® SRM

- Compact unit for wall installation
- Casing made from painted, galvanised sheet steel. Colour pure white (RAL 9010).
- Condenser stainless steel/Cu
- Speed-controlled high-efficiency pump
- Pressure expansion tank 10 litres
- Pressure gauge
- Flow sensor
- Cut-off valves for heating flow and return (included separately)
- Emergency heating
Hoval Belaria® SRM (4) 3 kW
Hoval Belaria® SRM (6-16) 3/9 kW
(see also technical data) with safety thermostat, safety valve
- Strainer, air-bleeding valve, overpressure valve
- Controller with heating, cooling and calorifier function (operating unit included separately)
- With cooling function through inversion of cycle
- Electrical box
- Flow and return sensor installed
- Filling and drain valve

Belaria® compact SRM indoor unit

- Compact floor-standing unit
- Casing made from painted, galvanised sheet steel. Colour RAL 9010 (pure white).
- Condenser stainless steel/Cu
- Stainless steel calorifier installed
Hoval Belaria® compact SRM (4) 180 litres
Hoval Belaria® compact SRM (6-16) 260 litres
- Speed-controlled high-efficiency pump
- Pressure expansion tank 10 litres
- Pressure gauge
- Flow sensor
- Cut-off valves for heating flow and return (included separately)
- Emergency heating
Hoval Belaria® compact SRM (4) 3 kW
Hoval Belaria® compact SRM (6-16) 3/9 kW
(see also technical data) with safety thermostat, safety valve
- Strainer, air-bleeding valve, overpressure valve
- Controller with heating, cooling and calorifier function (included separately)
- With cooling function through inversion of cycle
- Electrical box
- Flow and return sensor installed
- Filling and drain valve

Outdoor unit

- Compact unit for outdoor installation
- Casing made from painted, galvanised sheet steel, colour beige/grey (similar to RAL 7044)
- Speed-controlled compressor
- 1 / 2 speed-controlled fans
- Coated Alu/Cu finned-tube evaporator
- Electronic expansion valve



Outdoor unit



Indoor unit
Hoval Belaria® SRM



Indoor unit
Hoval Belaria® compact SRM

Hoval Belaria® SRM Hoval Belaria® compact SRM

35 °C	55 °C	Type	Heat output		Cooling capacity
			with A-7W35 kW	with A2W35 kW	with A35W18 kW
		(4)	4.6	4.8	5.9
		(6)	5.3	6.4	7.3
		(8)	6.4	7.7	8.4
		(11)	8.8	9.1	15.1
		(14)	11.7	10.9	16.1
		(16)	12.3	11.4	16.8

Energy efficiency class of the compound system with control
Performance data at nominal output



The built-in high-efficiency pumps fulfil the Ecodesign requirements of 2015 with an EER of ≤ 0.23.

Seal of approval FWS

The Belaria® SRM (4-16) series is certified by the seal of approval of the authorisation commission of Switzerland

- Four-way valve
- Filled with refrigerant R 410 A
- Shut-off valves on the refrigerant side
- Outdoor sensor installed

Connections, heating/cooling

- Heating connections
Indoor unit Hoval Belaria® SRM (4-16) bottom, indoor unit Hoval Belaria® compact SRM (4-16) top
- 2 cut-off valves included separately

Connections, refrigerant line

- Indoor unit Belaria® SRM (4-16) bottom, indoor unit Belaria® compact SRM (4-16) top
- Outdoor unit on the right side
- Hot gas line 15.9 mm (5/8")
liquid line:
Belaria® SRM,
compact SRM (4-8) 6.4 mm (1/4")
Hoval Belaria® SRM,
compact SRM (11-16) 9.5 mm (3/8")

Condensate drain

- Free run-off of the condensate for draining off
- An optional condensate drip tray for collective discharge of the condensate is available

Electrical connections

- Outdoor unit on the right side connection:
Belaria® SRM, compact SRM (4-8) 230 V,
Belaria® SRM, compact SRM (11-16)
3 x 400 V
- Indoor unit is fed from the outdoor unit
- Emergency heating is connected to the indoor unit separately
- Electric heating element connection in the external calorifier 1 x 400 V (Belaria® SRM (4-16))

Delivery

- Inside and outdoor unit delivered packaged separately.
- Both cut-off valves are included separately with the indoor unit.
- Sensor for calorifier supplied loose in the indoor unit (Belaria® SRM (4-16))

On site

- Installation of the insulation set (Hoval Belaria® SRM)
- Installation of the collective alarm board
- Wall openings for refrigerant connecting lines.
- Electr. connecting line outside/indoor unit

■ Part No.

Hoval Belaria® SRM
Hoval Belaria® compact SRM
air/water heat pump system

Part No.

Modulating heat pump system for heating and cooling. Comprising inside and outdoor unit.
Belaria® compact SRM with integrated calorifier in the indoor unit.



Hoval Belaria® SRM
Heat pump system

Type	Heat output kW A2W35	Cooling ca- pacity kW A35W18
(4)	4.6	4.8
(6)	5.3	6.4
(8)	6.4	7.7
(11)	8.8	9.1
(14)	11.7	10.9
(16)	12.3	11.4

7013 709
7013 710
7013 711
7013 712
7013 713
7013 714



Hoval Belaria® compact SRM
Heat pump system with
integrated calorifier

Type	Calorifier litres	Heat output kW A2W35	Cooling ca- pacity kW A35W18
(4)	180	4.8	5.9
(6)	260	6.4	7.3
(8)	260	7.7	8.4
(11)	260	9.1	15.1
(14)	260	10.9	16.1
(16)	260	11.4	16.8

7013 715
7013 716
7013 717
7013 718
7013 719
7013 720

Energy efficiency class
see Description



Connection set
for Belaria® SRM (4-16)
Prevents vibrations of the heating
pump on the heating network
Consisting of:
2 pcs. flexible hoses DN 32, L=1.5 m
2 pcs. reduction nipple R 1¼" x RG 1"
2 pcs. seals

6024 913

■ Part No.



Accessories

Part No.

Room station

Additional controller as room station
same function as controller
on the unit (cable connection)

6043 816



Room thermostat with remote control

RS-W (cable connection)

6023 044

RS-R (with radio transmission)

6023 045



Outside temperature sensor

additional outside temperature sensor
necessary if the outside unit is placed
in an unfavourable position
(exposure to sunlight)

2053 179



Additional board (A4P/A7P)

digital on/off board for:
- alarm output
- change-over to external heat source

6019 357



Condensate drip tray cpl. w/ A4P board

for Belaria® SRM (4-16),
compact SRM (4-16)
for collection of the condensate under
the outdoor unit
Material: UV-resistant plastic
Tray heater 120 W, 230 V with thermostat
with additional protection
Condensate outlet: Ø (outside) 38 mm
Dimensions: 960 x 420 x 40 (LxWxT)
For mounting on socket, the vibration
dampers have to be ordered separately.
digital on/off board for:
- energetic control of the heating tape

6033 389

Notice

Only use a condensate drip tray if it is
absolutely necessary. If the condensation
can flow away unobstructed,
no condensate drip tray will be required.



Base set SKW01

for outdoor unit
for Belaria® SRM (4-8) and
compact SRM (4-8)
Comprising:
2 U-irons painted
Mandatory when using
a condensate drip tray for outdoor unit
on concrete base.
Base must be mounted under the
condensate drip tray.

6031 247

Notice

When ordering the concrete base sets
BSW01-FU or BSW01-FD, it is mandatory to
order as well a base for the outdoor unit.



Trace heating tape

for heating a condensate
drainage pipe (on site)
and a condensate drip tray KWD
with thermostat and microfuses
Output: 40-80 W, 230 V
Length: cable 1.5 m; heating tape 2 m

6033 374

A digital on/off board for (A4P/A7P) must be
ordered as well for an energetic control.

■ Part No.

	Accessories	Part No.
	Protective roof for outdoor unit for Belaria® SRM, compact SRM (4-8) Aluminium powder-coated Colour: silk grey RAL 7044 Can also be combined with wall bracket for outdoor unit.	6040 215
	Protective roof for outdoor unit for Belaria® SRM (11-16), compact SRM (11-16) and SHM (11-16) Aluminium powder-coated Colour: silk grey RAL 7044 Can also be combined with wall bracket for outside unit.	6040 216
	Protective grid for outdoor unit for Belaria® SRM and compact SRM (4-8) sturdy grid for protection of the evaporator Material: coated stainless steel (RAL 7044) Mounting on site	6031 613
	Protective grid for outdoor unit for Belaria® SRM (11-16), compact SRM (11-16) and SHM (11-16) sturdy grid for protection of the evaporator Material: coated stainless steel (RAL 7044) Mounting on site	6028 144
	Protective grid for outdoor unit for Belaria® SRM (11-16), compact SRM (11-16) and SHM (11-16) sturdy grid for protection of the evaporator (on the front) Material: coated stainless steel (RAL 7044) Mounting on site	6028 243
	Wall console for outdoor unit for Belaria® SRM and compact SRM (4-8) for attachment of the unit to the wall 2 brackets made of steel sheet incl. vibration dampers and fixing material Attention: Cannot be used in this form on insulated walls! Not suitable for lightweight walls!	6031 530
	Wall console for outdoor unit for Belaria® SRM (11-16), compact SRM (11-16) and SHM (11-16) for fastening the unit onto the wall 2 stainless steel clamps incl. vibration dampers and fastening material Caution: Not to be used in this form on insulated walls! Not suitable for lightweight walls!	6040 353

■ Part No.



Stand bracket

for Belaria® SRM and compact SRM (4-8)
for mounting the unit on the floor
incl. vibration damper
Dimensions: 300 x 620 x 300 (L x W x H)
Weight: 6.5 kg

Part No.

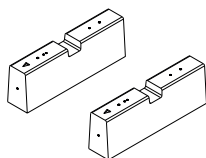
6040 354



Stand bracket

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
for mounting the unit on the floor
incl. vibration damper
Dimensions (LxWxH): 300x660x400
Weight: 7.5 kg

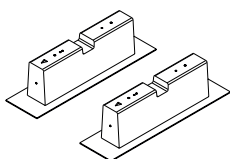
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Concrete base set BSW01-FU

to securely erect an outdoor unit
on solid ground.
Consisting of:
2 concrete bases with molded
fastening sleeves, screw set
Weight: 2 pieces of 58 kg

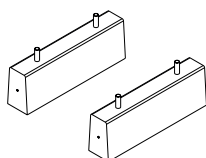
6046 157



Concrete base set BSW01-FD

to securely erect an outdoor unit
on flat roof.
Consisting of:
2 concrete bases with molded
fastening sleeves, protective mats
with aluminium facing, screw set
Weight: 2 pieces of 58 kg

6046 158



Concrete base set BSW01-ZS

to securely erect an
outdoor unit in drainage bed
for gardens and meadows.
Additional base height 250 mm for
plug combination with set BSW01-FU
Consisting of:
2 additional concrete bases,
screw set
Weight: 2 pieces of 58 kg

6046 159



Vibration damper

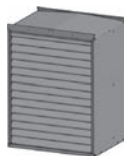
for Belaria® SRM (4-16),
compact SRM (4-16) and SHM (11-16)
for installing the unit on
a concrete base (on site).
4 pieces incl. dowels HKD-S M8x30,
washers and nuts

6022 489

■ Part No.

Accessories

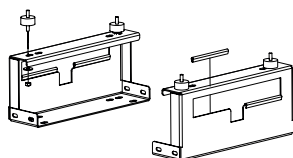
Part No.



Acoustic insulation housing SDG01

6040 356

for Belaria® SRM (4-8) and
compact SRM (4-8)
for reducing the noise level
of the unit set up outdoors
Protects the unit against any
weather influences
Steel with aluminium zinc coating
Colour: grey (RAL 9006)
Dimensions: 1065 x 1200 x 900 (HxWxD)
Sound attenuation depending on
installation and ambient conditions
up to -6 dB(A)
Base set SDG01 must be
ordered as accessory



Base set SDG01

6042 937

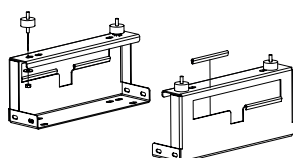
for sound attenuation housing SDG01
Overall height: 250 mm
Consisting of:
2 U-shaped brackets, coated
4 vibration dampers
Must be ordered as accessory
for use with sound
attenuation housing SDG01



Acoustic insulation housing SDG02

6040 357

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
for reducing the noise level
of the unit set up outdoors
Protects the unit against any
weather influences
Steel with aluminium zinc coating
Colour: grey (RAL 9006)
Dimensions (HxWxD): 1610x1200x900
Sound attenuation depending on
installation and ambient conditions
up to -6 dB(A)
Base set SDG02 must be
ordered as accessory



Base set SDG02

6042 938

for sound attenuation housing SDG02
Overall height: 190 mm
Consisting of:
2 U-shaped brackets, coated
4 vibration dampers
Must be ordered as accessory
for use with sound
attenuation housing SDG02

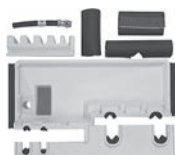
■ Part No.



Condensate drip tray KWD - SD housing
acoustig insulation housing for
Belaria® SRM (4-16), compact SRM (4-16)
and SHM (11-16)
for collection of the condensate
under the outdoor unit
in the acoustic insulation housing
SDG01 and SDG02
With drain port for hose connection
Without support heating strip

Part No.

6040 344



Insulation set (inside unit)
for Belaria® SRM (4-16)
Required to prevent the temperature
falling beneath the dewpoint in
cooling mode with flow temperatures
below +20 °C

6031 249



Fan convectors FWT-CT
to Belaria® SRM and compact SRM (4-16)
Blower convector for heating and cooling for
wall installation. Spreads warmth or cold if in-
stalled in a heating system with heat pump.
Sound power level min. - max.
= 36 - 59 dB(A) Dimensions
FWT-CT (2-4): 288 x 800 x 206 (H x W x D)
FWT-CT (5,6): 310 x 1065 x 224 (H x W x D)
Colour white
Weight
FWT-CT (2-4): 9 kg
FWT-CT (5,6): 14 kg

Type	Heat output t-VL 50 °C W	Cooling capacity t-VL 7 °C W	Flow rate l/h	
FWT-CT (2)	2900	2290	420l/h	6040 205
FWT-CT (3)	3140	2460	460l/h	6040 206
FWT-CT (4)	3960	3080	570l/h	6040 207
FWT-CT (5)	5420	4250	780l/h	6040 208
FWT-CT (6)	6450	4690	910l/h	6040 209

Suitable motorised switching or through
valves see brochure "Accessories".

The minimum flow rate of the Belaria® SRM,
compact SRM must be observed during the
process of dimensioning.

Remote control FWT-CT
must be ordered separately.

■ Part No.

Accessories

Part No.



Remote control - FWT-CT
for Fan Coil FWT-CT (2-6)
with radio transmission
Operating mode selection
Display of operating states
Configurable day program
Temperature setting

6040 359



In-wall installation box - fan convector
for fan convectors FWT-CT (2-6)
for simplified piping installation
Pipe inlet on top or on side
Condensate connection available
on bottom left or right
Outside diameter 16 mm
Consisting of:
in-wall installation box and cover panel
Cardboard cover to protect against
dirt build-up during installation
4 fixing screws
Material: plastic
Colour: white
Dimensions: 85 x 520 x 65 (H x W x D)

2067 872



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 DN32
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

6039 793



Connection set AS32-2/ HW
for compact mounting
of all required fittings
of a direct circuit and
hot water charging
Consisting of:
Fully assembled armature group
with 2 thermometer ball valves
Thermal insulation box made
of EPP half-shells
3-way motor valve 2-LR230A
included separately
Connection T-piece DN32
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

6039 794

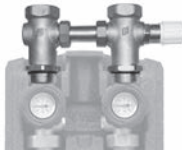
■ Part No.

Part No.



Bypass valve DN 25 (1")
for installation on a HA group DN 25
Pressure range 0.1 - 0.6 bar

6046 875



Bypass valve DN 32 (1 1/4")
for Belaria® SRM und compact SRM (11-16)
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

Overflow valves must close completely
under the set pressure.



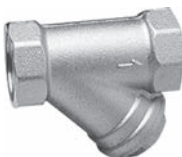
Sludge separator CS 25-1" with magnet
for flow rates of 1.0 - 2.0 m³/h
for flow speed of 1.0 m/s
Housing made of plastic PPA with
diffuser and partial flow removal
with 4 extra-strong Neodymium magnets
Magnets removable for draining
EPP insulation 20 mm
Connections made of brass G 1"
Drain made of brass: 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



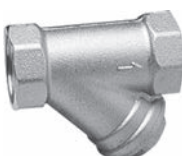
Sludge separator CS 32-1 1/4" with magnet
for flow rates of 2.0 - 3.0 m³/h
for flow speed of 1.0 m/s
Housing made of plastic PPA with
diffuser and partial flow removal
with 4 extra-strong Neodymium magnets
Magnets removable for draining
EPP insulation 20 mm
Connections made of brass G 1 1/4"
Drain made 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 PN16 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

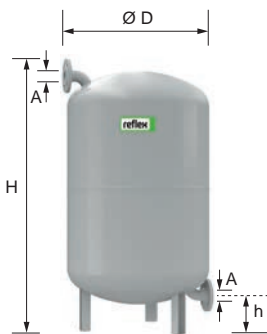
2046 978



Strainer PN16 B50-32-1 1/4"
Casing brass, PN 16
Connections Rp 1 1/4"
Operation temperature max.: 110 °C
Sieve made of stainless steel
Mesh size 0.5 mm

2046 980

■ Part No.



Part No.

Switching ball valve VBG60..
DN 15-50, PN 16, 120 °C

- Three-way ball valve made of brass with threaded connection
- incl. seals and screw connections

DN	Connection Valve	Fitting	kvs	Ḃ [m³/h] at ΔP 50 mbar
25	G 1½"	Rp 1"	13	2.91
32	G 2"	Rp 1¼"	25	5.59

6045 769
6045 770

Suitable motor drive		Control signal	Actuator run time
Type	Voltage		
GLB341.9E	230 V / 50/60 Hz	2-/3-point	150 s

2070 331

Circulation pumps, actuators, buffer storage tanks see separate brochures

Reflex V40
In-line vessel made of sheet steel,
Designed for operating overpressures up to 10 bar.

Reflex type	Ø D mm	H mm	h mm	A
V 40	409	562	113	R 1"

2057 249

Services

Commissioning

Commissioning by works service or Hoval trained authorised serviceman/company is condition for warranty.

For commissioning and other services please contact your Hoval sales office.

■ Technical data

Hoval Belaria® SRM (4-16)
Hoval Belaria® compact SRM (4-16)

Type		SRM (4)	SRM (6)	SRM (8)	SRM (11)	SRM (14)	SRM (16)
Performance data							
• Heat output A-7W35 ²	kW	4.60	5.43	6.40	8.80	11.70	12.10
• Output rating A-7W35 ²	COP	2.81	2.93	2.77	2.92	2.75	2.63
• Heat output A2W35 ²	kW	3.27	4.69	5.80	8.56	10.30	11.70
• Output rating A2W35 ²	COP	4.02	3.80	3.67	3.65	3.45	3.40
• Heat output A10W35 ²	kW	4.47	6.29	7.39	11.20	14.30	17.50
• Output rating A10W35 ²	COP	5.34	5.23	4.91	4.91	4.71	4.51
• Cooling capacity A35W18 ¹	kW	5.90	7.30	8.40	15.10	16.10	16.80
• Output rating A35W18 ¹	EER	3.16	3.20	2.92	3.39	3.01	2.77
• Cooling capacity A35W7 ¹	kW	4.50	5.50	6.40	11.70	12.60	13.10
• Output rating A35W7 ¹	EER	2.22	2.18	1.98	2.78	2.51	2.32
Dimensions							
• Outdoor unit H/W/D	mm	735/832/307			1345/900/320		
• Indoor unit H/W/D Belaria® SRM	mm	890/480/344					
• Indoor unit H/W/D Belaria® compact SRM	mm	1732/600/728					
Weights							
• Net weight of outdoor unit	kg	54	56	56	113	113	113
• Net weight of indoor unit Belaria® SRM	kg	44	48	48	48	48	48
• Net weight of indoor unit Belaria® compact SRM	kg	115	126	126	129	129	129
• Gross weight of outdoor unit	kg	57	59	59	128	128	128
• Gross weight of indoor unit Belaria® SRM	kg	47	51	51	51	51	51
• Gross weight of indoor unit Belaria® compact SRM	kg	128	140	140	142	142	142
• Compressor hermetically sealed, variable speed compressor							
• Refrigerant filling R 410A	kg	1.5	1.6	1.6	3.4	3.4	3.4
• Fan		axial, variable speed			2 x axial, variable speed		
• Evaporator		fins coated aluminium, tubes copper					
• Condenser type		Copper-soldered stainless steel plate heat exchanger					
• Condenser water content	litres	0.9	1.3	1.3	1.0	1.0	1.0
• Pipe connection flow/return	R	11/4"	11/4"	11/4"	11/4"	11/4"	11/4"
• Max. volume flow	m³/h	1.5	2.0	2.0	3.1	3.1	3.1
• Min. volume flow	m³/h	0.7	0.7	0.7	0.9	0.9	0.9
• Max. operat. press. on the heating side	bar	3.0	3.0	3.0	3.0	3.0	3.0
• Expansion tank volume	litres	10	10	10	10	10	10
• Total water content Belaria® SRM	litres	3	5	5	5	5	5
• Total water content Belaria® compact SRM	litres	4.4	5.8	5.8	5.5	5.5	5.5
• Calorifier / Belaria® compact SRM	litres	180	260	260	260	260	260
• Max. hot water temperature ³	°C	65	65	65	65	65	65
• Operating pressure/test pressure	bar	8/13	8/13	8/13	8/13	8/13	8/13
• Calorifier material		Stainless steel (EN 1.4521)					
• Thermal insulation material		EPS					
• Standby losses (EN 12897)	kWh/24 h	1.4	1.9	1.9	1.9	1.9	1.9
Connection, refrigerant line							
• Dimension of liquid line	Inches/mm	1/4 / 6.4	1/4 / 6.4	1/4 / 6.4	3/8 / 9.5	3/8 / 9.5	3/8 / 9.5
• Dimension of gas pipe	Inches/mm	5/8 / 15.9	5/8 / 15.9	5/8 / 15.9	5/8 / 15.9	5/8 / 15.9	5/8 / 15.9
• Max. length of refrigerant line	m	30	30	30	30	30	30
• Min. length of refrigerant line	m	3	3	3	3	3	3
• Max. height differ. outside/indoor unit		20	20	20	30	30	30
• See diagrams for areas of application for heating, hot water and cooling.							
Electrical data							
• Max. power consumption during heating operation							
• Heat pump	kW	2.4	2.6	3.3	4.8	6.2	7.1
• Emergency heating	kW	3	2 stage 3/9	2 stage 3/9	2 stage 3/9	2 stage 3/9	2 stage 3/9
Voltage							
• Compressor	V	230	230	230	3 x 400	3 x 400	3 x 400
• Fan	V	230	230	230	230	230	230
• Emergency heating	V	230		3 kW and 9 kW	3 x 400 volts		
• Frequency	Hz	50	50	50	50	50	50
• Voltage range		+/- 10 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 10 %
Operating current max.							
• Compressor	A	15	15	15	16	16	16
• Starting current	A	11	11	11	8	8	8
• Fuse	A	16T	16T	16T	16T	16T	16T

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

¹ Cooling capacity and EER at nominal load (EN 14511)

² Heat output and COP at nominal load (EN 14511)

