

■ Description

Hoval Thermalia® twin
Brine/water-water/water
heat pump

- Compact brine/water-water/water heat pump with two output stages
- Compact unit with high energy efficiency
- Extremely low-noise with triple-mounted construction
- Stable framework of galvanised sheet steel; with removable, powder-coated, sound-insulated side panels, colour brown red (RAL 3011)
- Sound-insulated plastic hood, colour flame red (RAL 3000)
- Operation from front attractive switching field display of controller messages
- Heating circuit temperatures available
- Temperatures and pressures of brine circuit and refrigeration cycle available
- Sensor set (outside, contact and hot water sensor) included
- Integrated brine pressure sensor/switch
- 2 spiral (scroll) compressors
- Plate heat exchanger system of stainless steel
- Electronic starting current limiter with rotary field/phase monitoring for each compressor
- Hydraulic connections to the rear
- 4 flexible hoses incl. 90° bend included separately
- Sound-insulating floor mat
- Refrigerant
- Type (20-42) with R410A
Type H (20-35) with R134a
- Heat pump wired ready for installation inside the building

Electrical connections

- Connection to the rear

Heat pump control TopTronic® T/UWP

- Regulation function integrated for:
 - 1 mixer circuit
 - 1 heating circuit without mixer
 - domestic hot water loading circuit
- Function extension possibility via different key modules.
- Main switch "I/O"
- Safety temperature limiter
- Fuse 6.3 A
- Trouble indication heat pump
- Running time meter and counter
- Heat pump sensor set with outside, contact and cable sensor included
- Large LCD display

Delivery

- Heat pump on pallet, plastic hood and floor plate separately packed
- Flexible hoses included
- Sensor set separately packed

Optional

Internet connection



Thermalia® - series

Type	Refrigerant	Max. flow °C	Nominal heat output B0W35/W10W35 kW	
twin (20)	R410A	62	20.5	27.3
twin (26)	R410A	62	26.2	35.1
twin (36)	R410A	62	35.3	46.4
twin (42)	R410A	62	42.0	55.4
twin H (20)	R134a	67	12.9	18.1
twin H (28)	R134a	67	18.3	25.6
twin H (35)	R134a	67	21.9	30.6



Authorisations

Switzerland/Germany/Austria

Thermalia® (36)	test No. AIT	2.04.01032.1.0
Thermalia® H (35)	test No. WPZ	SW ¹ -290-11-07
Thermalia® H (35)	test No. WPZ	WW ² -149-11-07

Examined by heat pump testing centre (WPZ)

The Thermalia® twin (20-42) and twin H (20-35) series is certified by the seal of approval of the authorisation commission of Switzerland.

¹ Brine (salt water)/water

² Water/water

■ Part No.

**Brine/water-water/water
heat pump Hoval Thermalia® twin**

Part No.

Brine/water-water/water heat pump with hermetic spiral (scroll) compressor. Comprising an integrated heating regulator TopTronic® T/UWP and flexible connection pipes (not withstanding low pressure). Compact unit, pre-wired and ready for installation inside the building.



Hoval Thermalia® twin
Refrigerant R410A
Flow temperature max. 62 °C

Type	Heat output B0W35/W10W35 kW	
	(20)	20.2
(28)	28.6	39.3
(35)	34.0	46.8
(42)	42.0	55.4

7011 565
7011 566
7011 567
7011 568

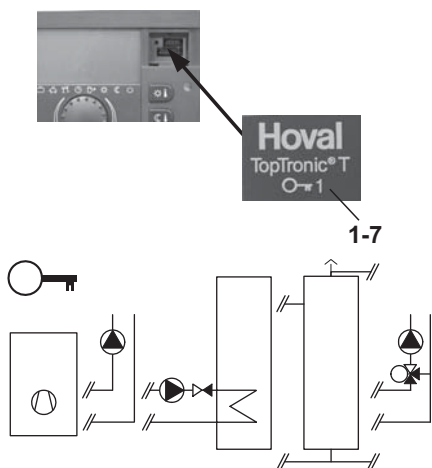
Hoval Thermalia® twin H
Refrigerant R134a
Flow temperature max. 67 °C

Type	Heat output B0W35/W10W35 kW	
	(20)	12.9
(28)	18.3	25.6
(35)	21.9	30.6

7011 591
7011 592
7011 593

■ Part No.

Part No.



Accessories for heating regulation system TopTronic® T

Key modules for Hoval TopTronic® T

for further functions additionally to standard functions.

Key module consisting of:

- function key for plugging into TopTronic® T incl. accessories

Only one key module is possible!

Standard functions

already included in TopTronic® T.

- 1 mixing circuit
- 1 heating circuit without mixing operation
- domestic hot water loading circuit

Functions of the key modules

Key- 2nd mixing solid-fuel- solar
module circuit storage tank bi-fuel

①	●			
②		●		
③				●
④	●	●		
⑤	●			●
⑥		●		●
⑦	●	●		●

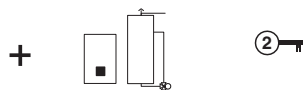


Key module 1

for 2nd mixing circuit

Function 1, 1 flow sensor, 2 loose plugs

6012 154



Key module 2

for solid fuel/storage tank/bivalent installation

Function key 2, 3 immersion sensors, 4 loose plugs

6012 155