³ with electric supplemental heating

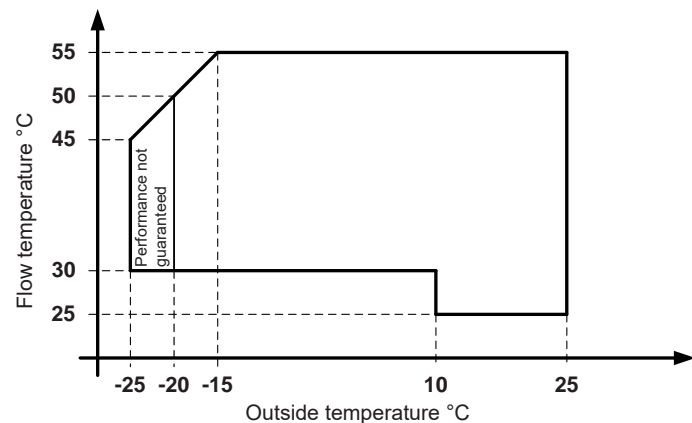
■ Technical data

Diagrams of areas of application

Heating

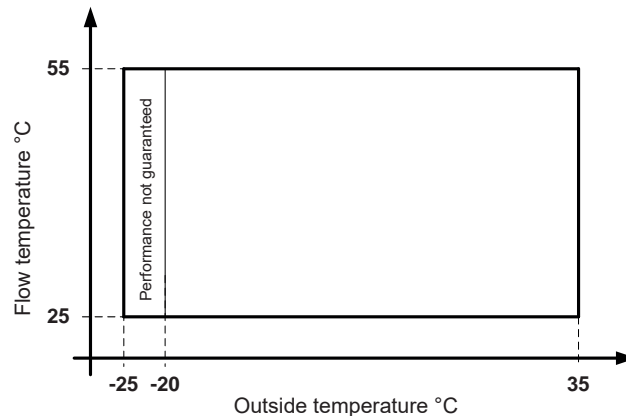
Belaria® SRM (4-8)

Belaria® compact SRM (4-8)



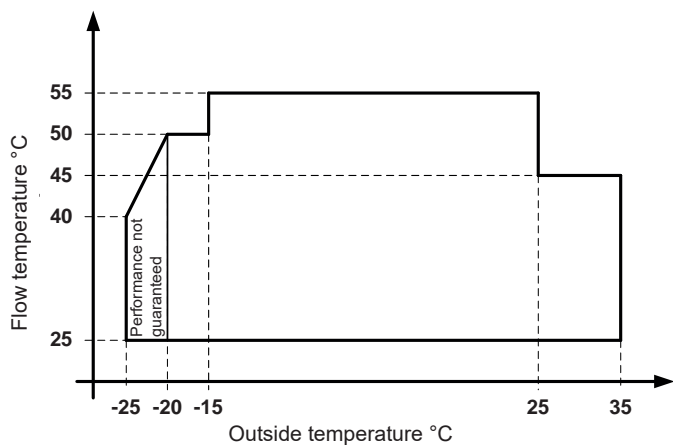
Belaria® SRM (11-16)

Belaria® compact SRM (11-16)

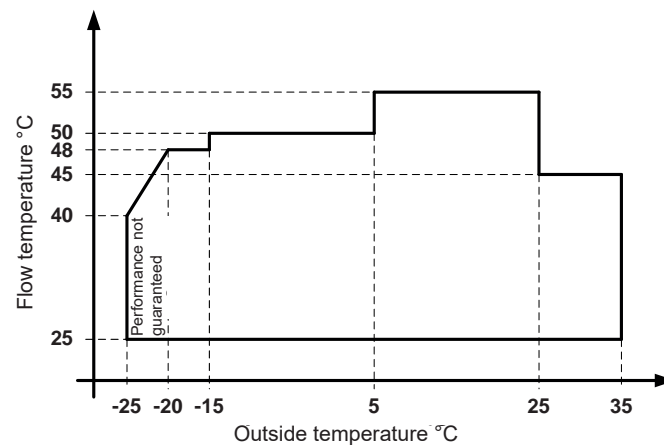


Hot water

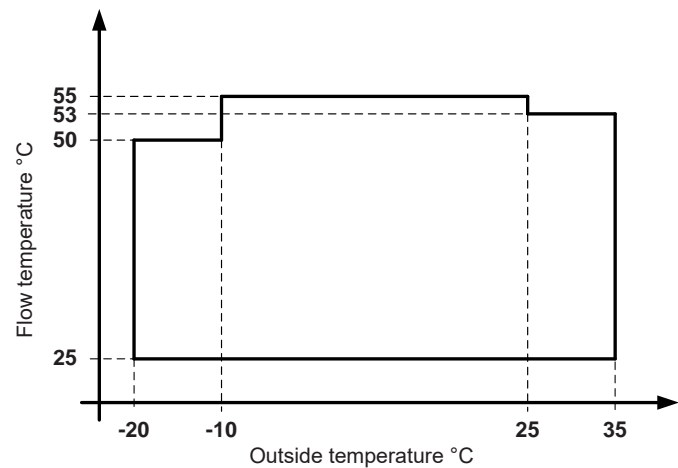
Belaria® SRM (4)



Belaria® SRM (6-8)

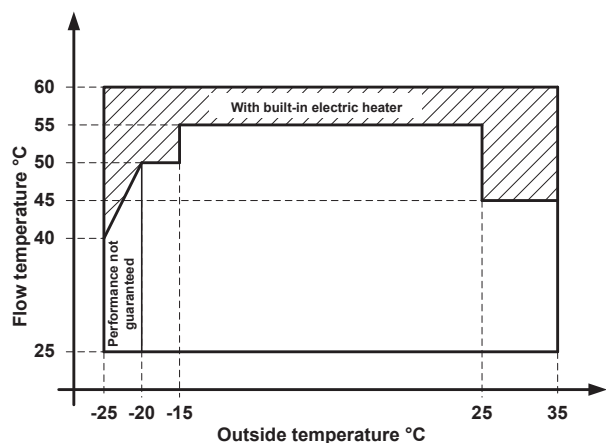


Belaria® SRM (11-16)

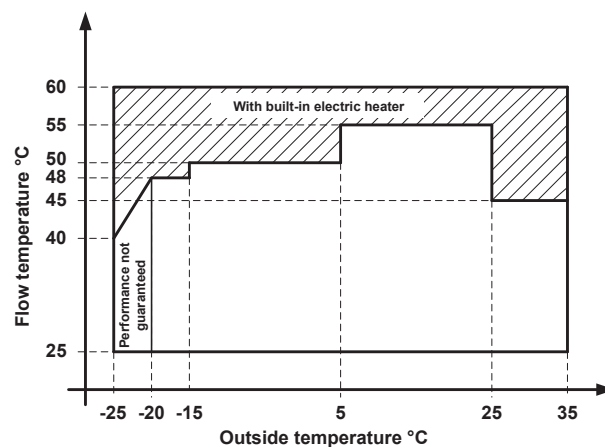


■ Technical data

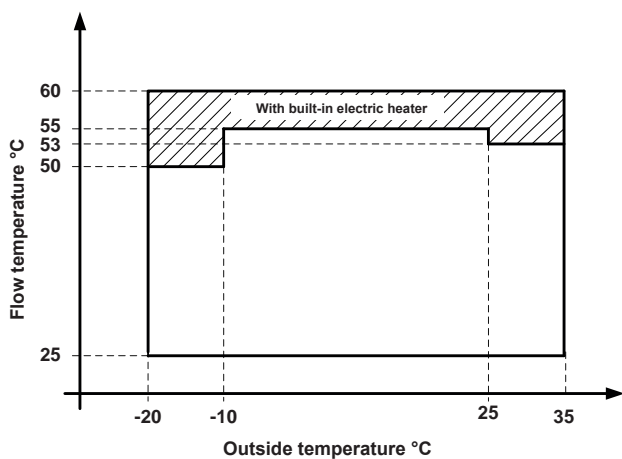
Belaria® compact SRM (4)



Belaria® compact SRM (6-8)

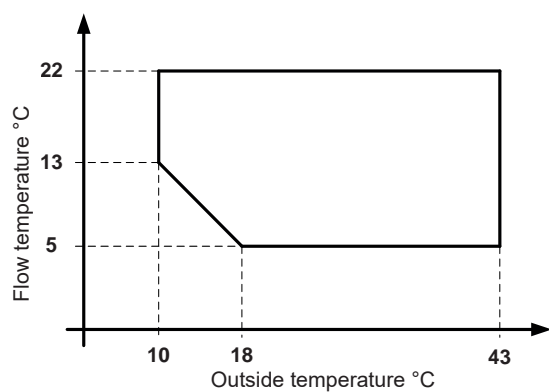


Belaria® compact SRM (11-16)

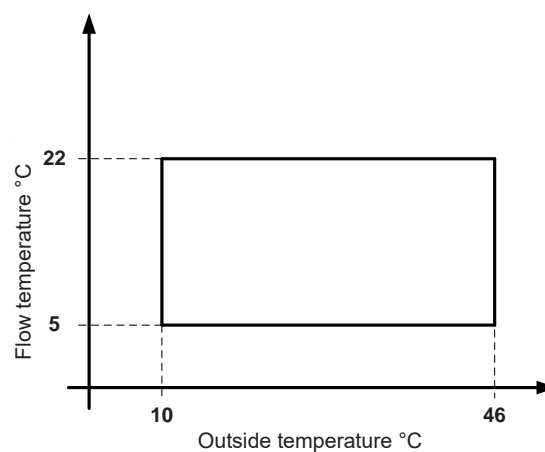


Cooling

Belaria® SRM (4-8)
Belaria® compact SRM (4-8)



Belaria® SRM (11-16)
Belaria® compact SRM (11-16)



■ Technical data

Hoval Belaria® SRM

Hoval Belaria® compact SRM

• Sound pressure level - sound power level³

The sound pressure levels indicated below apply if the outdoor unit is placed at a building facade. These values are reduced by 3 dB if the outdoor unit is free-standing. With installation in a corner, the sound pressure level increases by 3 dB.

The **sound pressure level** is dependent on the **place of measurement** within a sound field and describes the sound intensity at this point. In contrast, the **sound power level** is a characteristic of the **sound source** and therefore does not change with distance; it describes the totality of sound power of the relevant source radiated in all directions.

Structure-borne sound

The indoor unit must be attached to the wall with a sound insulation dowel with collar. The bases and consoles for the outdoor unit must be erected/installed with vibration-damping against the structural shell.

Belaria® SRM		(4)	(6)	(8)	(11)	(14)	(16)
<i>Outdoor unit</i>							
• Sound power level in heating operation ^{2,3}	dB(A)	57	58	58	58	58	60
• Sound pressure level in heating operation at 5 m ^{1,2,3}	dB(A)	38	39	39	39	39	41
• Sound pressure level in heating operation at 10 m ^{1,2,3}	dB(A)	32	33	33	33	33	35
<i>Indoor unit</i>							
• Sound pressure level at 1 m	dB(A)	28	28	28	33	33	33

¹ The sound pressure levels indicated apply if the outdoor unit is placed at a building facade. These values are reduced by 3 dB if the outdoor unit is free-standing. With installation in a corner, the sound pressure level increases by 3 dB.

² The sound levels apply in whisper mode. The values are increased at full load by + 4 dB(A) for Belaria® SRM (4-8) and by 6 dB(A) for the Belaria® SRM (11-16).

³ The sound values apply with a clean evaporator. These values are temporarily exceeded before defrosting.

Pressure expansion tank

The indoor unit is equipped with an expansion tank (flat shape) with a volume of 10 l, pre-pressure 1 bar

		Factory setting						
Pre-pressure ¹	bar	0.5	0.8	1.0	1.2	1.5	1.8	2.1
Capacity	l	5.5	4.5	4.0	3.5	2.5	2.0	0.7
Maximum possible system height Hp ²	m	2	5	7	9	12	15	18

¹ Pre-pressure = system height + 0.3 bar. The pre-pressure should be adjusted to the system height.

² System pressure Hp = hydrostatic pressure of the system, i.e. height from the centre of the tank to the highest air-bleeding point of the system.

$$V_n = V_A \times f \times X \text{ (litres)}$$

V_n = expansion volume (litres)

V_A = system content at + 10 °C

f = thermal expansion factor (45°), $f = 0.01$

X = add-on factor, $X = 3$

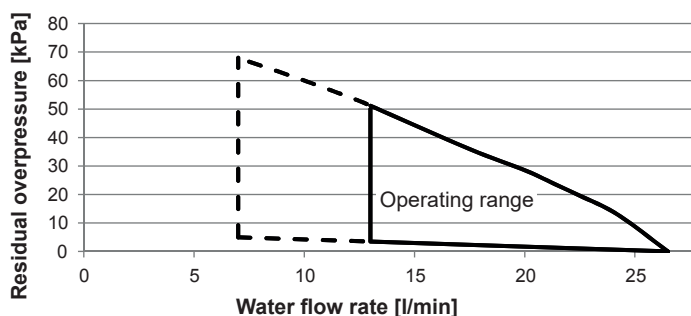
	System	V_A	V_n
System content (underfloor heating system)	5 kW	120 l	3.6 l expansion quantity
	6 kW	140 l	4.2 l expansion quantity
	7 kW	160 l	4.8 l expansion quantity
	8 kW	180 l	5.4 l expansion quantity
	9 kW	200 l	6.0 l expansion quantity

If the capacity of the installed expansion tank is not sufficient, an additional tank must be installed outside the unit.

■ Technical data

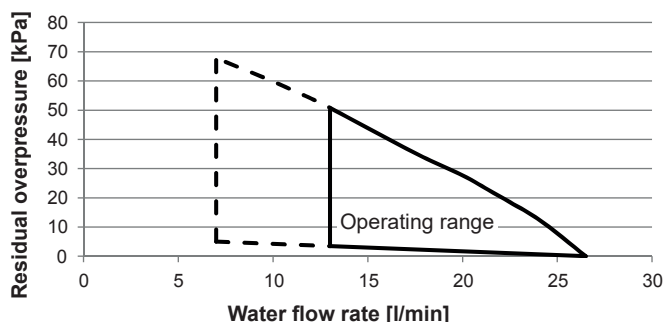
Pump characteristic curves Belaria® SRM (4-16)

Belaria® SRM (4)

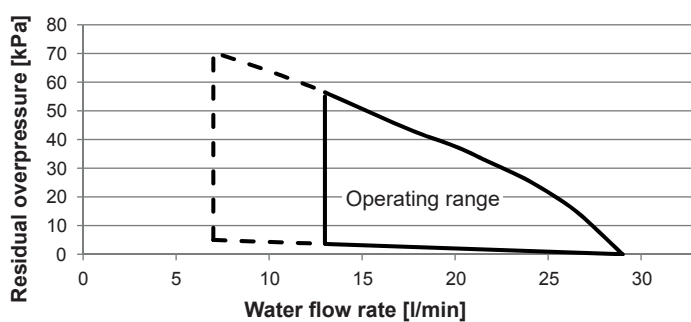


Pump characteristic curves Belaria® compact SRM (4-16)

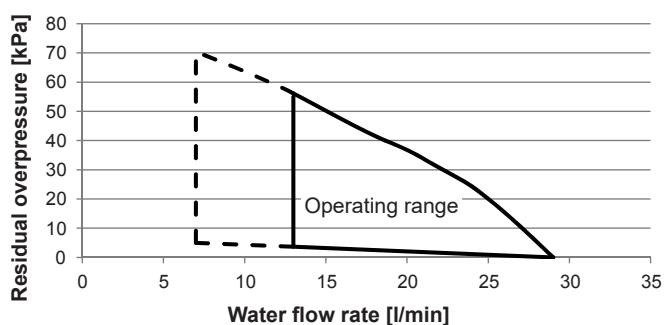
Belaria® compact SRM (4)



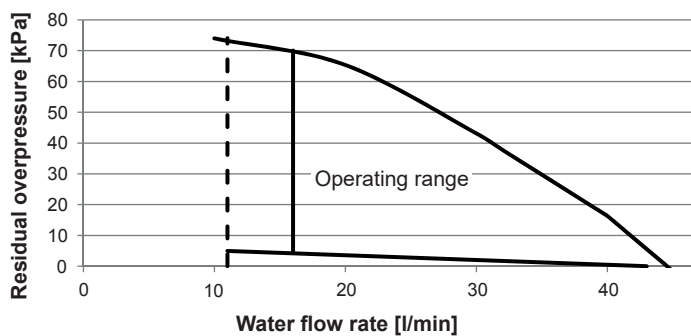
Belaria® SRM (6,8)



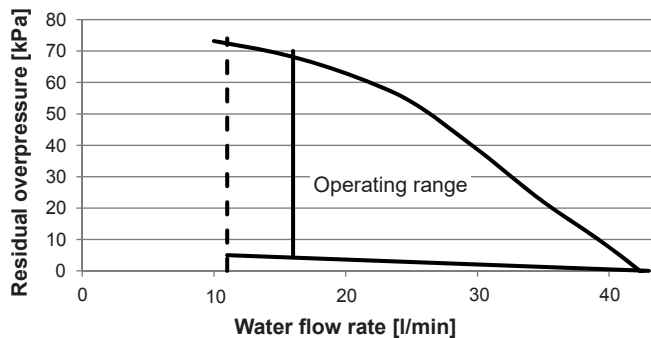
Belaria® compact SRM (6,8)



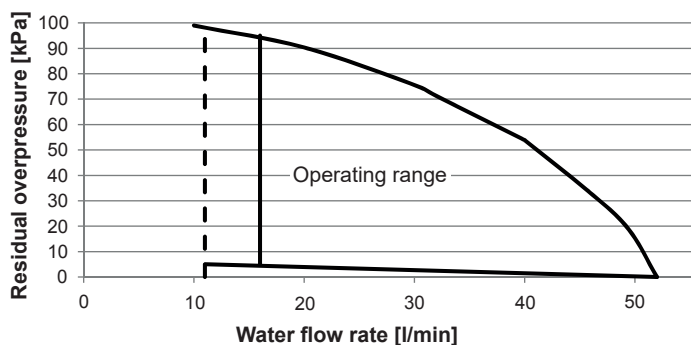
Belaria® SRM (11)



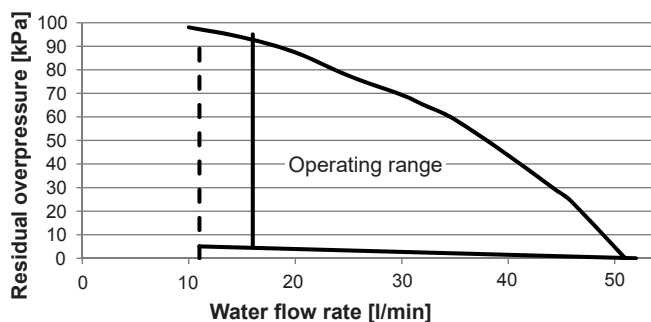
Belaria® compact SRM (11)



Belaria® SRM (14,16)



Belaria® compact SRM (14,16)



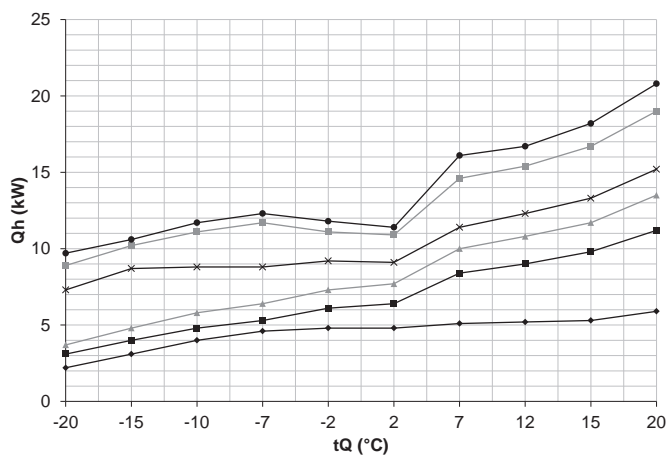
■ Technical data

Performance data - heating

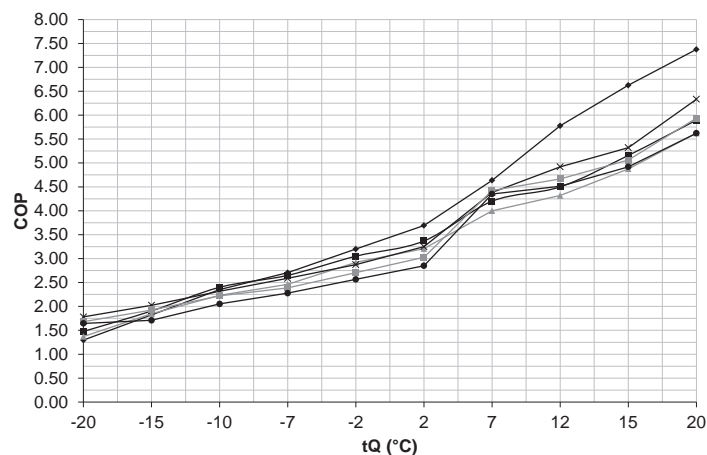
Maximum heat output allowing for defrosting losses

Hoval Belaria® SRM (4-16), Belaria® compact SRM (4-16)

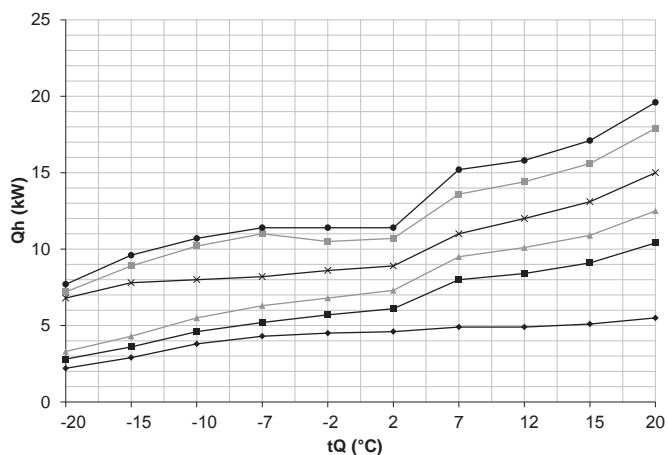
Heat output - t_{VL} 35 °C



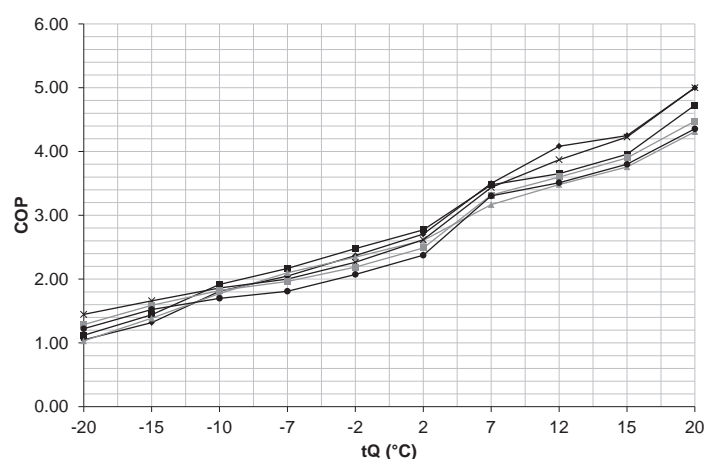
Output rating - t_{VL} 35 °C



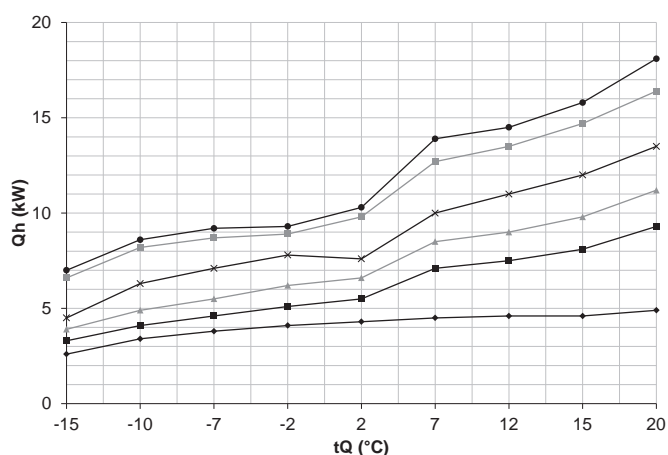
Heat output - t_{VL} 45 °C



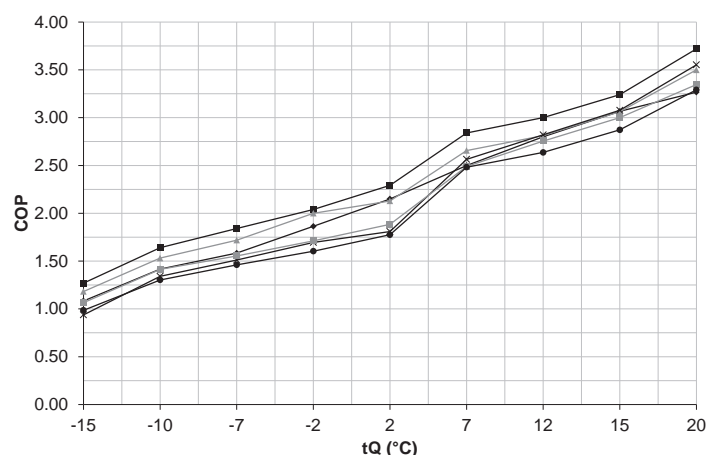
Output rating - t_{VL} 45 °C



Heat output - t_{VL} 55 °C



Output rating - t_{VL} 55 °C



t_{VL} = heating flow temperature (°C)

t_Q = source temperature (°C)

Q_h = heat output at full load (kW), measured in accordance with standard EN 14511

COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

- ◆ Belaria® SRM (4)
- Belaria® SRM (6)
- ▲ Belaria® SRM (8)
- × Belaria® SRM (11)
- Belaria® SRM (14)
- Belaria® SRM (16)

■ Technical data

Performance data - heating

Hoval Belaria® SRM (4-16), Belaria® compact SRM (4-16)

Indications acc. to EN14511

Type	tQ	Qh	(4)		Qh	(6)		Qh	(8)		Qh	(11)		Qh	(14)		Qh	(16)	
tVL	°C	kW	P	COP	kW	P	COP	kW	P	COP	kW	P	COP	kW	P	COP	kW	P	COP
°C	°C		kW			kW			kW			kW			kW			kW	
30	-20	2.3	1.5	1.48	3.2	1.9	1.67	3.8	2.4	1.57	7.3	3.7	1.98	9.0	4.9	1.82	9.6	5.6	1.71
	-15	3.3	1.5	2.16	4.1	1.9	2.22	5.0	2.4	2.08	8.8	3.9	2.25	10.3	5.0	2.08	10.6	5.8	1.84
	-10	4.2	1.5	2.73	5.0	1.8	2.72	6.0	2.3	2.55	9.0	3.4	2.63	11.3	4.7	2.44	11.8	5.3	2.25
	-7	4.7	1.5	3.07	5.5	1.8	3.03	6.6	2.3	2.84	9.1	3.1	2.91	11.9	4.5	2.68	12.6	5.0	2.53
	-2	4.8	1.4	3.56	6.2	1.8	3.44	7.4	2.3	3.24	9.6	2.9	3.29	11.4	3.7	3.06	12.1	4.2	2.86
	2	4.9	1.2	4.12	6.6	1.8	3.74	7.9	2.3	3.51	9.5	2.6	3.71	11.2	3.3	3.46	11.7	3.7	3.21
	7	5.3	1.0	5.30	8.5	1.8	4.61	10.2	2.4	4.33	11.9	2.3	5.21	15.1	3.1	4.92	16.6	3.5	4.81
	12	5.3	0.8	6.87	9.2	1.8	5.05	11.0	2.3	4.76	12.9	2.2	5.82	16.0	3.0	5.38	17.3	3.4	5.16
	15	5.5	0.8	7.20	10.0	1.8	5.60	12.0	2.3	5.28	14.0	2.2	6.36	17.3	3.0	5.85	18.8	3.4	5.60
	20	6.0	0.7	8.14	11.5	1.8	6.54	13.8	2.3	6.14	15.9	2.1	7.43	19.8	2.9	6.75	21.5	3.3	6.43
35	-20	2.2	1.7	1.29	3.1	2.1	1.47	3.7	2.7	1.38	7.3	4.1	1.80	8.9	5.3	1.70	9.7	5.9	1.64
	-15	3.1	1.7	1.80	4.0	2.1	1.94	4.8	2.6	1.82	8.7	4.3	2.03	10.2	5.3	1.91	10.6	6.2	1.71
	-10	4.0	1.7	2.36	4.8	2.0	2.37	5.8	2.6	2.23	8.8	3.8	2.34	11.1	5.0	2.20	11.7	5.7	2.04
	-7	4.6	1.7	2.81	5.3	2.0	2.64	6.4	2.6	2.48	8.8	3.4	2.57	11.7	4.9	2.40	12.3	5.4	2.28
	-2	4.8	1.5	3.13	6.1	2.0	3.10	7.3	2.5	2.92	9.2	3.2	2.88	11.1	4.1	2.72	11.8	4.6	2.55
	2	4.8	1.3	3.59	6.4	1.9	3.37	7.7	2.4	3.17	9.1	2.8	3.20	10.9	3.6	3.05	11.4	4.0	2.85
	7	5.1	1.1	4.57	8.4	2.0	4.20	10.0	2.5	3.94	11.4	2.6	4.46	14.6	3.3	4.36	16.1	3.7	4.30
	12	5.2	0.9	6.05	9.0	2.0	4.60	10.8	2.5	4.32	12.3	2.5	4.98	15.4	3.3	4.70	16.7	3.7	4.54
	15	5.3	0.8	6.53	9.8	1.9	5.12	11.7	2.4	4.80	13.3	2.5	5.44	16.7	3.3	5.11	18.2	3.7	4.92
	20	5.9	0.8	7.22	11.2	1.9	5.99	13.5	2.4	5.66	15.2	2.4	6.33	19.0	3.2	5.88	20.8	3.7	5.64
40	-20	2.2	1.9	1.15	2.9	2.4	1.24	3.5	3.0	1.16	7.3	4.5	1.63	8.8	5.6	1.57	9.6	6.3	1.52
	-15	3.2	1.9	1.67	3.8	2.3	1.64	4.5	2.9	1.54	8.5	4.7	1.82	9.7	5.6	1.75	9.9	6.2	1.59
	-10	4.0	1.9	2.12	4.7	2.3	2.10	5.7	2.9	1.98	8.5	4.1	2.07	10.8	5.4	1.99	11.2	6.0	1.87
	-7	4.5	1.9	2.40	5.3	2.2	2.38	6.4	2.8	2.24	8.5	3.8	2.26	11.4	5.3	2.14	12.0	5.9	2.05
	-2	4.6	1.7	2.71	6.0	2.1	2.82	7.3	2.7	2.66	8.8	3.5	2.51	10.8	4.5	2.41	11.5	5.1	2.27
	2	4.7	1.5	3.05	6.2	2.1	3.00	7.4	2.6	2.83	8.6	3.1	2.75	10.5	3.9	2.69	11.1	4.4	2.52
	7	5.0	1.3	3.82	8.2	2.2	3.80	9.8	2.7	3.58	11.2	2.8	3.95	13.9	3.7	3.74	15.5	4.2	3.71
	12	5.1	1.0	5.00	8.7	2.1	4.14	10.5	2.7	3.88	12.2	2.8	4.42	14.7	3.6	4.07	16.1	4.1	3.97
	15	5.2	1.0	5.27	9.5	2.1	4.55	11.4	2.7	4.27	13.2	2.7	4.83	16.0	3.6	4.43	17.5	4.1	4.30
	20	5.7	1.0	5.97	10.9	2.1	5.29	13.0	2.6	4.97	15.1	2.7	5.60	18.3	3.6	5.10	20.0	4.1	4.94
45	-20	2.2	2.1	1.01	2.8	2.5	1.10	3.3	3.2	1.03	6.8	4.7	1.44	7.2	5.6	1.28	7.7	6.3	1.22
	-15	2.9	2.2	1.36	3.6	2.5	1.47	4.3	3.1	1.39	7.8	4.7	1.67	8.9	5.6	1.60	9.6	6.3	1.53
	-10	3.8	2.1	1.81	4.6	2.4	1.91	5.5	3.1	1.80	8.0	4.3	1.87	10.2	5.6	1.83	10.7	6.3	1.71
	-7	4.3	2.1	2.10	5.2	2.4	2.19	6.3	3.0	2.06	8.2	4.1	2.01	11.0	5.6	1.97	11.4	6.3	1.82
	-2	4.5	1.9	2.41	5.7	2.3	2.50	6.8	2.9	2.34	8.6	3.8	2.25	10.5	4.8	2.17	11.4	5.5	2.06
	2	4.6	1.7	2.71	6.1	2.2	2.77	7.3	2.8	2.61	8.9	3.4	2.58	10.7	4.3	2.45	11.4	4.8	2.39
	7	4.9	1.4	3.40	8.0	2.3	3.43	9.5	3.0	3.22	11.0	3.2	3.48	13.6	4.1	3.29	15.2	4.6	3.29
	12	4.9	1.2	4.06	8.4	2.3	3.66	10.1	2.9	3.44	12.0	3.1	3.89	14.4	4.0	3.59	15.8	4.5	3.51
	15	5.1	1.2	4.22	9.1	2.3	4.03	10.9	2.9	3.78	13.1	3.1	4.24	15.6	4.0	3.90	17.1	4.5	3.81
	20	5.5	1.1	4.88	10.4	2.2	4.66	12.5	2.9	4.39	15.0	3.0	4.93	17.9	4.0	4.48	19.6	4.5	4.35
50	-20	2.1	2.3	0.89	2.7	2.6	1.05	3.3	3.2	1.02	-	-	-	-	-	-	-	-	-
	-15	2.9	2.3	1.22	3.5	2.5	1.40	4.2	3.2	1.32	6.9	4.7	1.47	8.2	5.6	1.47	8.8	6.3	1.40
	-10	3.6	2.3	1.57	4.5	2.5	1.80	5.3	3.2	1.69	7.6	4.6	1.64	9.2	5.6	1.65	9.7	6.3	1.55
	-7	4.1	2.3	1.78	5.0	2.5	2.04	6.0	3.1	1.91	8.0	4.6	1.74	9.8	5.6	1.75	10.3	6.3	1.63
	-2	4.3	2.1	2.03	5.6	2.4	2.35	6.7	3.0	2.22	8.6	4.3	2.00	10.2	5.2	1.95	10.4	5.8	1.81
	2	4.4	1.9	2.29	6.0	2.3	2.61	7.2	2.9	2.45	8.4	3.8	2.21	10.3	4.7	2.19	11.0	5.4	2.04
	7	4.7	1.7	2.83	7.5	2.4	3.14	9.0	3.1	2.94	10.7	3.5	3.03	13.4	4.6	2.93	14.5	5.1	2.86
	12	4.7	1.5	3.22	8.0	2.4	3.35	9.6	3.1	3.15	11.7	3.5	3.38	14.2	4.4	3.19	15.1	5.0	3.05
	15	4.8	1.4	3.47	8.7	2.4	3.65	10.4	3.0	3.43	12.7	3.5	3.69	15.4	4.5	3.46	16.4	5.0	3.31
	20	5.2	1.3	3.92	9.9	2.4	4.19	11.9	3.0	3.94	14.2	3.4	4.16	17.2	4.4	3.87	18.8	5.0	3.78
55	-15	2.6	2.4	1.08	3.3	2.6	1.28	3.9	3.3	1.20	4.5	4.8	0.94	6.6	6.2	1.06	7.0	7.1	0.98
	-10	3.4	2.4	1.39	4.1	2.5	1.61	4.9	3.2	1.52	6.3	4.7	1.34	8.2	5.8	1.41	8.6	6.6	1.31
	-7	3.8	2.4	1.58	4.6	2.5	1.82	5.5	3.2	1.71	7.1	4.7	1.52	8.7	5.6	1.56	9.2	6.3	1.46
	-2	4.1	2.2	1.85	5.1	2.5	2.09	6.2	3.1	1.96	7.8	4.6	1.70	8.9	5.2	1.70	9.3	5.8	1.62
	2	4.3	2.0	2.11	5.5	2.4	2.29	6.6	3.1	2.15	7.6	4.2	1.81	9.8	5.2	1.90	10.3	5.8	1.78
	7	4.5	1.8	2.58	7.1	2.5	2.85	8.5	3.2	2.69	10.0	3.9	2.54	12.7	5.1	2.52	13.9	5.6	2.48
	12	4.6	1.5	3.01	7.5	2.5	3.04	9.0	3.2	2.87	11.0	3.9	2.84	13.5	4.9	2.75	14.5	5.5	2.64
	15	4.6	1.5	3.13	8.1	2.5	3.30	9.8	3.2	3.10	12.0	3.9	3.11	14.7	4.9	2.99	15.8	5.5	2.86
	20	4.9	1.5	3.37	9.3	2.5	3.77	11.2	3.2	3.55	13.5	3.8	3.51	16.4	4.9	3.33	18.1	5.5	3.27

tVL = heating flow temperature (°C)

tQ = source temperature (°C)

Qh = heat output at full load (kW), measured in accordance with standard EN 14511

P = power consumption of the overall unit (kW)

incl. high-efficiency pump, measured in accordance with EN 14511

COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

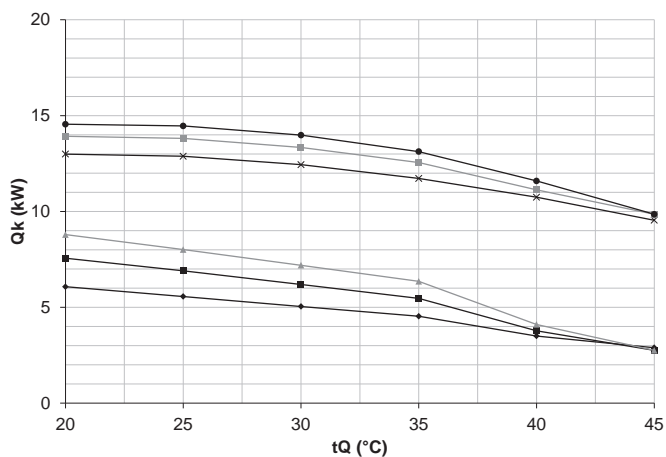
■ Technical data

Performance data - cooling

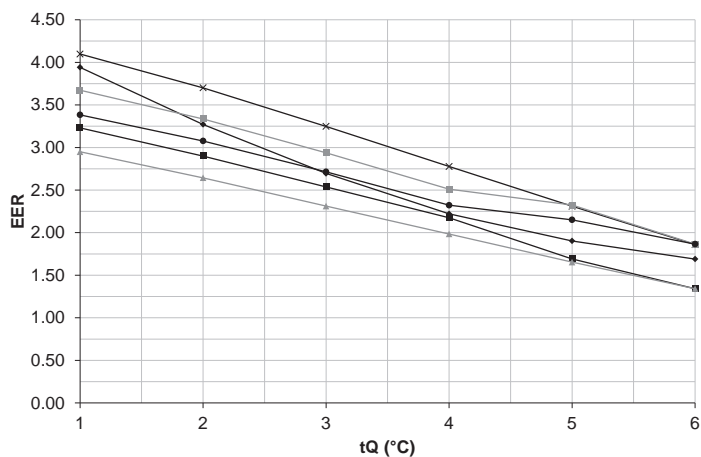
Maximum cooling capacity

Hoval Belaria® SRM (4-16), Belaria® compact SRM (4-16)

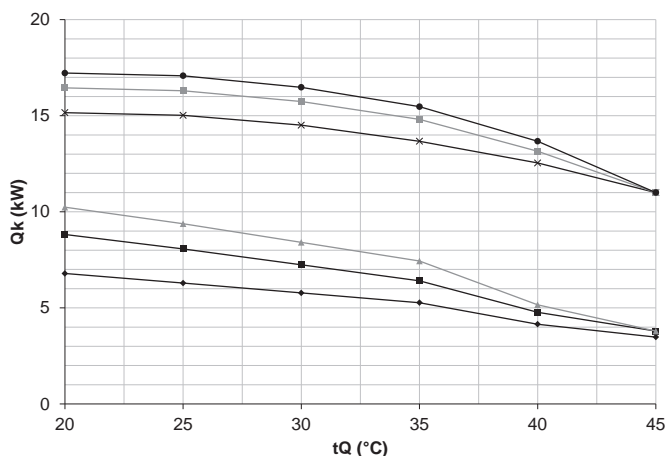
Cooling capacity - $t_{VL} 7\text{ °C}$



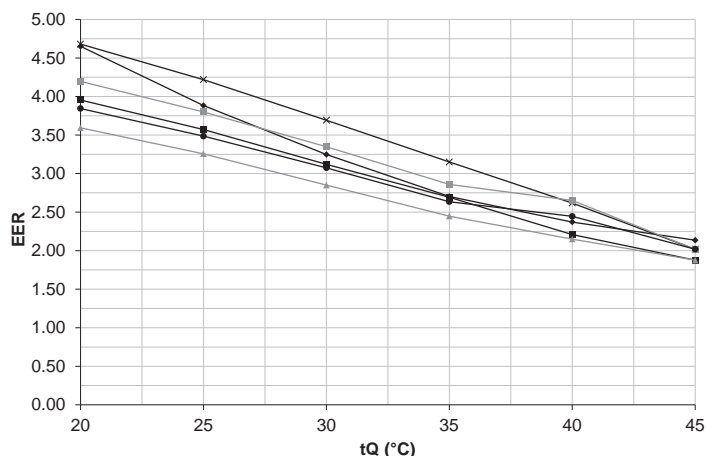
Output rating - $t_{VL} 7\text{ °C}$



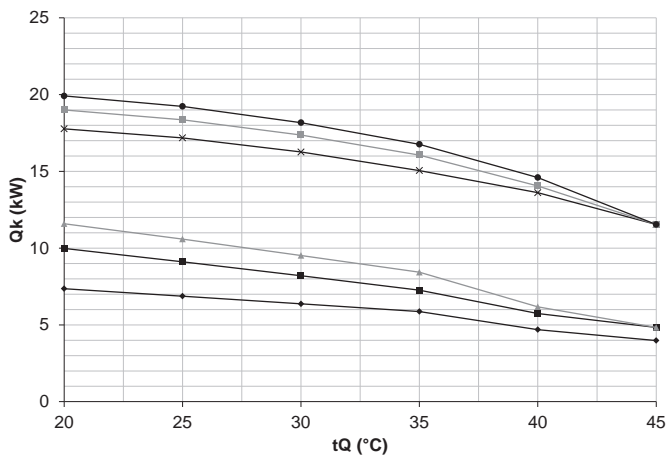
Cooling capacity - $t_{VL} 13\text{ °C}$



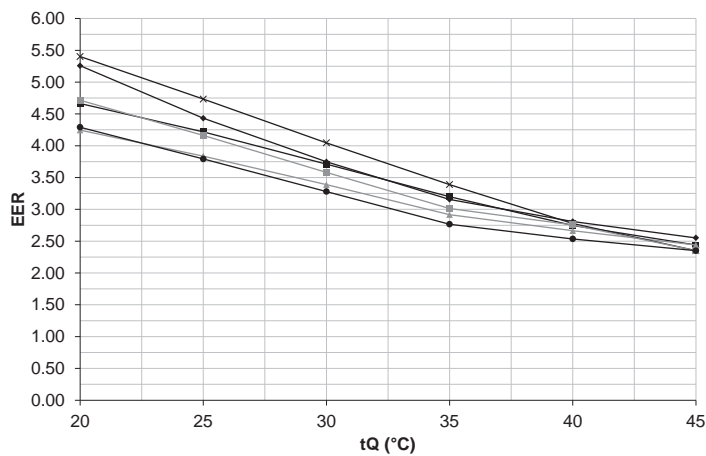
Output rating - $t_{VL} 13\text{ °C}$



Cooling capacity - $t_{VL} 18\text{ °C}$



Output rating - $t_{VL} 18\text{ °C}$



t_{VL} = cooling water flow temperature (°C)

tQ = source temperature (°C)

Q_k = cooling capacity at full load (kW), measured in accordance with standard EN 14511

EER = Energy Efficiency Rate for the overall unit in accordance with standard EN 14511

- ◆ Belaria® SRM (4)
- Belaria® SRM (6)
- ▲ Belaria® SRM (8)
- × Belaria® SRM (11)
- Belaria® SRM (14)
- Belaria® SRM (16)

■ Technical data

Performance data - cooling

Hoval Belaria® SRM (4-16), Belaria® compact SRM (4-16)

Indications acc. to EN14511

Type	tQ	Qk	(4) P	EER	Qk	(6) P	EER	Qk	(8) P	EER	Qk	(11) P	EER	Qk	(14) P	EER	Qk	(16) P	EER
tVL	°C	kW	kW		kW	kW		kW	kW		kW	kW		kW	kW		kW	kW	
7	20	6.1	1.5	3.94	7.6	2.3	3.23	8.8	3.0	2.95	13.0	3.2	4.10	13.9	3.8	3.67	14.6	4.3	3.38
	25	5.6	1.7	3.27	6.9	2.4	2.90	8.0	3.0	2.64	12.9	3.5	3.70	13.8	4.1	3.34	14.5	4.7	3.08
	30	5.0	1.9	2.70	6.2	2.4	2.54	7.2	3.1	2.31	12.4	3.8	3.25	13.3	4.5	2.94	14.0	5.2	2.71
	35	4.5	2.0	2.22	5.5	2.5	2.18	6.4	3.2	1.98	11.7	4.2	2.78	12.6	5.0	2.51	13.1	5.7	2.32
	40	3.5	1.8	1.90	3.8	2.2	1.69	4.1	2.5	1.65	10.7	4.7	2.31	11.1	4.8	2.32	11.6	5.4	2.15
	45	2.9	1.7	1.69	2.8	2.1	1.34	2.8	2.1	1.34	9.5	5.1	1.86	9.9	5.3	1.87	9.9	5.3	1.87
10	20	6.5	1.5	4.30	8.2	2.3	3.57	9.5	2.9	3.26	13.8	3.2	4.31	14.9	3.9	3.88	15.7	4.4	3.57
	25	5.9	1.7	3.58	7.5	2.3	3.22	8.7	3.0	2.93	13.7	3.5	3.88	14.9	4.2	3.53	15.6	4.8	3.24
	30	5.4	1.8	2.96	6.7	2.4	2.82	7.8	3.0	2.57	13.2	3.9	3.40	14.3	4.6	3.10	15.0	5.3	2.86
	35	4.9	2.0	2.46	5.9	2.5	2.42	6.9	3.1	2.21	12.4	4.3	2.91	13.5	5.1	2.65	14.1	5.8	2.45
	40	3.8	1.8	2.13	4.3	2.2	1.94	4.6	2.4	1.89	11.4	4.7	2.42	12.0	4.9	2.46	12.5	5.5	2.27
	45	3.2	1.7	1.90	3.2	2.0	1.59	3.2	2.0	1.59	10.1	5.2	1.95	10.6	5.4	1.98	10.6	5.4	1.98
13	20	6.8	1.5	4.65	8.8	2.2	3.96	10.2	2.9	3.59	15.2	3.2	4.68	16.5	3.9	4.20	17.2	4.5	3.84
	25	6.3	1.6	3.88	8.1	2.3	3.57	9.4	2.9	3.26	15.0	3.6	4.22	16.3	4.3	3.80	17.1	4.9	3.49
	30	5.8	1.8	3.25	7.2	2.3	3.12	8.4	3.0	2.85	14.5	3.9	3.69	15.7	4.7	3.35	16.5	5.4	3.07
	35	5.3	2.0	2.70	6.4	2.4	2.69	7.4	3.0	2.45	13.7	4.3	3.15	14.8	5.2	2.86	15.5	5.9	2.64
	40	4.2	1.8	2.37	4.8	2.2	2.21	5.2	2.4	2.15	12.5	4.8	2.62	13.2	5.0	2.65	13.7	5.6	2.45
	45	3.5	1.6	2.13	3.8	2.0	1.88	3.8	2.0	1.88	11.0	5.5	2.02	11.0	5.5	2.02	11.0	5.5	2.02
15	20	7.0	1.4	4.87	9.3	2.2	4.20	10.8	2.8	3.84	16.1	3.3	4.94	17.5	4.0	4.41	18.3	4.5	4.03
	25	6.5	1.6	4.10	8.5	2.2	3.82	9.9	2.8	3.48	16.0	3.6	4.44	17.3	4.3	3.99	18.1	5.0	3.65
	30	6.0	1.8	3.43	7.6	2.3	3.35	8.8	2.9	3.05	15.4	4.0	3.89	16.7	4.8	3.51	17.5	5.4	3.22
	35	5.5	1.9	2.88	6.7	2.3	2.88	7.8	3.0	2.63	14.5	4.4	3.32	15.7	5.2	3.00	16.4	6.0	2.76
	40	4.4	1.7	2.53	5.1	2.1	2.41	5.6	2.4	2.34	13.3	4.8	2.76	14.0	5.0	2.78	14.5	5.7	2.57
	45	3.7	1.6	2.29	4.2	2.0	2.09	4.2	2.0	2.09	11.4	5.3	2.14	11.4	5.3	2.14	11.4	5.3	2.14
18	20	7.4	1.4	5.26	10.0	2.1	4.66	11.6	2.7	4.25	17.8	3.3	5.40	19.0	4.0	4.71	19.9	4.6	4.29
	25	6.9	1.6	4.43	9.1	2.2	4.22	10.6	2.8	3.84	17.2	3.6	4.73	18.4	4.4	4.16	19.2	5.1	3.79
	30	6.4	1.7	3.75	8.2	2.2	3.71	9.5	2.8	3.39	16.3	4.0	4.04	17.4	4.9	3.58	18.2	5.5	3.28
	35	5.9	1.9	3.16	7.3	2.3	3.20	8.4	2.9	2.92	15.1	4.4	3.39	16.1	5.3	3.01	16.8	6.1	2.77
	40	4.7	1.7	2.81	5.7	2.1	2.75	6.2	2.3	2.66	13.6	4.9	2.78	14.1	5.1	2.75	14.6	5.8	2.53
	45	4.0	1.6	2.55	4.8	2.0	2.44	4.8	2.0	2.44	11.5	4.9	2.35	11.5	4.9	2.35	11.5	4.9	2.35
22	20	8.0	1.3	5.96	11.0	2.1	5.32	12.8	2.6	4.85	19.8	3.3	5.93	21.2	4.1	5.14	22.2	4.8	4.65
	25	7.5	1.5	5.05	10.1	2.1	4.87	11.8	2.7	4.44	19.2	3.7	5.20	20.5	4.5	4.52	21.4	5.2	4.11
	30	7.0	1.6	4.26	9.1	2.1	4.27	10.5	2.7	3.90	18.2	4.1	4.44	19.4	5.0	3.90	20.3	5.7	3.55
	35	6.5	1.8	3.65	8.0	2.2	3.70	9.3	2.8	3.36	16.8	4.5	3.72	17.9	5.5	3.28	18.7	6.2	3.00
	40	5.2	1.6	3.27	6.7	2.0	3.28	7.1	2.3	3.16	15.2	5.0	3.05	15.7	5.2	3.01	16.3	5.9	2.76
	45	4.5	1.5	3.00	5.8	2.0	2.99	5.8	2.0	2.99	12.1	4.4	2.76	12.1	4.4	2.76	12.1	4.4	2.76

tVL = cooling water flow temperature (°C)

tQ = source temperature (°C)

Qk = cooling capacity at full load (kW), measured in accordance with standard EN 14511

P = power consumption of the overall unit (kW) incl. high-efficiency pump,
measured in accordance with EN 14511

EER = Energy Efficiency Rate for the overall unit in accordance with standard EN 14511

Take account of daily power cuts!
see Engineering

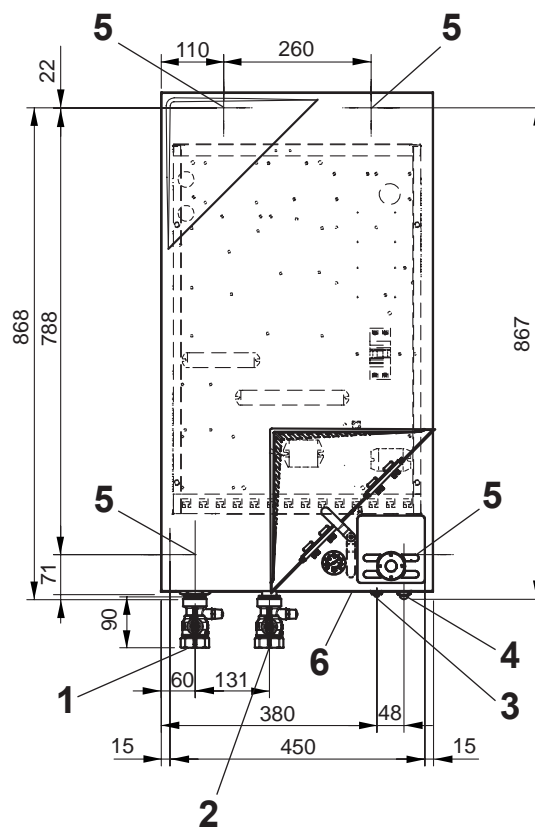
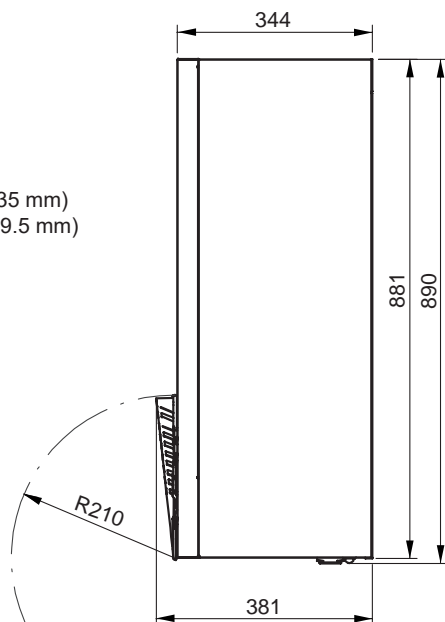
■ Dimensions

Hoval Belaria® SRM (4-16)

Indoor unit

(dimensions in mm)

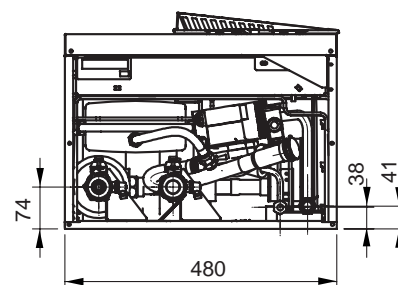
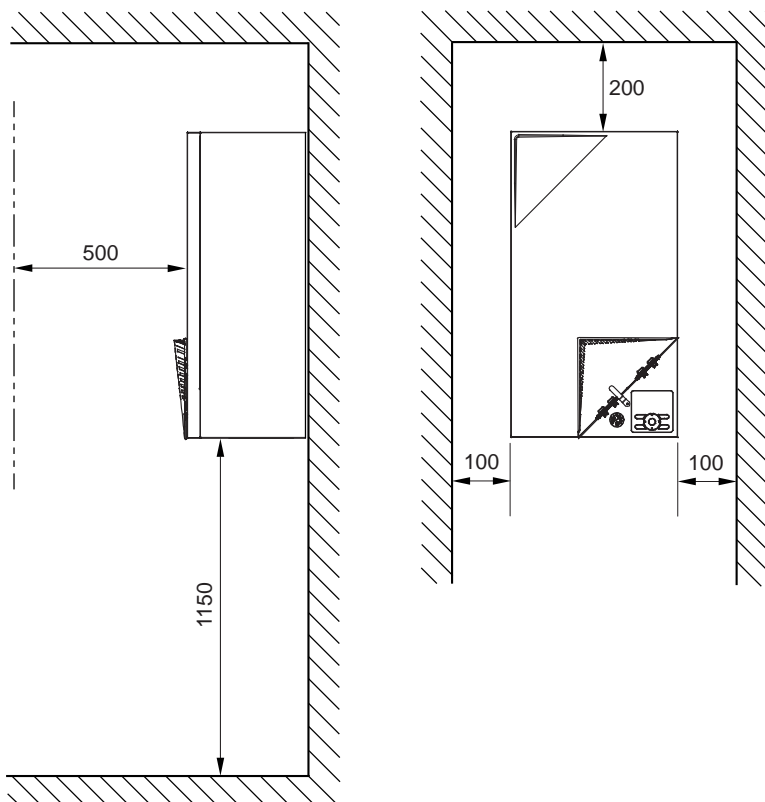
- 1 Heating flow Rp 1 1/4"
- 2 Heating return Rp 1 1/4"
- 3 Liquid line
Belaria® SRM (4-8) 1/4" (6.35 mm)
Belaria® SRM (11-16) 3/8" (9.5 mm)
- 4 Hot gas line 5/8" (15.9 mm)
- 5 Mounting holes
- 6 Drain safety valve Rp 1/2"



Space requirement for maintenance work and ventilation

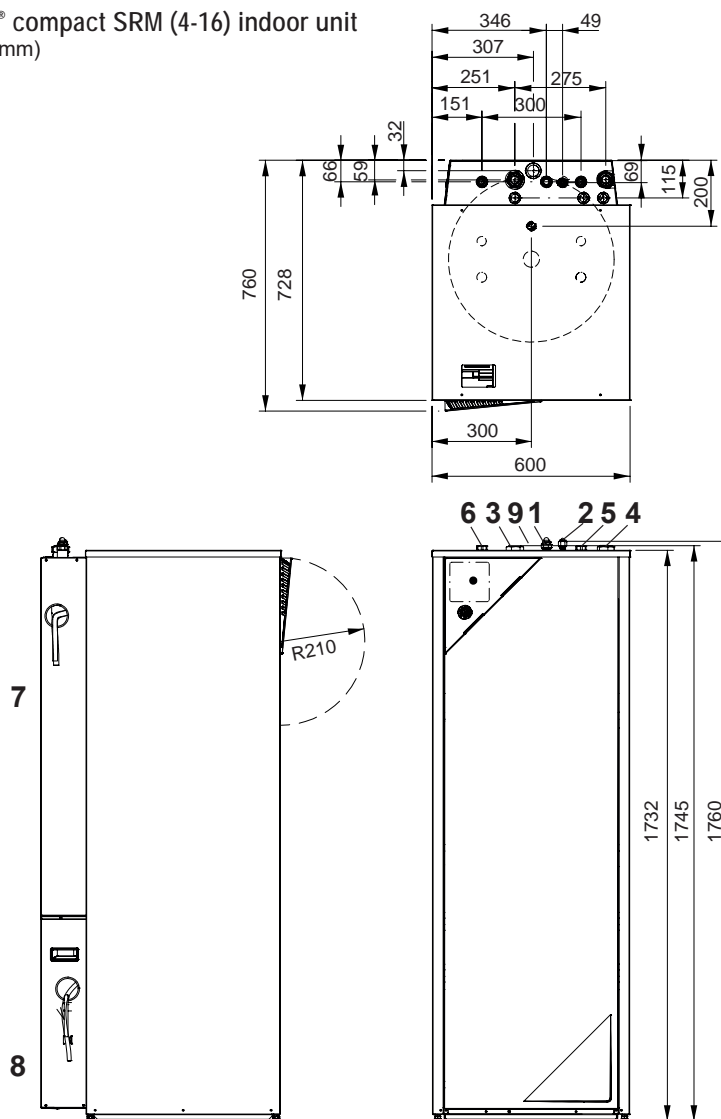
Indoor unit

(Dimensions in mm)



■ Dimensions

Hoval Belaria® compact SRM (4-16) indoor unit
(Dimensions in mm)

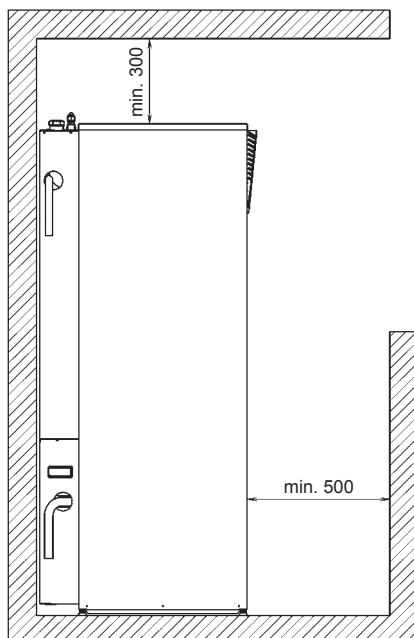


- 1 Hot gas line 5/8" (15.9 mm)
 - 2 Liquid line
 - Belaria® SRM (4-8) 1/4" (6.35 mm)
 - Belaria® SRM (11-16) 3/8" (9.5 mm)
 - 3 Heating flow R 1 1/4"
 - 4 Heating return R 1 1/4"
 - 5 Cold water connection R 1"
 - 6 Hot water connection R 1"
 - 7 Drain safety valve
 - 8 Condensate drain (cooling)
 - 9 Cable entry point
- Union nut

Space requirement for maintenance work and ventilation

Indoor unit

(Dimensions in mm)

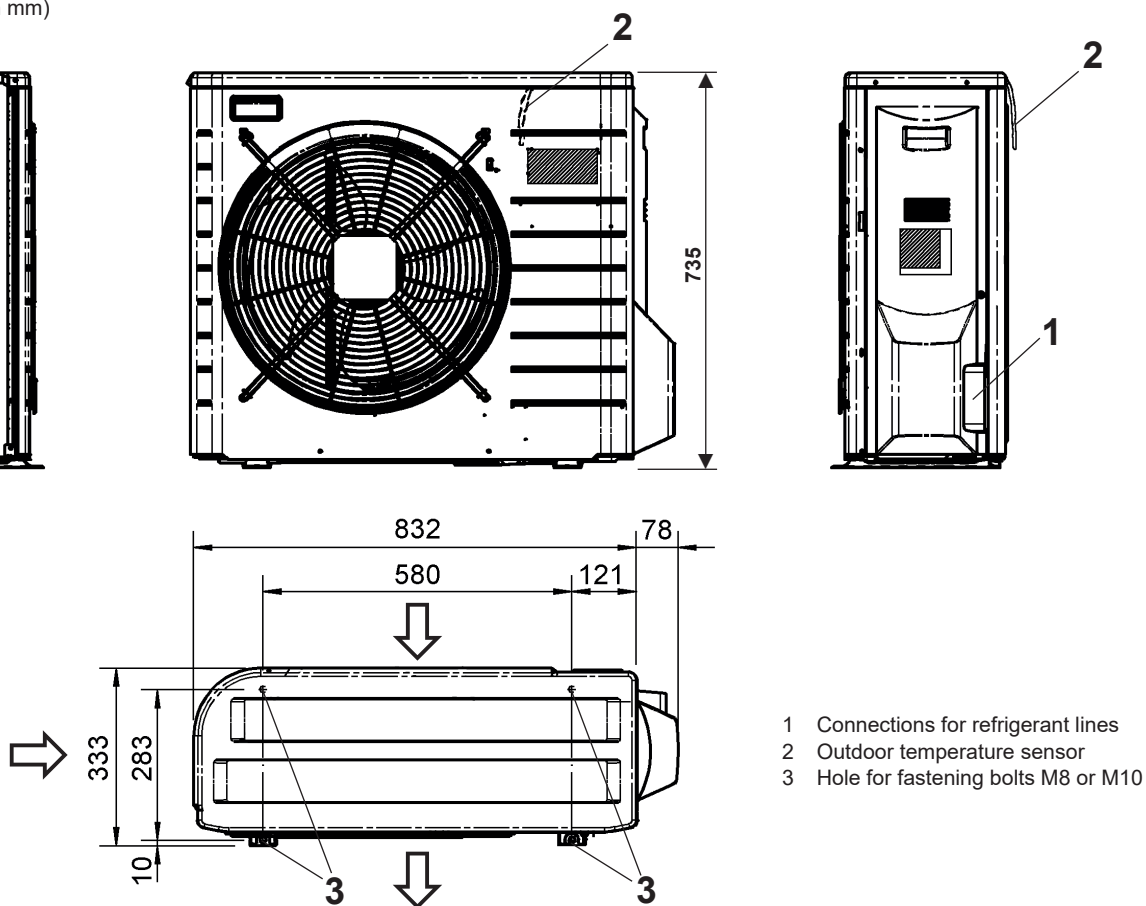


■ Dimensions

Hoval Belaria® SRM (4-8), Hoval Belaria® compact SRM (4-8)

Outdoor unit

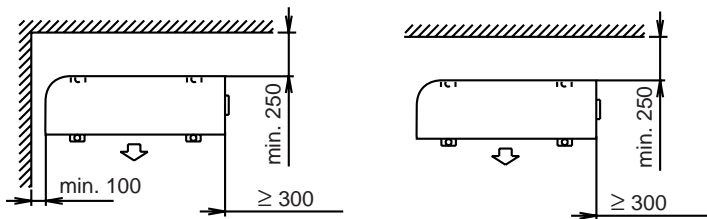
(Dimensions in mm)



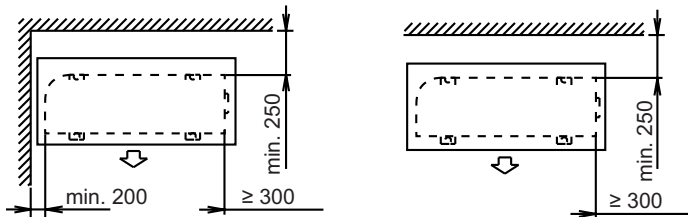
■ Dimensions

Space requirement

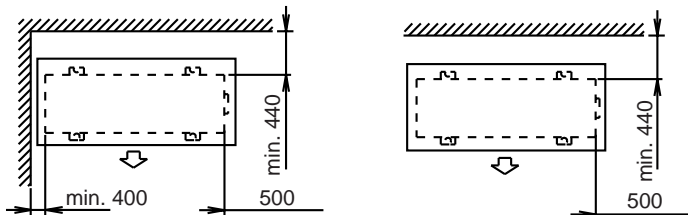
Space requirement for Belaria® SRM, Belaria® compact SRM outdoor unit without roof
(Dimensions in mm)



Space requirement for Belaria® SRM, Belaria® compact SRM outdoor unit with roof
(Dimensions in mm)



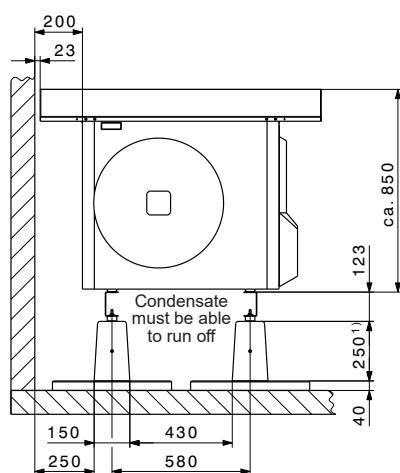
Space requirement for Belaria® SRM, Belaria® compact SRM with acoustic insulation housing
(Dimensions in mm)



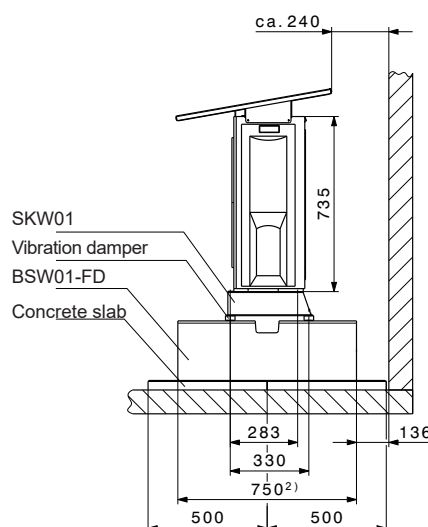
Base plans for Belaria® SRM (4-8), Belaria® compact SRM (4-8)
(Dimensions in mm)

Concrete base - firm base

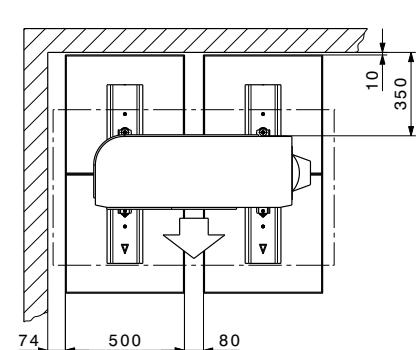
Front view



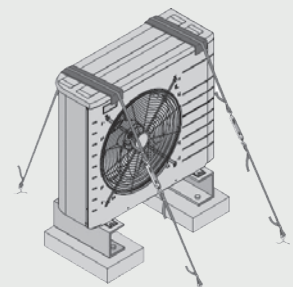
Side view



View from above



- There must be adequate space for the outlet (approx. 1 m) to route off the cooled air.
- The outdoor unit must be protected against heavy snowfall. If necessary, provide cover (e.g. roof, see Accessories).
- Observe the maximum permissible roof load without fail! (weight of unit, concrete base and any snow load).
- The outdoor unit must be placed on feet at least 250 mm / 50 mm high. There must be a gravel bed under it to discharge the condensation. (see base plans)
- The external unit must be secured against blowing over in windy areas.



Dimensions of protective roof for outdoor unit

Belaria® SRM type	W	D
(4-8)	1102	577

- Prevention of the transmission of structure-borne sound to the roof is very important. Specialists may need to be consulted, depending on the specific roof design.
- The outdoor unit must not be installed directly above bedrooms!
- The outdoor unit must be attached to the base using 4 vibration dampers M8 and concrete dowels (see Accessories).
- The outdoor unit must be protected against heavy snowfall. If necessary, provide a cover.
- Observe the maximum permissible roof load without fail! (weight of unit, concrete base and any snow load).

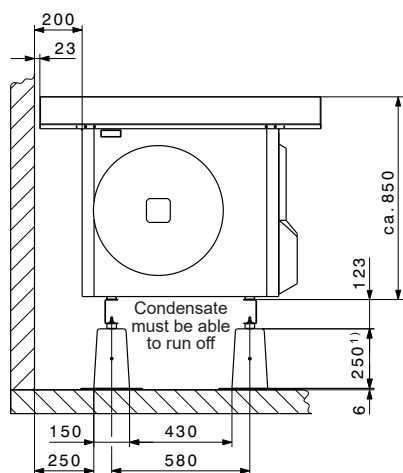
■ Dimensions

Space requirement

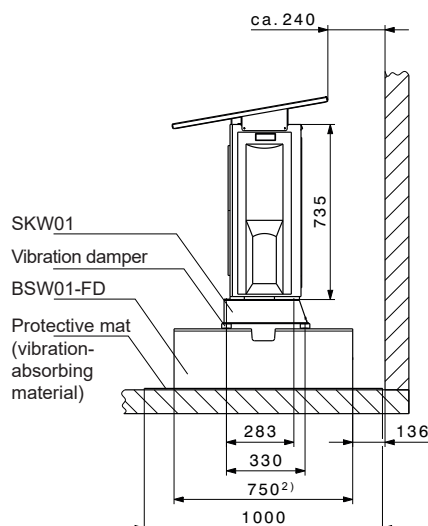
Base plans for Belaria® SRM (4-8), Belaria® compact SRM (4-8) (Dimensions in mm)

Concrete base - flat roof

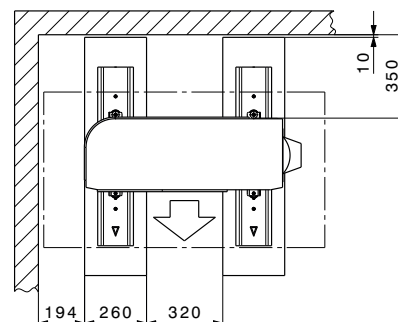
Front view



Side view



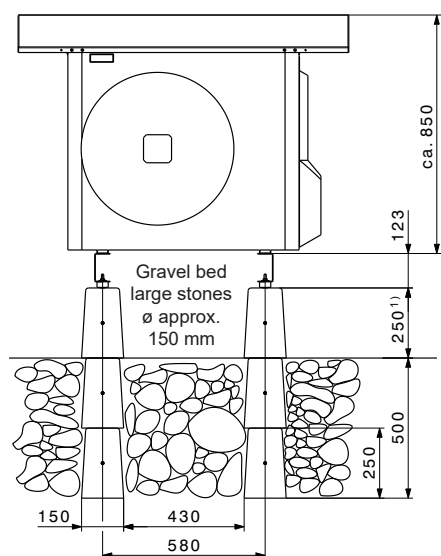
View from above



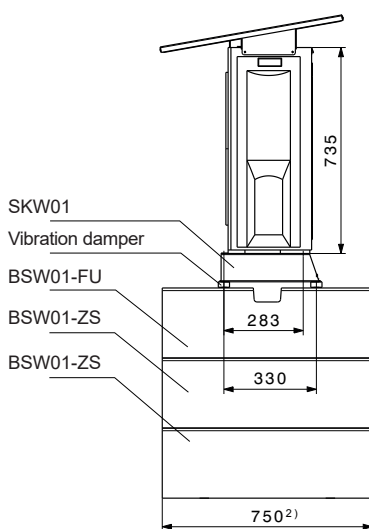
- ¹⁾ Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- ²⁾ Design with sound attenuation housing min. length 950

Concrete base - gravel bed

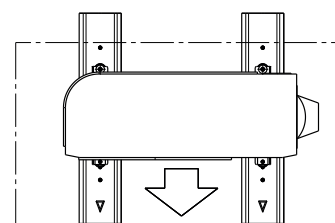
Front view



Side view



View from above



- ¹⁾ Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- ²⁾ Design with sound attenuation housing min. length 950

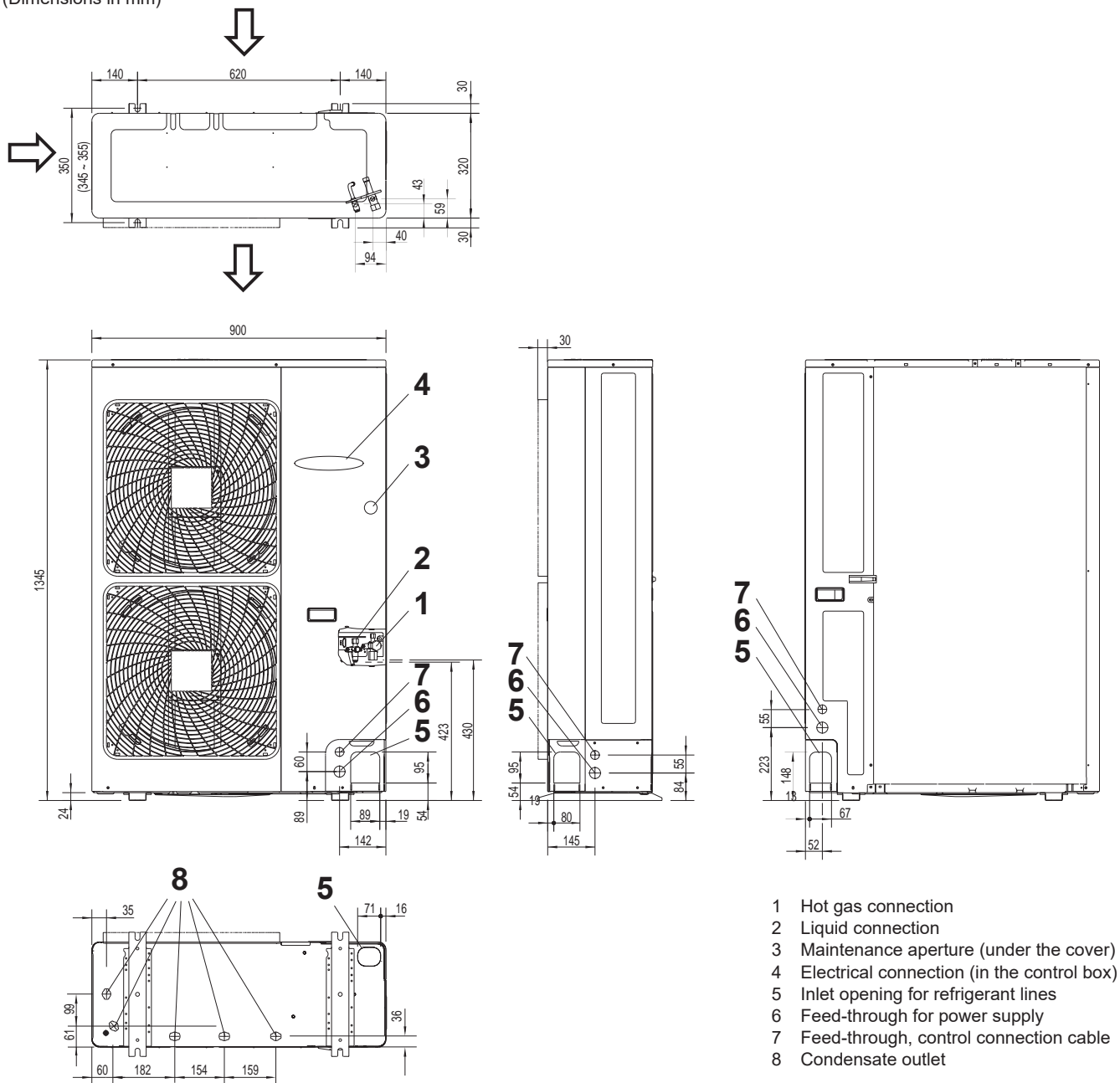
■ Dimensions

Space requirement

Hoval Belaria® SRM (11-16), Hoval Belaria® compact SRM (11-16)

Outdoor unit

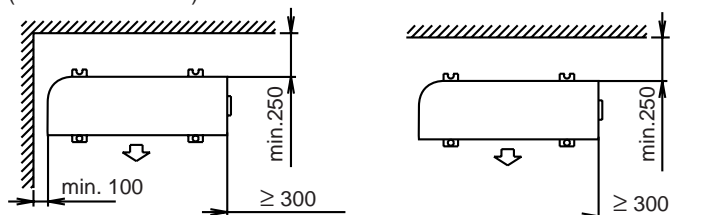
(Dimensions in mm)



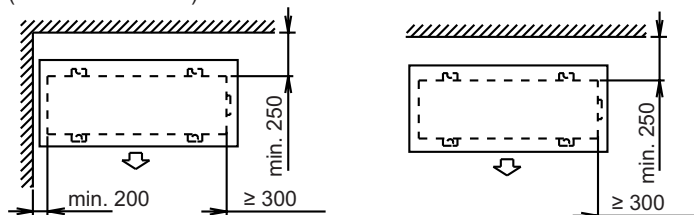
■ Dimensions

Space requirement

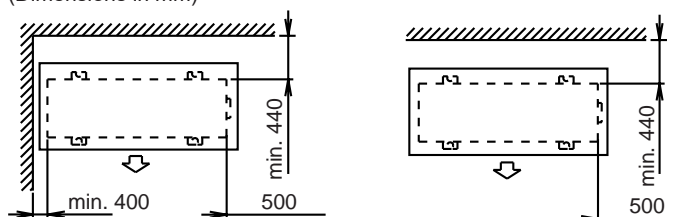
Space requirement for Belaria® SRM, Belaria® compact SRM outdoor unit without roof (Dimensions in mm)



Space requirement for Belaria® SRM, Belaria® compact SRM outdoor unit with roof (Dimensions in mm)



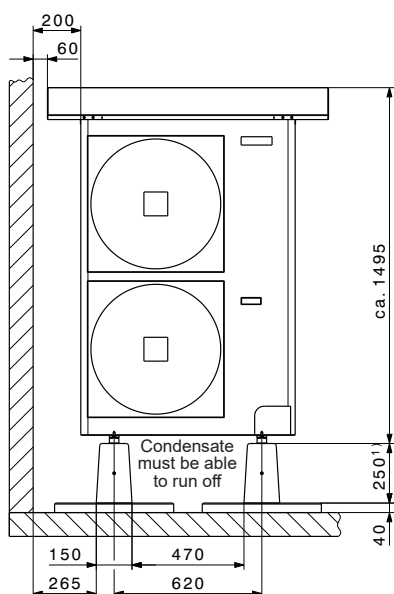
Space requirement for Belaria® SRM, Belaria® compact SRM with acoustic insulation housing (Dimensions in mm)



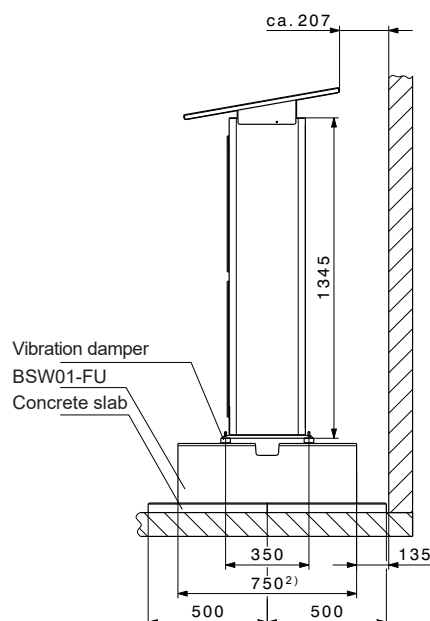
Base plans for Belaria® SRM, Belaria® compact SRM (11-16) (Dimensions in mm)

Concrete base - firm base

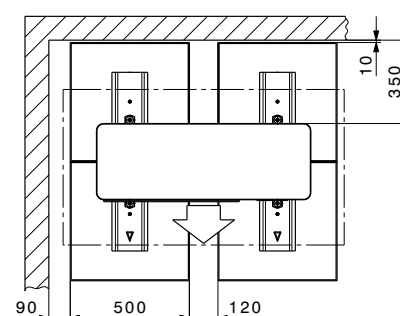
Front view



Side view



View from above



- ¹⁾ Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- ²⁾ Design with sound attenuation housing min. length 950

- The outdoor unit must be attached to the base using 4 vibration dampers M8 and concrete dowels (see Accessories).
- If the outdoor unit is exposed to strong winds, the bases must be extended to approx. 700 mm and anchoring cables fitted.

■ Engineering

Requirements and directives

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

Set-up

General comments

- The distance between the inside and outdoor unit must be as short as possible. Only short and simple routing of refrigerant lines guarantees cost effectiveness.
- The required minimum length for the lines between the outside and indoor unit is 3 m, and the lines must not be shorter than this. The maximum permissible length of the lines between the outdoor and indoor unit is 30 m (4-8) and 50 m (11-16) and must not be exceeded. The maximum permissible height difference between outside and indoor unit is 20/30 m. The maximum permissible length of the lines between calorifier and indoor unit is 10 m. The cable of the tank sensor must not be shortened. It is essential to clarify details of the installation location and line routing with Hoval!

Indoor unit

- The indoor unit of the Hoval Belaria® SRM air/water heat pump system can be mounted on the wall in the boiler room using a sound insulation dowel with collar.
- The installation location must be selected in accordance with the valid requirements and directives.
- The installation must be free from dust or other foreign matter which could lead to contamination.
- Where possible, the installation location should be outside noise-sensitive areas of the building and equipped with a sound-absorbing door.

- The heating supply and return should be connected flexibly in structures which are sensitive with regard to noise emissions (see accessories).
- Access for the purpose of operation and maintenance must be ensured.
- Rooms with high air humidity, for example laundry rooms, are not suitable installation locations (dewpoint <10 °C).

The installation of a magnetic sludge separator is mandatory.

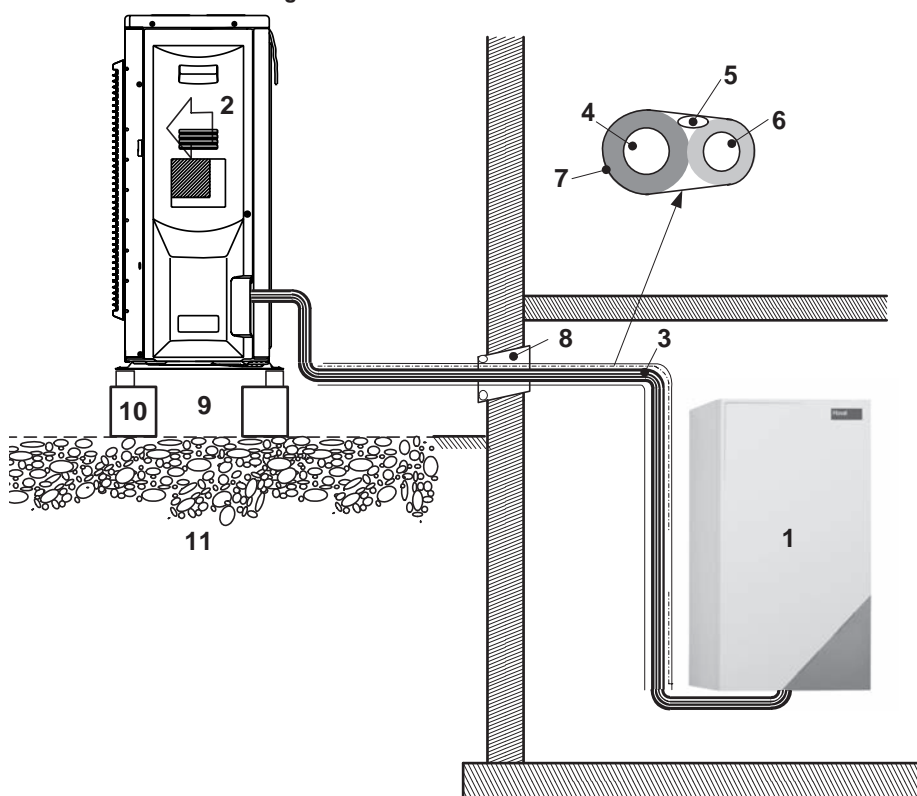
Outdoor unit

The outdoor unit is installed outdoors. The installation location must be selected carefully. It is essential that the following ancillary conditions are met:

- The subsoil in the installation location must be sufficiently stable to bear the weight of the unit and its vibration in operation.
- The location should have adequate space for installation, maintenance and cleaning of the unit (see dimensions "Space requirements").
- As condensate flows out of the outdoor unit, a gravel bed to absorb the condensate must be installed under it. Do not place anything which is sensitive to moisture under the unit.
- Due to the sound emissions, the installation location should not be beneath living-room or bedroom windows and be far enough away from neighbouring buildings (perform calculation).
- The selected location should be such that the air blown out by the unit does not bother occupants of the building or neighbours.
- No parts and plants at risk of frost damage are allowed to be on the blow-out side.

- Installation on a wall console is not suitable in the case of lightweight walls. Lightweight walls can increase sound emissions and transmit structure-borne sound.
- It is essential to avoid air short-circuiting. The space necessary for intake and outlet must always be provided (see space requirements).
- The installation location must be selected so that the air intake and outlet are not blocked or obstructed by snow, leaves, etc.
- Installation in wall niches is not recommended (air short circuit, sound echo).
- The units cannot be installed one above the other.
- Install the units, the mains cables and the branch wiring at least 3 m away from TV sets and radios. This should prevent interference with picture and sound.
- The intake air must be completely free from aggressive substances such as ammonia, sulphur, chlorine etc.
- Install the outdoor unit so that the intake side faces the wall and is not directly exposed to the wind.
- Never install the outdoor unit in a place where the intake side is directly exposed to the wind.
- Fit a deflector plate on the air outlet side of the outdoor unit to prevent exposure to the wind.
- In areas with heavy snowfall, select an installation location where snow cannot impair the operation of the unit (cover).
- Install the unit at sufficient height from the ground to ensure that the unit is not covered by snow and freezing condensate cannot impair operation (see separate base plans).

Cross-section of connecting line



- Indoor unit
- Outdoor unit (evaporator/fan/compressor)
- Refrigerant connecting line
- Hot gas line with thermal insulation
- 1 x communication line 4-pole, 1 x electrical power supply outdoor unit SRM (4-8) 3-pole, SRM (11-16) 5-pole, 1 x connection line condensate drip tray heater 2-pole (optional), 1 x electrical power supply condensate drip tray heater 3-pole (optional) if separate protection necessary
- Refrigerant liquid line with thermal insulation
- Wrapping or duct (on site)
- PE casing tube Ø at least 100 mm with sealing (on site). All casing tubes for the lines must be routed straight (it must be possible to look down the tube and see the other end!).
- Condensate
- Base or paving slab to be provided on site (The height is to be determined depending on the climate zone, recommended height >250 mm)
- Drainage (on site)

Line length between outdoor unit and indoor unit

Hoval Belaria® SRM type	(4-8)	(11-16)
• Minimum line length	3 m	3 m
• Maximum permissible length	30 m	50 m
• Maximum permissible height difference	20 m	30 m

■ Engineering

Condensate (outdoor unit)

- Condensate must be able to run off freely.
- Use a condensate drip tray if the condensate has to be drained off collectively (option).
- It is essential to insulate the condensate hose from the tray, and if necessary, equip the hose with trace heating.

Refrigerant connecting lines

- The refrigerant connecting lines must be installed by qualified technicians.
- The line dimensions must be precisely adhered to (see also Section "Prices"; refrigerant connecting lines).
- The inside and outdoor unit, with the hot gas and liquid line, must be fitted professionally with thermal insulation.

Wall lead-through, protective pipe for routing of the lines

The wall lead-through and the protective pipe (Ø min. 100 mm) for the connecting lines must be routed with no changes of direction, executed professionally and sealed.

The lines must not be concreted in, as the vibrations can generate structure-borne sound. In the external area, the protective pipes must be manufactured from UV-resistant material.

Room cooling

- Room cooling can be effected with fan convectors and is recommended. The connection lines for the fan convectors must have condensation-proof insulation. In addition, the condensate from the fan convectors must be drained off.
- Optimum comfort can be achieved with an additional Hoval HomeVent comfort ventilation unit with the CoolVent option.
- We do not recommend the use of panel heating for room cooling. Various criteria such as temperatures below the dewpoint or the temperature profile must be allowed for and can lead to costly consequential damage in the case of inadequate planning or incorrect use. We recommend that you consult Hoval.

Electric connecting cables

- The electric connecting cables on the outdoor unit must be connected flexibly.
- Taking advantage of the special reduced tariffs offered by local energy companies for heat pump systems often means interrupted operation. For example, within any 24-hour period, the power supply may be interrupted for 3 periods of 2 hours each. This must be taken into account when dimensioning and planning the heat pump.
- The trace heating tape must be connected externally in accordance with applicable regulations and protected by a ground fault circuit interrupter.

Necessity of an oil separator

If the outdoor unit is placed lower than the indoor unit, an oil separator must be bent or installed in the hot gas line for each 10 m of height difference (siphon). The oil separator prevents the compressor oil flowing back after switching off and thus slugging which could damage the compressor.

Further guidelines
see "Engineering"

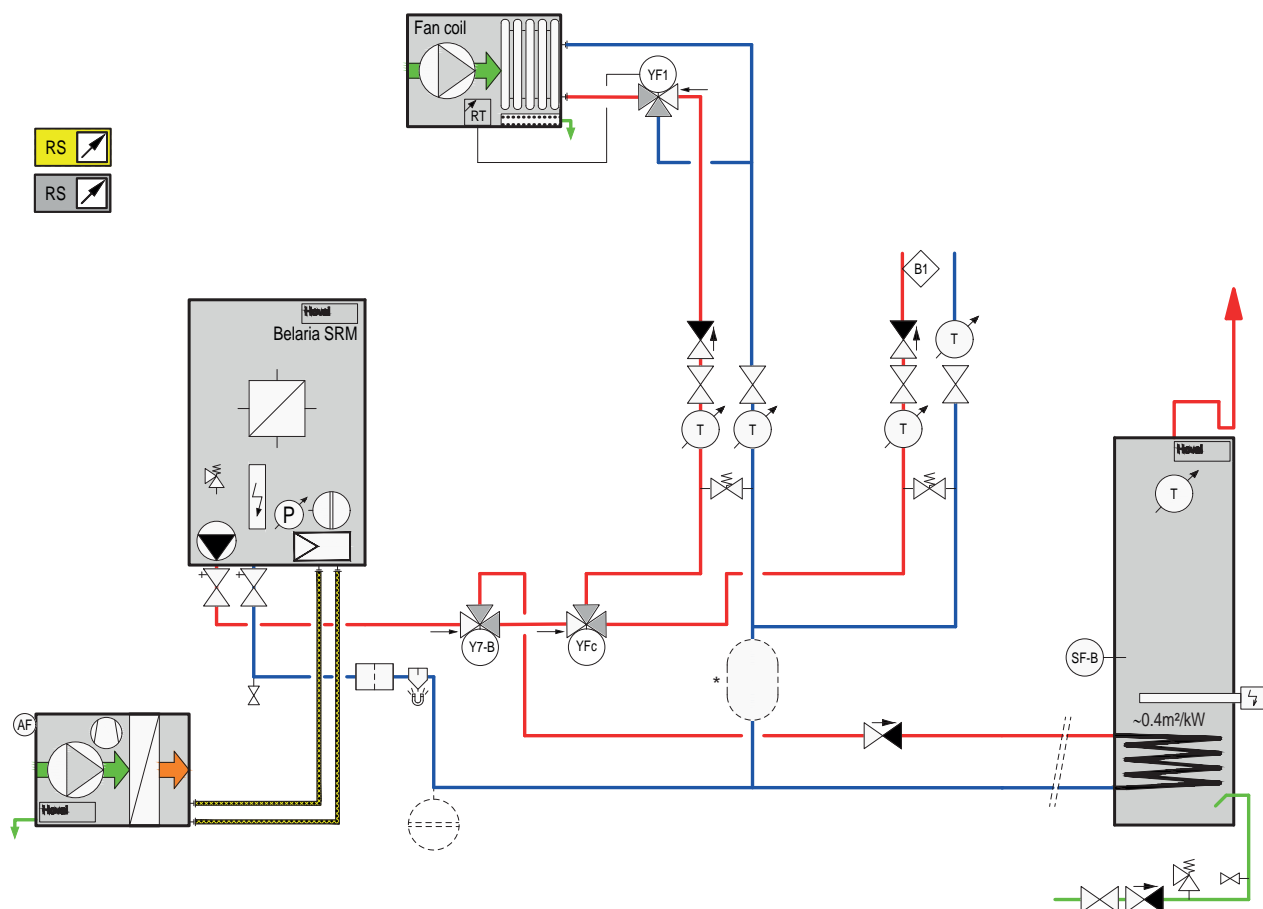
■ Examples

Hoval Belaria® SRM

Air/water heat pump with

- calorifier
- cooling Fan Coil
- 1 direct circuit

Hydraulic schematic BBAAE020



* Additional volume for defrosting process

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.
- Shut-off devices to the safety equipment (pressure expansion tank, safety valve, etc.) must be secured against unintentional closing!
- Install sacks to prevent single-pipe gravity circulation!

B1	Flow temperature guard (if required)
AF	Outdoor sensor
YF1	Actuator Fan Coil
Y7-B	Switching valve (Belaria® SRM)
YFc	Switching valve (Fan Coil)
SF-B	Calorifier sensor

Option

BR	Burner connection
RT	External room/humidity thermostat

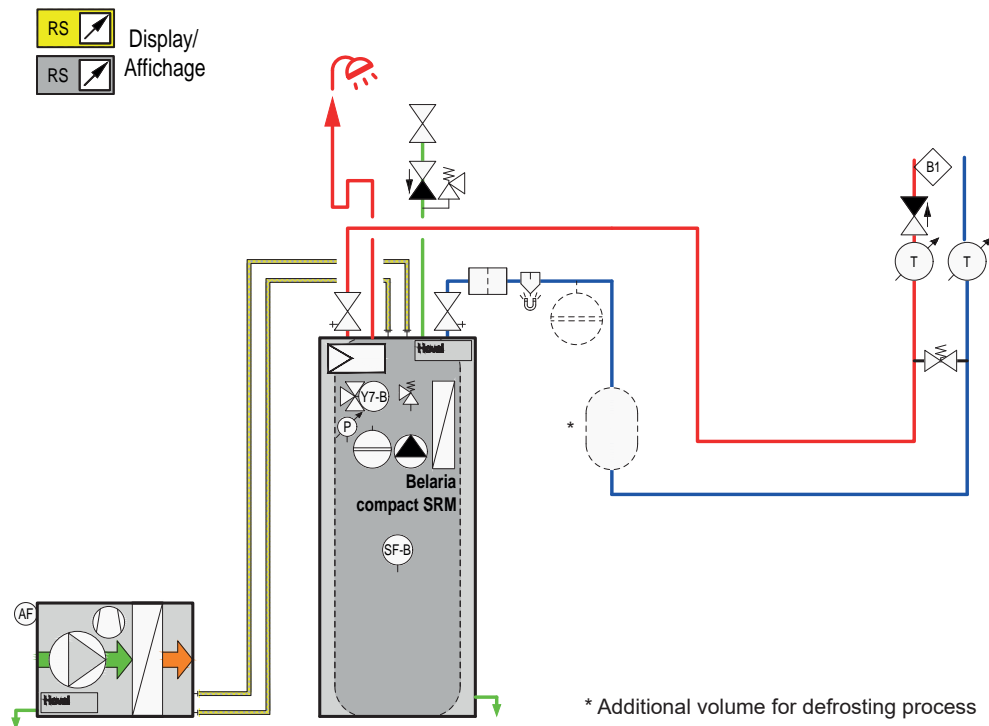
■ Examples

Hoval Belaria® compact SRM

Air/water heat pump with

- integrated calorifier
- 1 direct circuit

Hydraulic schematic BBABE010



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.
- Shut-off devices to the safety equipment (pressure expansion tank, safety valve, etc.) must be secured against unintentional closing!
- Install sacks to prevent single-pipe gravity circulation!

AF Outdoor sensor
Y7-B Switching valve (Belaria® SRM)
SF-B Calorifier sensor

Description

Hoval Belaria® SHM

Modulating heat pump system operating with 2 compressors in series for heating and providing hot water

High-temperature split system consisting of indoor unit and outdoor unit.
Modulation range approx. 30-100 %

Indoor unit

- Compact unit for floor mounting
- Casing made from painted, galvanised sheet steel. Colour grey metallic
- Condenser stainless steel/Cu, filled with refrigerant R134a
- Speed-controlled high-efficiency pump controlled by the indoor unit Δt
- Pressure expansion tank 12 litres
- Pressure gauge
- Cut-off valves for heating flow and return with flexible hose (mounted), safety temperature limiter, safety valve
- Water filter, air-bleeding valve, overpressure valve
- Controller supplied separately for wall mounting with heating and calorifier function
- Electrical box
- Flow and return sensor installed
- Filling and drain valve
- Sensor for hot water preparation supplied (can not be shortened)

Outdoor unit

- DHW heating sensor included (cannot be shortened)
- Compact unit for outdoor installation
- Casing made from painted, galvanised sheet steel, colour silk grey (similar to RAL 7044)
- Speed-controlled scroll compressor
- Two speed-controlled fans
- Coated Al/Cu finned-tube evaporator
- Electronic expansion valve
- Four-way valve for defrosting
- Filled with refrigerant R 410 A
- Shut-off valves on the refrigerant side
- Electrical box, connection on the right
- Outdoor sensor fitted

Connections, refrigerant line

- Indoor unit on the rear, left or right
- Outdoor unit on the right side
- Hot gas line 15.9 mm ($\frac{5}{8}$ ")
liquid line 9.5 mm ($\frac{3}{8}$ ")

Condensate drain

- The outdoor unit is provided with a condensate drip tray
- The draining condensation must be able to percolate away under the outdoor unit or be carried away via a condensate drain
- An optional condensate drip tray for collective discharge of the condensate is available

Electrical connections

- Outdoor unit on the right side 3 x 400 V
- Indoor unit rear left 3 x 400 V
- Emergency heating (3 x 400 volts) is connected externally separately (optional)



Outdoor unit



Indoor unit

Hoval Belaria® SHM

35 °C	55 °C	Type	Heat output with A2W45 kW
B	A*	(11)	9.5
B	A*	(14)	11.8
B	A*	(16)	13.2

Energy efficiency class of the compound system with control

Performance data at max. output

The built-in high-efficiency pumps fulfil the Ecodesign requirements of 2015 with an EEI of ≤ 0.23 .

Delivery

- Inside and outdoor unit delivered packaged separately
- Controller and both cut-off valves are included separately with the indoor unit
- Sensor for calorifier supplied loose in the indoor unit (cannot be shortened)

On site

- Mounting accessories
- Mounting of the controller (wall mounting)

Option

- Emergency heating 6 kW (3 x 400 V, see "Technical data") with safety thermostat, safety valve

■ Part No.

High-temperature heat pump system
up to 80 °C flow temperature!



Energy efficiency class
see Description

Hoval Belaria® SHM
air/water heat pump system

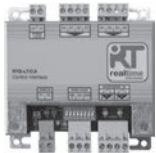
Part No.

Split system comprising indoor unit
and outdoor unit.

Delivery
Inside and outdoor unit delivered
packaged separately.

Belaria® SHM Type	Heat output A2W45 kW	
(11)	9.5	7015 993
(14)	11.8	7015 994
(16)	13.2	7015 995

Accessories



Interface module RTD-W
for external output control
ON/OFF, 0-10 V, MOD bus

2061 516



Room station (PCB2)
incl. room sensor (cable connection - slave);
additionally to operator terminal in the indoor
unit (master: wall mounting in basement)

2037 734



Room thermostat with remote control
RS-W (cable connection)

6023 044

RS-R (with radio transmission)

6023 045

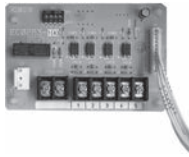
Notice
The request circuit board A8P must be or-
dered as well for these room thermostats.



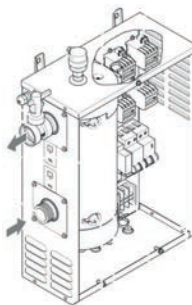
Additional board (A4P/A7P)
digital on/off board for:
- alarm output
- change-over to external heat source

6019 357

■ Part No.

**Notice**

Only use a condensate drip tray if it is absolutely necessary. If the condensation can flow away unobstructed, no condensate drip tray will be required.

**Accessories****Part No.****Demand board (A8P)**

2037 415

for external power limitation
4 inputs
Limitation of current (A) or power (kW)
External control heating/cooling
and On/Off

**Condensate drip tray cpl.
for outdoor unit**

6033 522

for Belaria® SHM (11-16)
for collection of the condensate under
the outdoor unit
Material: UV-resistant plastic
Tray heater 120 W, 230 V with thermostat
with additional protection
Condensate outlet: Ø (outside) 38 mm
Dimensions: 960 x 420 x 40 (LxWxD)
For mounting on socket, the vibration
dampers have to be ordered separately.

Trace heating tape

6033 374

for heating a condensate
drainage pipe (on site)
and a condensate drip tray KWD
with thermostat and microfuses
Output: 40-80 W, 230 V
Length: cable 1.5 m; heating tape 2 m

Electrical emergency heating

6022 606

for external mounting on the wall
incl. air vent valve,
entry R 1¼"
exit Rp 1¼"
flow switch thermal protection,
switching contactor
Power: 6 kW, 3x400 V

Demand board (A8P) necessary.

Protective roof for outdoor unit

6040 216

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
Aluminium powder-coated
Colour: silk grey RAL 7044
Can also be combined with wall bracket
for outdoor unit.

Protective grid for outdoor unit

6028 144

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
sturdy grid for protection
of the evaporator
Material: coated stainless
steel (RAL 7044)
Mounting on site

Protective grid for outdoor unit

6028 243

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
sturdy grid for protection
of the evaporator (on the front)
Material: coated stainless
steel (RAL 7044)
Mounting on site

■ Part No.



Accessories

Part No.

Wall console for outdoor unit

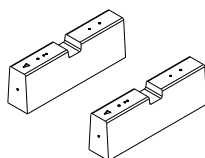
6040 353

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
for fastening the unit onto the wall
2 stainless steel clamps
incl. vibration dampers
and fastening material
Caution:
Not to be used in this form
on insulated walls!
Not suitable for lightweight walls!

**Stand bracket**

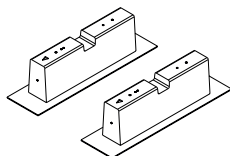
6040 355

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
for mounting the unit on the floor
incl. vibration damper
Dimensions (LxWxH): 300x660x400
Weight: 7.5 kg

**Concrete base set BSW01-FU**

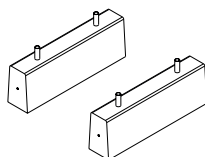
6046 157

to securely erect an outdoor unit
on solid ground.
Consisting of:
2 concrete bases with molded
fastening sleeves, screw set
Weight: 2 pieces of 58 kg

**Concrete base set BSW01-FD**

6046 158

to securely erect an outdoor unit
on flat roof.
Consisting of:
2 concrete bases with molded
fastening sleeves, protective mats
with aluminium facing, screw set
Weight: 2 pieces of 58 kg

**Concrete base set BSW01-ZS**

6046 159

to securely erect an
outdoor unit in drainage bed
for gardens and meadows.
Additional base height 250 mm for
plug combination with set BSW01-FU
Consisting of:
2 additional concrete bases,
screw set
Weight: 2 pieces of 58 kg

**Vibration damper**

6022 489

for Belaria® SRM (4-16),
compact SRM (4-16) and SHM (11-16)
for installing the unit on
a concrete base (on site).
4 pieces incl. dowels HKD-S M8x30,
washers and nuts

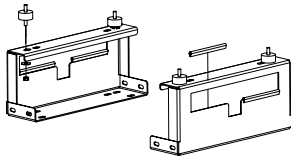
■ Part No.

Part No.


Acoustic insulation housing SDG02

6040 357

for Belaria® SRM (11-16),
compact SRM (11-16) and SHM (11-16)
for reducing the noise level
of the unit set up outdoors
Protects the unit against any
weather influences
Steel with aluminium zinc coating
Colour: grey (RAL 9006)
Dimensions (HxWxD): 1610x1200x900
Sound attenuation depending on
installation and ambient conditions
up to -6 dB(A)
Base set SDG02 must be
ordered as accessory


Base set SDG02

6042 938

for sound attenuation housing SDG02
Overall height: 190 mm
Consisting of:
2 U-shaped brackets, coated
4 vibration dampers
Must be ordered as accessory
for use with sound
attenuation housing SDG02


Condensate drip tray KWD - SD housing

6040 344

acoustic insulation housing for
Belaria® SRM (4-16), compact SRM (4-16)
and SHM (11-16)
for collection of the condensate
under the outdoor unit
in the acoustic insulation housing
SDG01 and SDG02
With drain port for hose connection
Without support heating strip


Connection set AS32-2/ H

6039 793

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

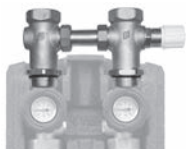
■ Part No.

**Connection set AS32-2/ HW**

for compact mounting
of all required fittings
of a direct circuit and
hot water charging
Consisting of:
Fully assembled armature group
with 2 thermometer ball valves
Thermal insulation box made
of EPP half-shells
3-way motor valve 2-LR230A
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 794

**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

Overflow valves must close
completely under the set pressure.

**Sludge separator CS 25-1" with magnet**

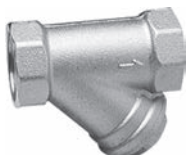
for flow rates of 1.0 - 2.0 m³/h
for flow speed of 1.0 m/s
Housing made of plastic PPA with
diffuser and partial flow removal
with 4 extra-strong Neodymium magnets
Magnets removable for draining
EPP insulation 20 mm
Connections made of brass G 1"
Drain made of brass: hose connection
Any inst. orientation -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 1/4" 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 1/4"
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 B50-32-1 1/4"**

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

2046 980

■ Part No.



Switching ball valve VBG60..
DN 15-50, PN 16, 120 °C

- Three-way ball valve made of brass with threaded connection
- incl. seals and screw connections

DN	Connection Valve	Fitting	kvs	Ḃ [m³/h] at ΔP 50 mbar
25	G 1½"	Rp 1"	13	2.91
32	G 2"	Rp 1¼"	25	5.59

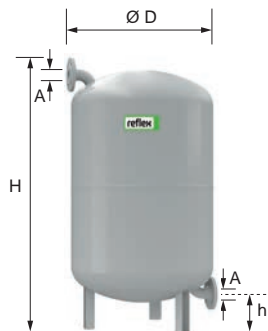
Part No.

6045 769
6045 770

Suitable motor drive			
Type	Voltage	Control signal	Actuator run time
GLB341.9E	230 V / 50/60 Hz	2-/3-point	150 s

2070 331

Circulation pumps, actuators, buffer storage tanks
see separate brochures



Reflex V40
Sheet steel intermediate tank, designed for operating pressures up to 10 bar.

Reflex Type	Ø D mm	H mm	h mm	A
V 40	409	562	113	R 1"

2057 249



Services

Commissioning

Commissioning by works service or Hoval trained authorised serviceman/company is condition for warranty.

For commissioning and other services please contact your Hoval sales office.

■ Technical data

Hoval Belaria® SHM

Type		SHM (11)	SHM (14)	SHM (16)
Seasonal coefficient of performance moderate climate 35 °C/55 °C	SCOP	2.7/3.0	2.8/3.0	2.9/3.0
Performance data according to EN 14511				
• Heat output A2W45	kW ¹	9.5	11.8	13.2
• Power consumption A2W45	kW ¹	3.3	4.4	5.1
• Coefficient of performance - heating A2W45	COP	2.9	2.7	2.6
• Weight inside/outdoor unit	kg		144/120	
• Compressor		2 x spiral-(scroll), hermetic, speed-controlled		
• Refrigerant filling R-410A/ R134a	kg		4.5/3.2	
• Fan type		2 x axial, speed-controlled		
• Evaporator		lamellar tube Alu-coated/Cu		
Pipe series		2		
• Condenser		soldered stainless steel plate heat exchanger		
Capacity	litres		2,78	
Tube connection	G		1¼"	
• Nominal volume flow	(Δt = 10K)	m³/h	0.95	1.2
	(Δt = 5K)	m³/h	1.9	2.4
• Min. volume flow	m³/h		0.69	
• Max. operating pressure heating side	bar		3	
Operating limit values				
Heat source heating				
Min. outside air temperature	°C		-20	
Max. outside air temperature	°C		20	
• Range of application see diagram				
Electrical data		indoor unit		outdoor unit
Power consumption				
• Emergency heating (option)	kW	1-stage - 6.0		–
Voltage				
• Compressor	V	3 x 400		3 x 400
Emergency heating (option)	V	3 x 400		–
Frequency	Hz	50		50
Voltage range (400 V)	V	380-415		380-415
Operating current max.				
• Compressor	A	11.0		12.0
Starting current	A	5.8		5.8
• Fuse	A	16T		16T

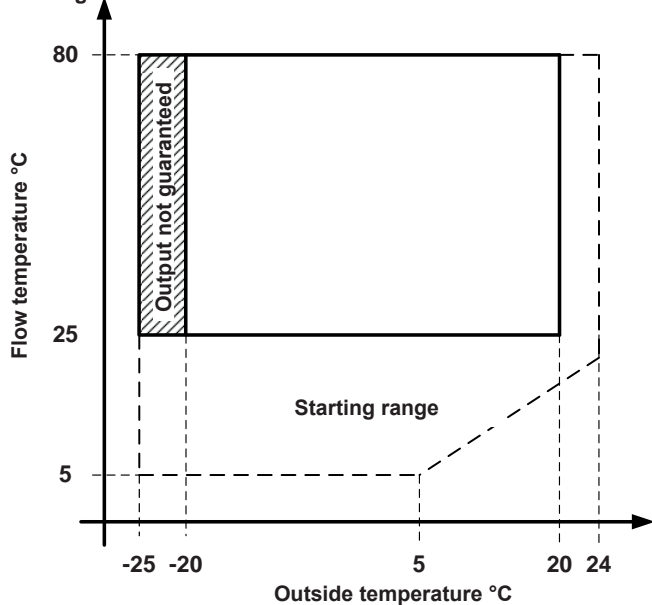
Using a residual current circuit breaker RCCB type B, $I_{\Delta n} \geq 300$ mA is recommended. Country-specific regulations must be observed.

¹ kW = overall unit incl. defrosting loss (Δt 5K EN14511)

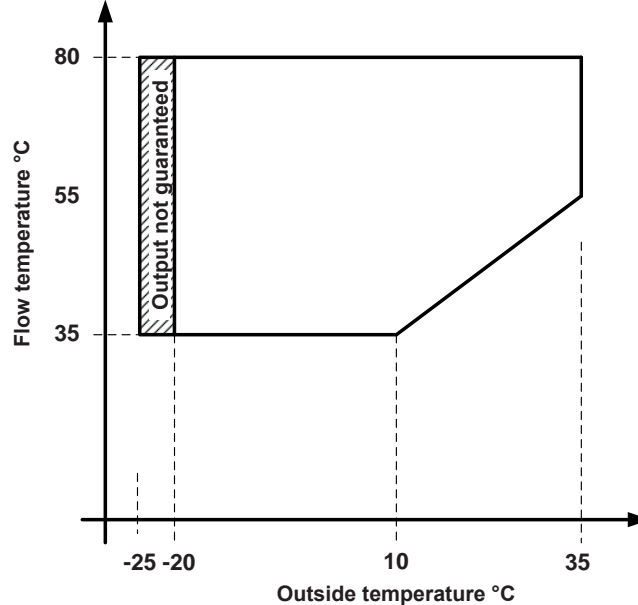
Diagram of area of application

Belaria® SHM

Heating



Hot water



■ Technical data

Hoval Belaria® SHM

• Sound pressure level – sound power level ³

The sound pressure levels indicated below apply if the outdoor unit is placed at a building façade. These values are reduced by 3 dB if the outdoor unit is free-standing. With installation in a corner, the sound pressure level increases by 3 dB.

The **sound pressure level** is dependent on the **place of measurement** within a sound field and describes the sound intensity at this point. In contrast, the **sound power level** is a characteristic of the **sound source** and therefore does not change with distance; it describes the totality of sound power of the relevant source radiated in all directions.

Structure-borne sound

The bases and consoles for the outdoor unit must be erected/installed with vibration-damping against the structural shell.

Indoor unit

The effective sound pressure in the installation room depends on various factors such as room size, absorption capacity, reflection, free sound propagation etc. For this reason, it is important to ensure that where possible, the boiler room is outside noise-sensitive areas of the building and equipped with a sound-absorbing door.

Type		SHM (11)	SHM (14)	SHM (16)
Outdoor unit				
• Sound power level in heating operation ³	dB(A)	68	69	71
• Sound pressure level in heating operation at 5 m ^{1,3}	dB(A)	47	48	50
• Sound pressure level in heating operation at 10 m ^{1,3}	dB(A)	41	42	44
Indoor unit				
• Sound power level	dB(A)	43	45	46
• Sound pressure level ² 1 m flow 65 °C/return 55 °C - front side	dB(A)	40	43	45

¹ The sound pressure levels indicated apply if the outdoor unit is placed at a building façade.

These values are reduced by 3 dB if the outdoor unit is free-standing. With installation in a corner, the sound pressure level increases by 3 dB.

² The sound level of the indoor unit apply in whisper mode. The values increase by approx. +2 dB(A) at full load.

³ The sound values apply with a clean evaporator. These values can be temporarily exceeded before defrosting.

Pressure expansion tank

The indoor unit is equipped with an expansion tank (flat shape) with a volume of 12 l, pre-pressure 1 bar

Pre-pressure ¹	bar	1.5	1.8	2.1
Capacity	l	3.0	2.4	0.85
Maximum possible system height Hp ²	m	12	15	18

¹ Pre-pressure = system height + 0.3 bar. The pre-pressure should be adjusted to the system height.

² System pressure Hp = hydrostatic pressure of the system, i.e. height from the centre of the tank to the highest air-bleeding point of the system

$$V_n = V_A \times f \times X \text{ (litres)}$$

V_n = expansion volume (litres)

V_A = system content at + 10 °C

f = thermal expansion factor (45°), $f = 0.01$

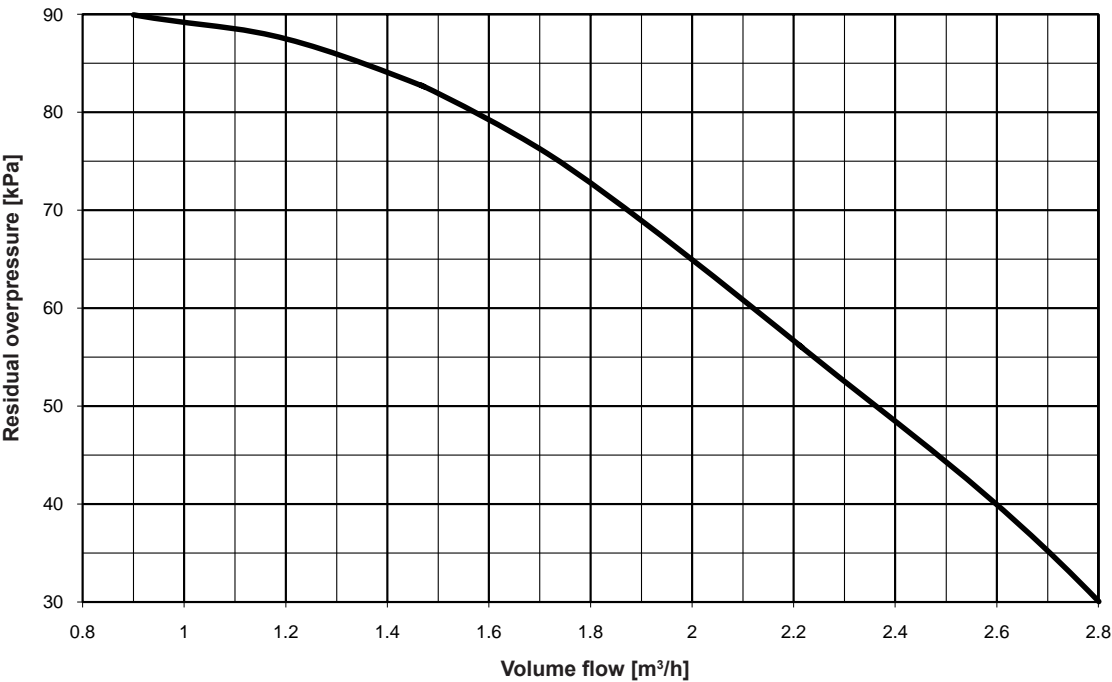
X = add-on factor acc. to SWKI 93-1, $X = 3$

	System	V_A	V_n
System content (underfloor heating system)	5 kW	120 l	3.6 l expansion quantity
	6 kW	140 l	4.2 l expansion quantity
	7 kW	160 l	4.8 l expansion quantity
	8 kW	180 l	5.4 l expansion quantity
	9 kW	200 l	6.0 l expansion quantity

If the capacity of the installed expansion tank is not sufficient, an additional tank must be installed outside the unit.

■ Technical data

Pump characteristic curve Belaria® SHM (11-16)
externally available pressure



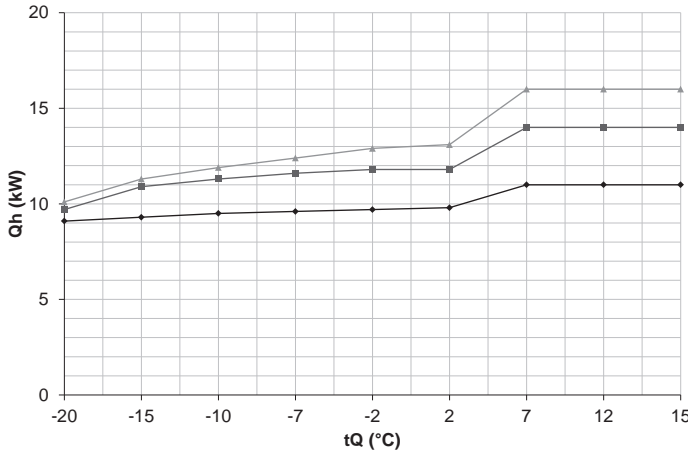
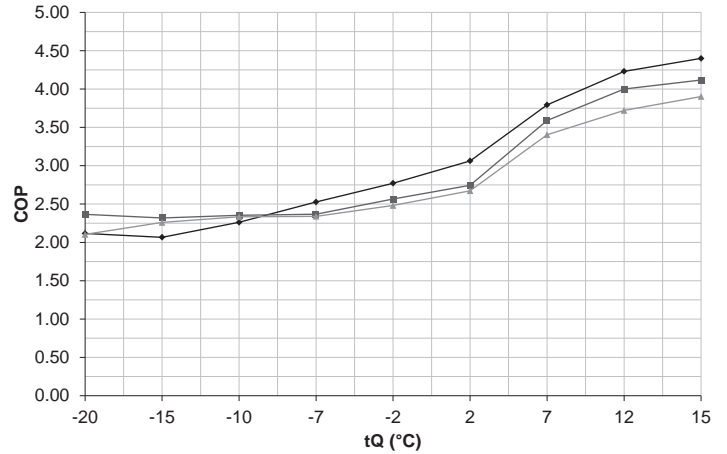
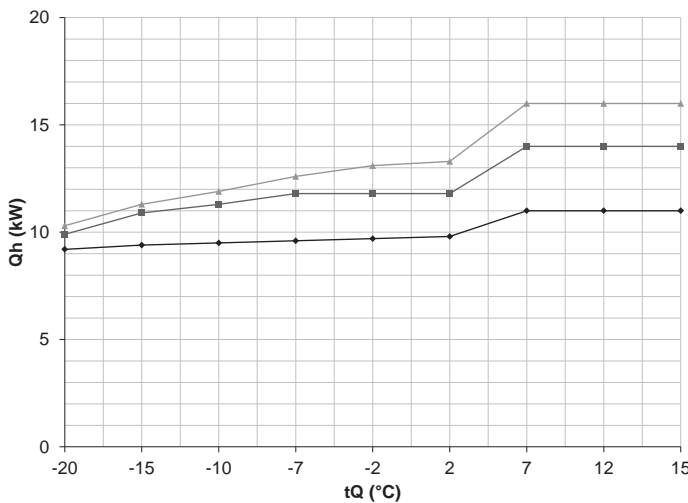
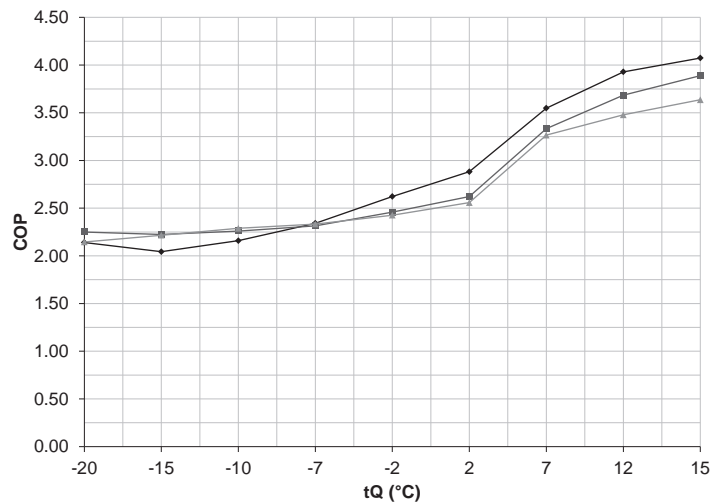
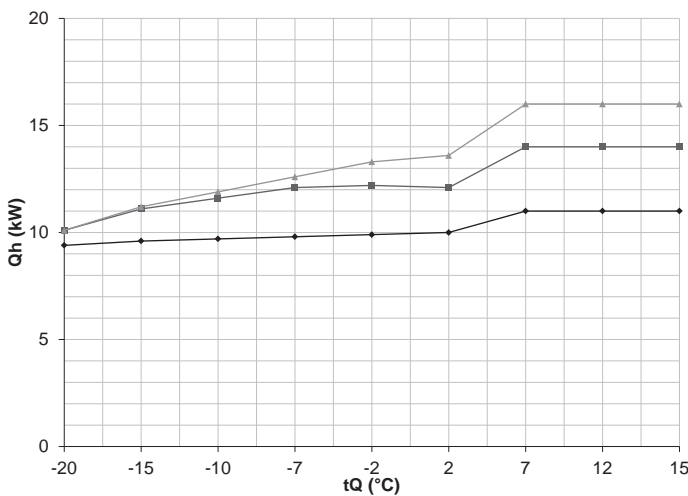
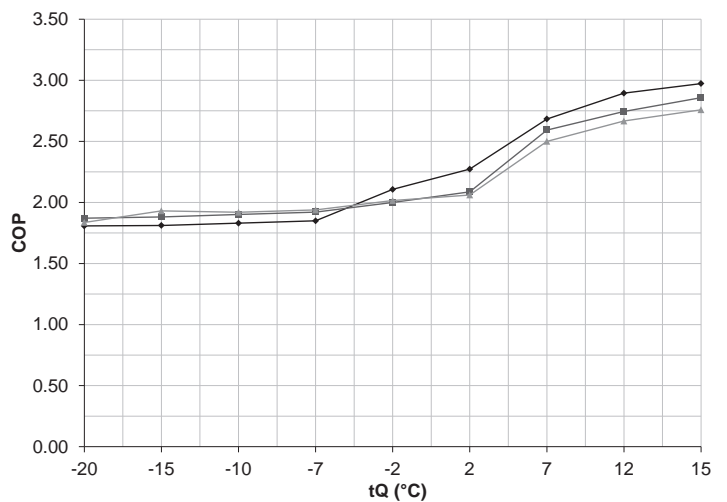
The minimum volume flow of 11.5 litres/min (0.69 m³/h) must always be provided.

Technical data

Performance data - heating

Maximum heat output allowing for defrosting losses

Hoval Belaria® SHM (11-16)

Heat output - t_{VL} 35 °C

Output rating - t_{VL} 35 °C

Heat output - t_{VL} 50 °C

Output rating - t_{VL} 50 °C

Heat output - t_{VL} 75 °C

Output rating - t_{VL} 75 °C


Take account of daily power cuts!
see Engineering

 t_{VL} = heating flow temperature (°C)

 t_Q = source temperature (°C)

 Q_h = heat output at full load (kW), measured in accordance with standard EN 14511

COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

◆ Belaria® SHM (11)
 ■ Belaria® SHM (14)
 ▲ Belaria® SHM (16)

■ Technical data

Performance data - heating

Hoval Belaria® SHM (11-16)

Indications acc. to EN14511

Type	tQ	Qh	SHM (11)	COP	Qh	SHM (14)	COP	Qh	SHM (16)	COP
tVL	°C	kW	P		kW	P		kW	P	
°C	°C		kW			kW			kW	
35	-20	9.1	4.3	2.12	9.7	4.1	2.37	10.1	4.8	2.10
	-15	9.7	4.5	2.16	10.9	4.7	2.32	11.3	5.0	2.26
	-10	9.6	4.2	2.29	11.3	4.8	2.35	11.9	5.1	2.33
	-7	9.5	3.8	2.50	11.6	4.9	2.37	12.4	5.3	2.34
	-2	9.4	3.5	2.69	11.8	4.6	2.57	12.9	5.2	2.48
	2	9.4	3.2	2.94	11.8	4.3	2.74	13.1	4.9	2.67
	7	11.0	2.9	3.79	14.0	3.9	3.59	16.0	4.7	3.40
	12	11.0	2.6	4.23	14.0	3.5	4.00	16.0	4.3	3.72
40	15	11.0	2.5	4.40	14.0	3.4	4.12	16.0	4.1	3.90
	-20	9.2	4.3	2.14	9.8	4.2	2.33	10.2	4.8	2.13
	-15	9.7	4.5	2.16	10.9	4.8	2.27	11.3	5.0	2.26
	-10	9.6	4.2	2.29	11.3	4.8	2.35	11.9	5.2	2.29
	-7	9.5	3.9	2.44	11.7	4.9	2.39	12.5	5.3	2.36
	-2	9.5	3.5	2.71	11.8	4.7	2.51	13.0	5.2	2.50
	2	9.4	3.2	2.94	11.8	4.3	2.74	13.2	5.0	2.64
	7	11.0	3.0	3.67	14.0	4.0	3.50	16.0	4.7	3.40
45	12	11.0	2.7	4.07	14.0	3.6	3.89	16.0	4.4	3.64
	15	11.0	2.5	4.40	14.0	3.5	4.00	16.0	4.2	3.81
	-20	9.2	4.3	2.14	9.8	4.3	2.28	10.2	4.8	2.13
	-15	9.7	4.6	2.11	10.9	4.8	2.27	11.3	5.1	2.22
	-10	9.6	4.3	2.23	11.3	4.9	2.31	11.9	5.2	2.29
	-7	9.5	4.0	2.38	11.7	5.0	2.34	12.5	5.3	2.36
	-2	9.5	3.6	2.64	11.8	4.7	2.51	13.0	5.3	2.45
	2	9.5	3.3	2.88	11.8	4.4	2.68	13.2	5.1	2.59
50	7	11.0	3.0	3.67	14.0	4.1	3.41	16.0	4.8	3.33
	12	11.0	2.8	3.93	14.0	3.7	3.78	16.0	4.5	3.56
	15	11.0	2.6	4.23	14.0	3.6	3.89	16.0	4.3	3.72
	-20	9.2	4.3	2.14	9.9	4.4	2.25	10.3	4.8	2.15
	-15	9.7	4.6	2.11	10.9	4.9	2.22	11.3	5.1	2.22
	-10	9.7	4.4	2.20	11.3	5.0	2.26	11.9	5.2	2.29
	-7	9.6	4.1	2.34	11.8	5.1	2.31	12.6	5.4	2.33
	-2	9.5	3.7	2.57	11.8	4.8	2.46	13.1	5.4	2.43
55	2	9.5	3.4	2.79	11.8	4.5	2.62	13.3	5.2	2.56
	7	11.0	3.1	3.55	14.0	4.2	3.33	16.0	4.9	3.27
	12	11.0	2.8	3.93	14.0	3.8	3.68	16.0	4.6	3.48
	15	11.0	2.7	4.07	14.0	3.6	3.89	16.0	4.4	3.64
	-20	9.2	4.3	2.14	9.9	4.6	2.15	10.3	4.8	2.15
	-15	9.8	4.7	2.09	10.9	4.9	2.22	11.3	5.1	2.22
	-10	9.7	4.4	2.20	11.4	5.0	2.28	12.0	5.3	2.26
	-7	9.6	4.2	2.29	11.8	5.1	2.31	12.6	5.4	2.33
65	-2	9.5	3.7	2.57	11.8	4.9	2.41	13.1	5.4	2.43
	2	9.5	3.5	2.71	11.8	4.6	2.57	13.3	5.3	2.51
	7	11.0	3.2	3.44	14.0	4.2	3.33	16.0	5.0	3.20
	12	11.0	2.9	3.79	14.0	3.9	3.59	16.0	4.7	3.40
	15	11.0	2.8	3.93	14.0	3.7	3.78	16.0	4.5	3.56
	-20	9.3	4.7	1.98	10.0	4.9	2.04	10.4	5.1	2.04
	-15	9.8	5.1	1.92	11.0	5.2	2.12	11.4	5.4	2.11
	-10	9.8	4.9	2.00	11.5	5.4	2.13	12.1	5.7	2.12
75	-7	9.7	4.7	2.06	11.9	5.5	2.16	12.7	5.9	2.15
	-2	9.6	4.2	2.29	12.0	5.3	2.26	13.3	5.9	2.25
	2	9.6	3.9	2.46	11.9	5.0	2.38	13.5	5.8	2.33
	7	11.0	3.6	3.06	14.0	4.7	2.98	16.0	5.6	2.86
	12	11.0	3.3	3.33	14.0	4.3	3.26	16.0	5.2	3.08
	15	11.0	3.2	3.44	14.0	4.2	3.33	16.0	5.0	3.20
	-20	9.4	5.2	1.81	10.1	5.4	1.87	10.1	5.5	1.84
	-15	10.0	5.7	1.75	11.1	5.9	1.88	11.2	5.8	1.93
80	-10	9.9	5.5	1.80	11.6	6.1	1.90	11.9	6.2	1.92
	-7	9.9	5.3	1.87	12.1	6.3	1.92	12.6	6.5	1.94
	-2	9.8	4.7	2.09	12.2	6.1	2.00	13.3	6.6	2.02
	2	9.8	4.4	2.23	12.1	5.8	2.09	13.6	6.6	2.06
	7	11.0	4.1	2.68	14.0	5.4	2.59	16.0	6.4	2.50
	12	11.0	3.8	2.89	14.0	5.1	2.75	16.0	6.0	2.67
	15	11.0	3.7	2.97	14.0	4.9	2.86	16.0	5.8	2.76
	-20	9.4	5.5	1.71	10.1	5.8	1.74	10.0	5.7	1.75
	-15	10.0	6.1	1.64	11.1	6.2	1.79	11.1	6.1	1.82
	-10	10.0	5.9	1.69	11.6	6.5	1.78	11.9	6.4	1.86
	-7	9.9	5.7	1.74	12.1	6.7	1.81	12.6	6.8	1.85
	-2	9.8	5.1	1.92	12.2	6.5	1.88	13.3	7.0	1.90
	2	9.8	4.8	2.04	12.1	6.2	1.95	13.6	7.0	1.94
	7	11.0	4.4	2.50	14.0	5.7	2.46	16.0	6.7	2.39
	12	11.0	4.1	2.68	14.0	5.5	2.55	16.0	6.4	2.50
	15	11.0	4.0	2.75	14.0	5.3	2.64	16.0	6.2	2.58

tVL = heating flow temperature (°C)

tQ = source temperature (°C)

Qh = heat output at full load (kW), measured in accordance with standard EN 14511

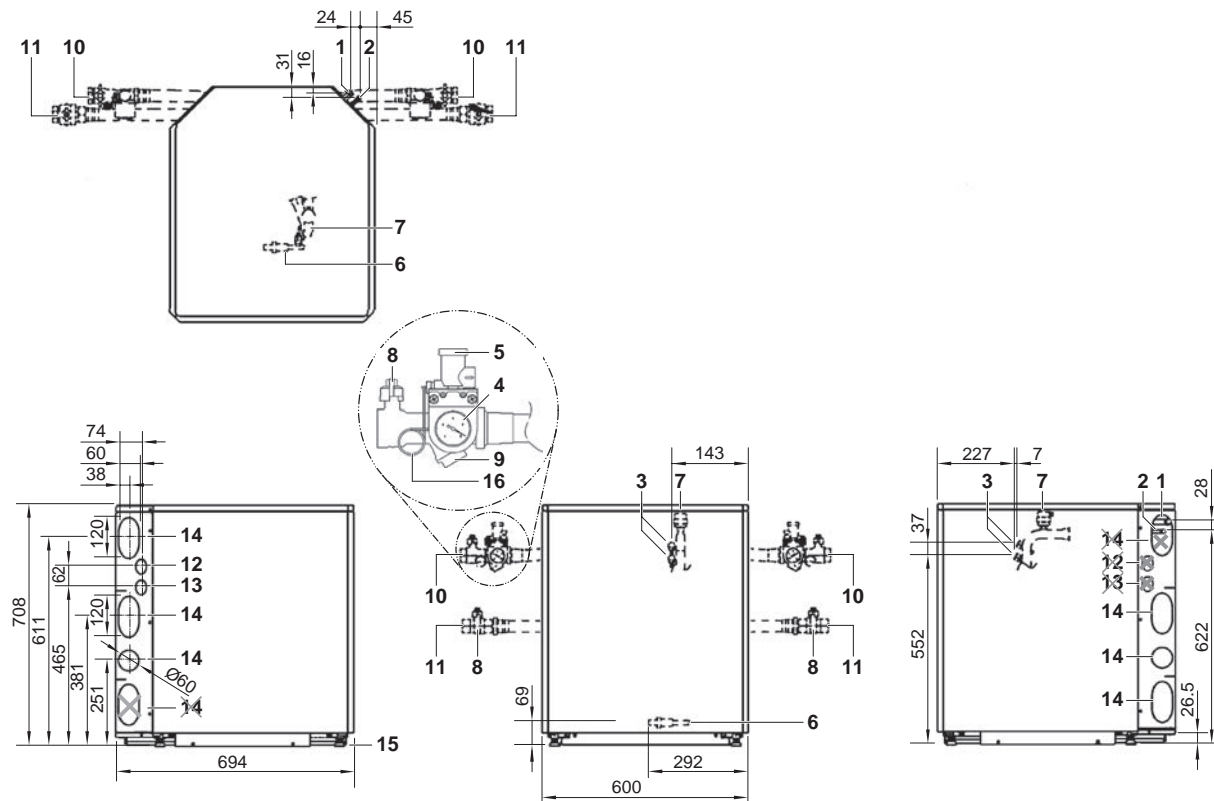
P = power consumption of the overall unit (kW)

COP = Coefficient of Performance for the overall unit in accordance with standard EN 14511

Take account of daily power cuts!
see Engineering

■ Dimensions

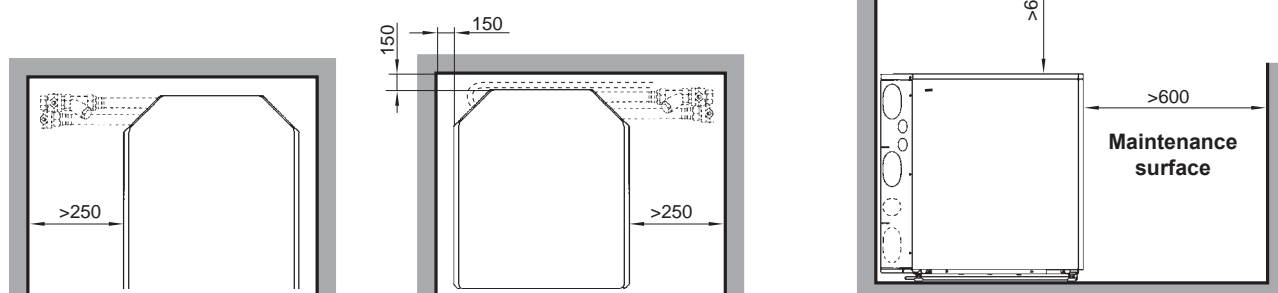
Hoval Belaria® SHM (11-16) indoor unit (Dimensions in mm)



Electric cables can only be fed in on the rear left side!

- | | | |
|---|---------------------------|--|
| 1 Hot gas line R410A 5/8" (15.9 mm) | 6 Drain for water circuit | 12 Feed-through for control cable (opening Ø 37 mm) |
| 2 Liquid line R410A 3/8" (9.5 mm) | 7 Air bleeding | 13 Feed-through for power supply (opening Ø 37 mm) |
| 3 Maintenance connections R410A Ø 12.7 mm | 8 Shut-off valve | 14 Feed-through for refrigerant line and flow/return |
| 4 Pressure gauge | 9 Water filter | 15 Levelling feet |
| 5 Safety valve | 10 Heating return G 1" | |
| | 11 Heating flow G 1" | |

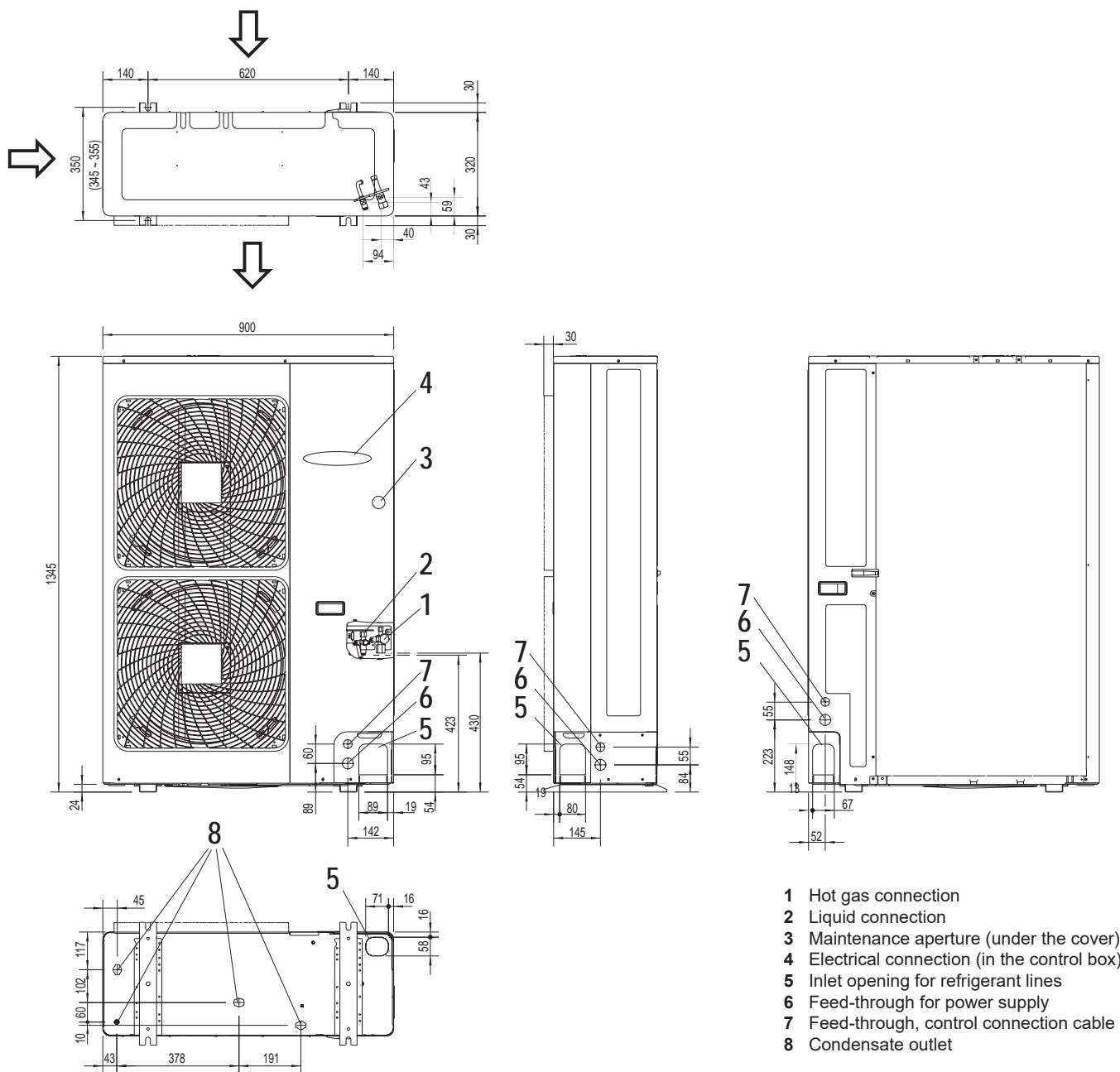
Space requirement for Hoval Belaria® SHM indoor unit (Dimensions in mm)



■ Dimensions

Hoval Belaria® SHM (11-16) outdoor unit

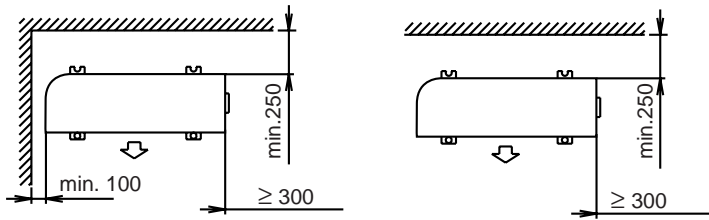
(Dimensions in mm)



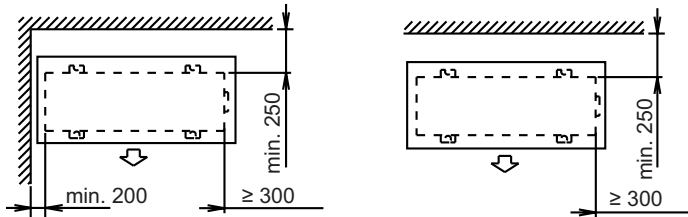
■ Dimensions

Space requirement

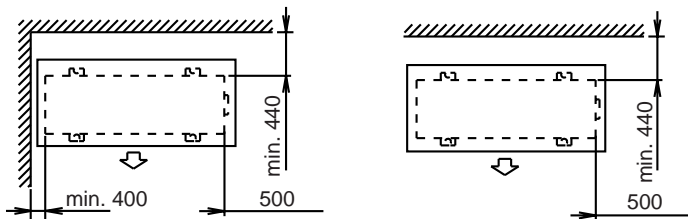
Space requirement for Hoval Belaria® SHM (11-16) outdoor unit without roof (Dimensions in mm)



Space requirement for Hoval Belaria® SHM (11-16) outdoor unit with roof (Dimensions in mm)



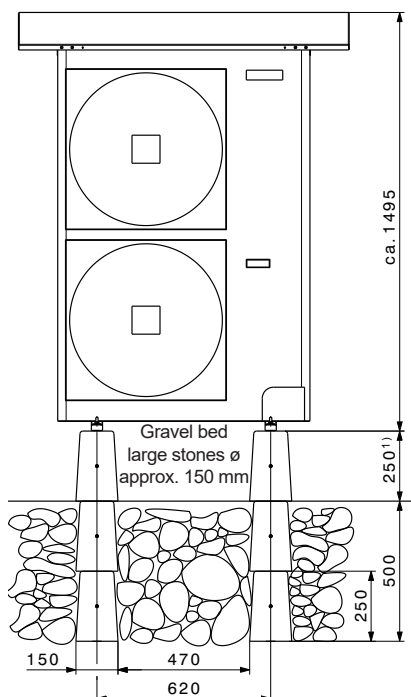
Space requirement for Hoval Belaria® SHM (11-16) with acoustic insulation housing (Dimensions in mm)



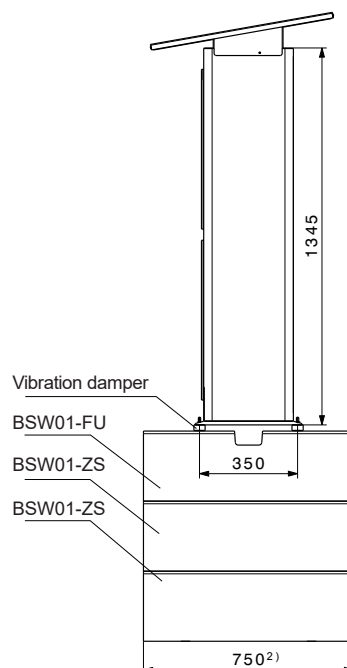
Base plans for Hoval Belaria® SHM (11-16) (Dimensions in mm)

Concrete base - gravel bed

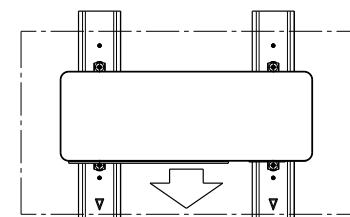
Front view



Side view



View from above



There must be adequate space for the outlet (approx. 1 m) to route off the cooled air.

The outdoor unit must be protected against heavy snowfall. If necessary, provide a cover.

The outdoor unit must be placed on feet at least 250 mm / 50 mm high. There must be a gravel bed under it to discharge the condensation. (see base plans)

Dimensions of protective roof for outdoor unit

Belaria® SHM type	B	T
(11-16)	1180	660

- 1) Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- 2) Design with sound attenuation housing min. length 950

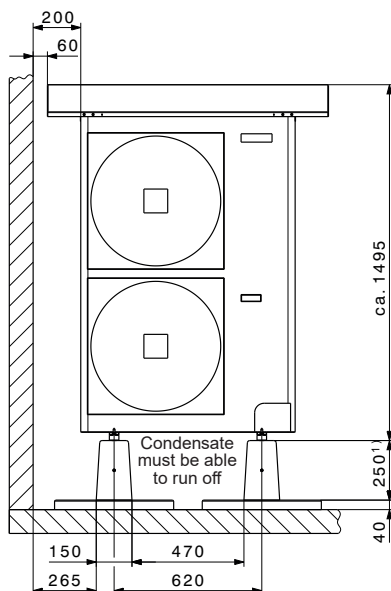
■ Dimensions

Base plans for für Belaria® SHM (11-16)

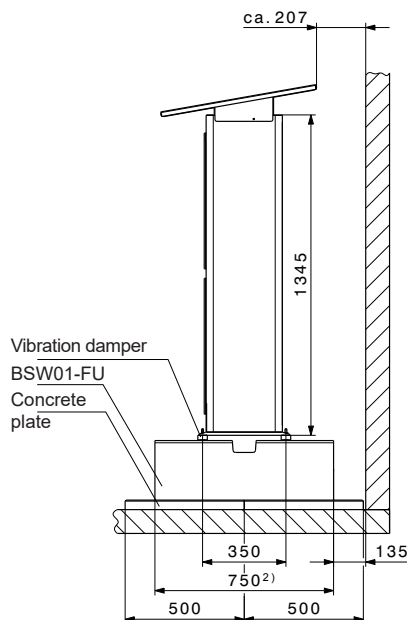
(Dimensions in mm)

Concrete base - firm base

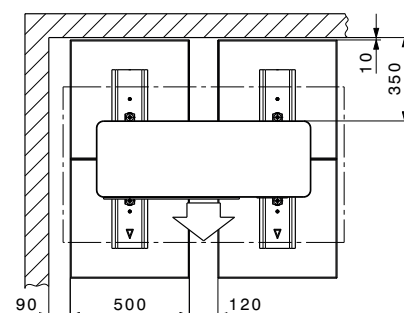
Front view



Side view



View from above

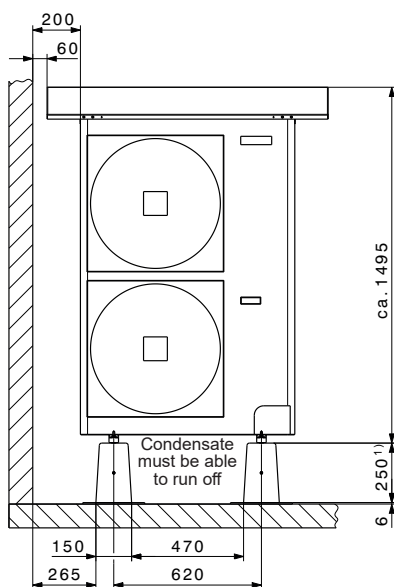


- 1) Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- 2) Design with sound attenuation housing min. length 950

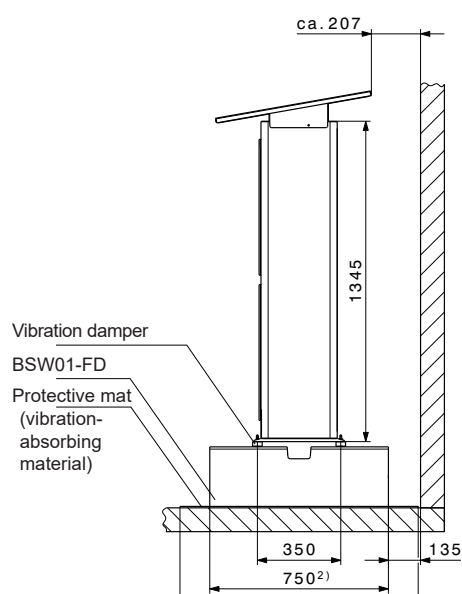
- The outdoor unit must be attached to the base using 4 vibration dampers M8 and concrete dowels (see Accessories).
- If the outdoor unit is exposed to strong winds, the bases must be extended to approx. 700 mm and anchoring cables fitted.

Concrete base - flat roof

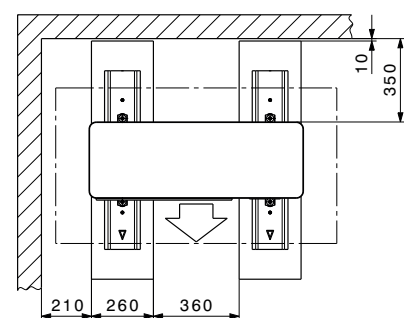
Front view



Side view



View from above



- 1) Depending on the possible snow depth; for version with sound attenuation housing >50-70 base height 200 mm (included in the scope of delivery)
- 2) Design with sound attenuation housing min. length 950

- Prevention of the transmission of structure-borne sound to the roof is very important. Specialists may need to be consulted, depending on the specific roof design.
- The outdoor unit must not be installed directly above bedrooms!
- The outdoor unit must be attached to the base using 4 vibration dampers M8 and concrete dowels (see Accessories).
- The outdoor unit must be protected against heavy snowfall. If necessary, provide a cover (see Accessories).
- The condensate must be routed away from the base so that no ice can form on the base.
- Observe the maximum permissible roof load without fail! (weight of unit, concrete base and any snow load).
- If the outdoor unit is exposed to strong winds, the bases must be extended to approx. 700 mm and anchoring cables fitted. In addition, wind deflectors must be installed.

■ Engineering

Requirements and directives

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

Installation

General comments

- The distance between the inside and outdoor unit must be as short as possible. Only short and simple routing of refrigerant lines guarantees cost effectiveness.
- The required minimum length for the lines between the outside and indoor unit is 3 m, and the lines must not be shorter than this. The maximum permissible length of the lines between the outside and indoor unit is 30 m and must not be exceeded. The maximum permissible height difference between outside and indoor unit is 30 m. The maximum permissible length of the lines between calorifier and indoor unit is 10 m. It is essential to clarify details of the installation location and line routing with Hoval!

Indoor unit

- The indoor unit of the Hoval Belaria® SHM air/water heat pump system can be mounted on the floor in the boiler room.
- The installation location must be selected in accordance with the valid requirements and directives.
- The installation must be free from dust or other foreign matter which could lead to contamination.
- Where possible, the installation location should be outside noise-sensitive areas of the building and equipped with a sound-absorbing door.
- Access for the purpose of operation and maintenance must be ensured.
- The installation location must be frost-free.
- The space around the indoor unit allows for adequate air circulation.
- Precautions are taken in case water is drained via the safety valve.
- The indoor unit is not designed to be allowed to be installed where there could be a potentially explosive atmosphere.
- Do not install the indoor unit in a room that will also be used as a workplace or workshop. If construction work is taking place in the vicinity (e.g. sanding work) which gives rise to a lot of dust, the unit must be switched off and covered.
- If the noise level is measured under the actual installation conditions, this will be higher than specified in the unit specification. This is because of reflected noise from the surroundings. Select the installation location accordingly.
- Take precautions so that no damage can be caused by leaking water if there is a leak at the installation location and in the vicinity.
- The floor must withstand the weight of the indoor unit. It must be level so that no vibration and noise is created and the unit stands securely.

- Do not place objects on the unit.
- Do not climb onto, sit on or stand on the unit.
- Make sure that adequate precautions are or will be taken according to the particular local and national regulations in the event that there is a leak in the refrigerant circuit.
- Rooms with high air humidity, for example laundry rooms, are not suitable installation locations (dewpoint <10 °C).

The installation of a magnetic sludge separator is mandatory.

Outdoor unit

The outdoor unit is installed outdoors. The installation location must be selected carefully. It is essential that the following ancillary conditions are met:

- The subsoil in the installation location must be sufficiently stable to bear the weight of the unit and its vibration in operation.
- The location should have adequate space for installation, maintenance and cleaning of the unit (see dimensions "Space requirements").
- As condensate flows out of the outdoor unit, a gravel bed to absorb the condensate must be installed under it. Do not place anything which is sensitive to moisture under the unit.
- Due to the sound emissions, the installation location should not be beneath living-room or bedroom windows and be far enough away from neighbouring buildings (perform calculation).
- The selected location should be such that the air blown out by the unit does not bother occupants of the building or neighbours.
- No parts and plants at risk of frost damage are allowed to be on the blow-out side.
- It is essential to avoid air short-circuiting. The space necessary for intake and outlet must always be provided (see space requirements).
- The installation location must be selected so that the air intake and outlet are not blocked or obstructed by snow, leaves, etc.
- Installation in wall niches is not recommended (air short circuit, sound echo).
- The units cannot be installed one above the other.
- Install the units, the mains cables and the branch wiring at least 3 m away from TV sets and radios. This should prevent interference with picture and sound.
- The intake air must be completely free of aggressive substances such as ammonia, sulphur, chlorine etc.
- Installation on a wall console is not suitable in the case of lightweight walls. Lightweight walls can increase sound emissions and transmit structure-borne sound.
- Install the outdoor unit so that the intake side faces the wall and is not directly exposed to the wind.

- Never install the outdoor unit in a place where the intake side is directly exposed to the wind.
- Fit a deflector plate on the air outlet side of the outdoor unit to prevent exposure to the wind.
- The outdoor unit must be protected against heavy snowfall.
- Install the unit at sufficient height from the ground to ensure that the unit is not covered by snow and freezing condensate cannot impair operation (see separate base plans).

Condensate (outdoor unit)

- Condensate must be able to run off freely.
- Use a condensate drip tray if the condensate has to be drained off collectively (option).
- It is essential to insulate the condensate hose from the tray, and if necessary, equip the hose with trace heating.

Refrigerant connecting lines

- The refrigerant connecting lines may only be installed by authorised persons and following consultation or approval by Hoval.
- The line dimensions must be precisely adhered to (see also Section "Part No."; refrigerant connecting lines).
- The inside and outdoor unit, with the hot gas and liquid line, must be fitted professionally with thermal insulation.

Wall lead-through, protective pipe for routing of the lines

The wall lead-through and the protective pipe (Ø min. 100 mm) for the connecting lines must be routed with no changes of direction, executed professionally and sealed.

Electric connecting cables

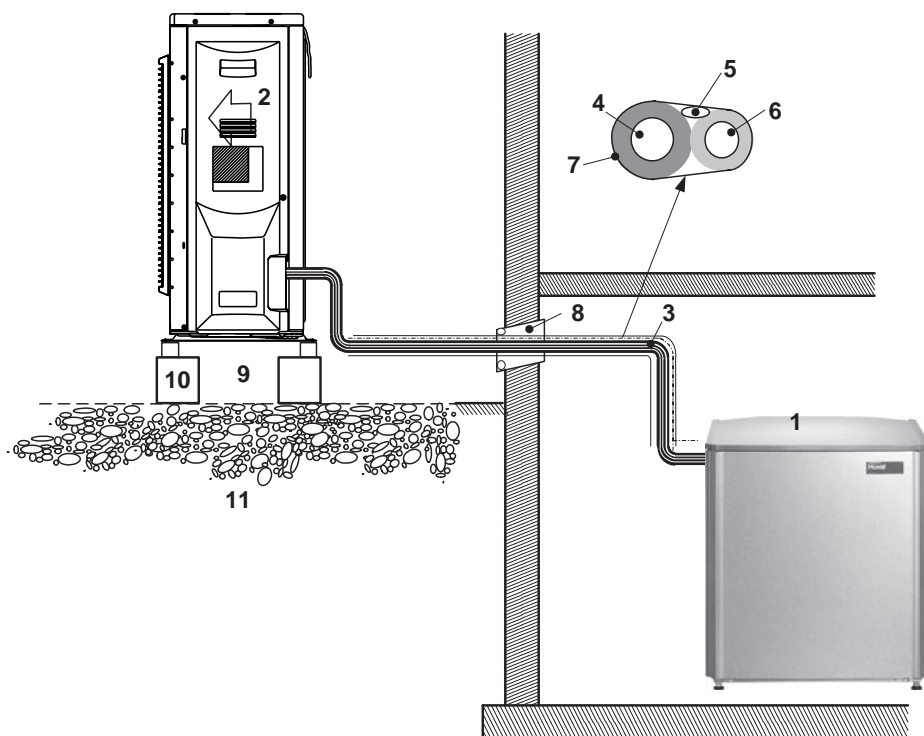
- The electric connecting cables on the outdoor unit must be connected flexibly.
- Taking advantage of the special reduced tariffs offered by local energy companies for heat pump systems often means interrupted operation. For example, within any 24-hour period, the power supply may be interrupted for 3 periods of 2 hours each. This must be taken into account when dimensioning and planning the heat pump.

Necessity of an oil separator

If the outdoor unit is placed lower than the indoor unit, an oil separator must be bent or installed in the hot gas line for each 10 m of height difference (siphon). The oil separator prevents the compressor oil flowing back after switching off and thus slugging which could damage the compressor.

■ Engineering

Cross-section of connecting line



- 1 Indoor unit (evaporator / compressor / condenser)
- 2 Outdoor unit (evaporator / fan / compressor)
- 3 Refrigerant connecting line
- 4 Hot gas line with thermal insulation
- 5 Electric connecting cable (on site) Belaria® SHM (11-16) 1 cable (control connection cable)
- 6 Refrigerant liquid line with thermal insulation
- 7 Wrapping or duct
- 8 PE casing tube Ø at least 100 mm with sealing (on site). All casing tubes for the lines must be routed straight (it must be possible to look down the tube and see the other end!).
- 9 Condensate
- 10 Base or paving slab to be provided on site on gravel (The height is to be determined depending on the climate zone, recommended height >250 mm; consider max. possible local snow height)
- 11 Drainage (on site)

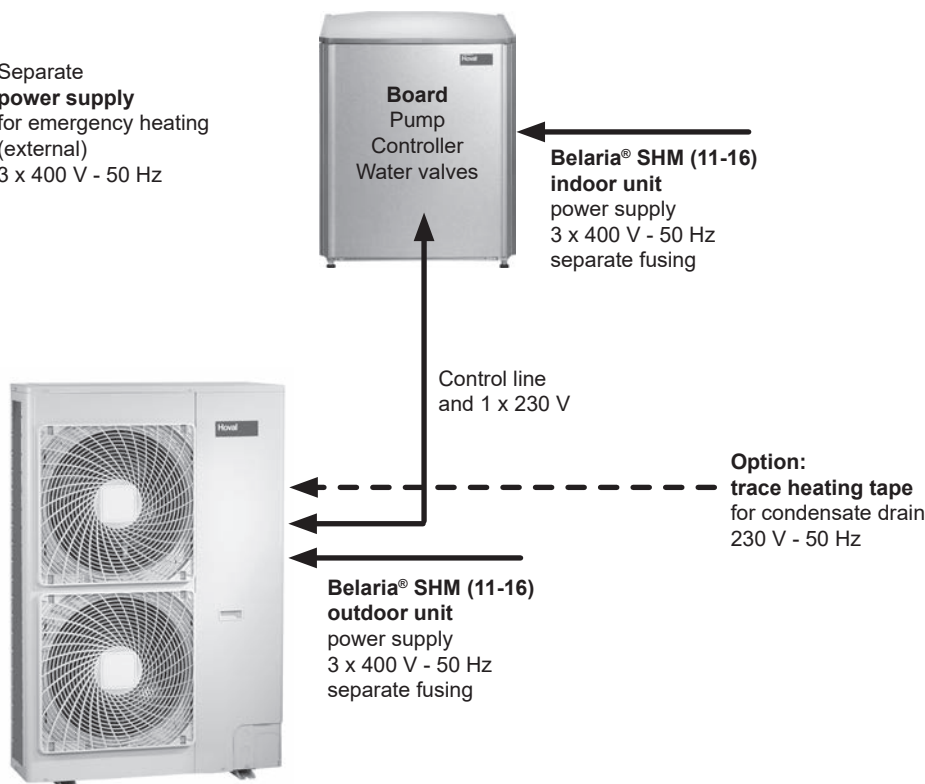
Line length between outdoor unit and indoor unit

Hoval Belaria® SHM type (11-16)

- Minimum line length 5 m
- Maximum permissible length 50 m
- Maximum permissible height difference 30 m

Electrical connection Hoval Belaria® SHM

Separate power supply for emergency heating (external)
3 x 400 V - 50 Hz



The trace heating tape must be connected according to the local regulations, e.g. separate protection by a ground fault circuit interrupter.

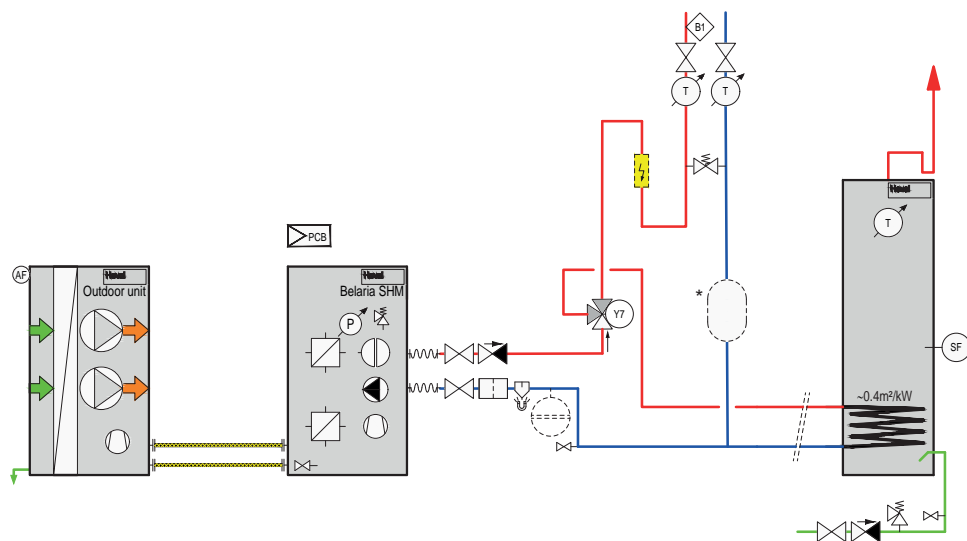
■ Examples

Belaria® SHM (11-16)

Air/water heat pump with

- calorifier
- 1 direct circuit

Hydraulic schematic BBACE020



* Additional volume for defrosting process

Important notices

- Direct circuit not suitable for low-temperature heating systems
- 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.
- Shut-off devices to the safety equipment (pressure expansion tank, safety valve, etc.) must be secured against unintentional closing!
- Install sacks to prevent single-pipe gravity circulation!

PCB	Room station
AF	Outdoor sensor
SF	Calorifier sensor
Y7	Switching valve

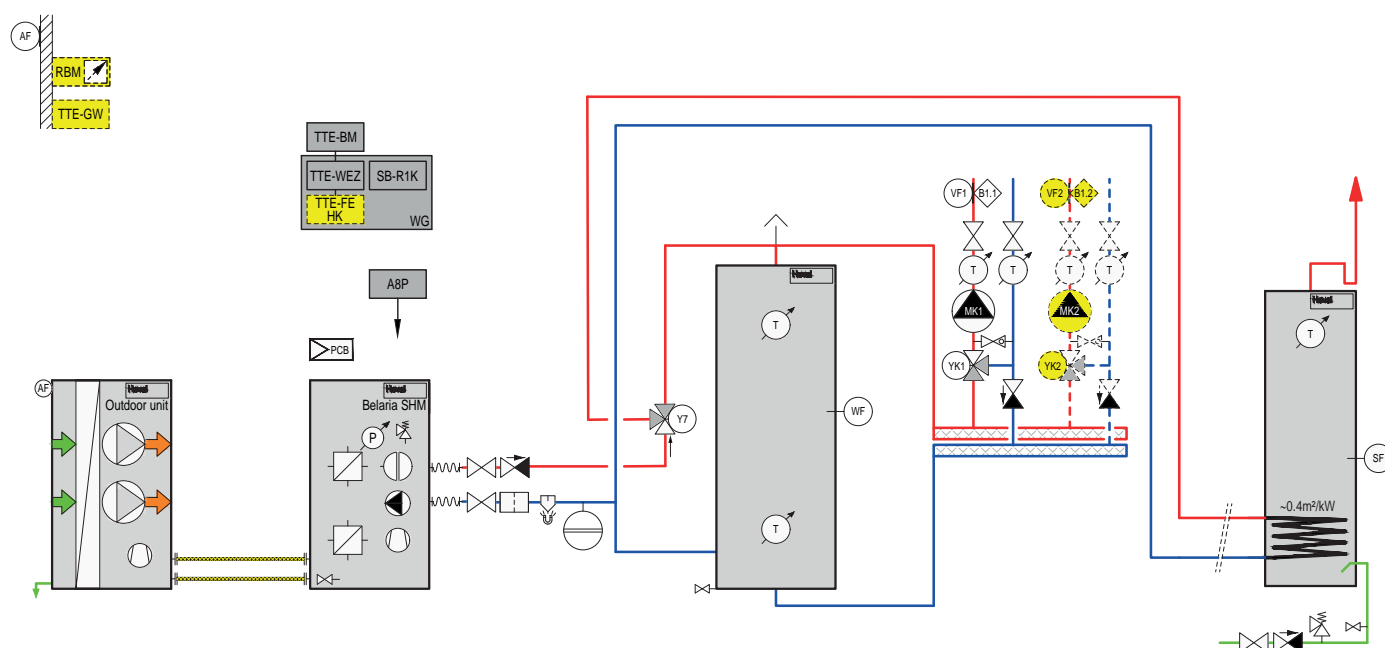
■ Examples

Belaria® SHM (11-16)

Air/water heat pump with

- energy buffer storage tank
- calorifier
- 1-... mixer circuit(s)

Hydraulic schematic BBACE040



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.
- Shut-off devices to the safety equipment (pressure expansion tank, safety valve, etc.) must be secured against unintentional closing!
- Install sacks to prevent single-pipe gravity circulation!

TTE-BM	TopTronic® E control module
TTE-WEZ	TopTronic® E basic module heat generator (in the wall housing)
SB-R1K	System module relays 1 contact
WG	Wall housing
A8P	Additional board
PCB	Room station
VF1	Flow temperature sensor 1
B1.1	Flow temperature guard (if required)
MK1	Pump mixer circuit 1
YK1	Actuator mixer 1
AF	Outdoor sensor
SF	Calorifier sensor
Y7	Switching valve
<i>Option</i>	
RBM	TopTronic® E room control module
TTE-GW	TopTronic® E Gateway
TTE-FE HK	TopTronic® E module expansion heating circuit
VF2	Flow temperature sensor 2
B1.2	Flow temperature guard (if required)
MK2	Pump mixer circuit 2
YK2	Actuator mixer 2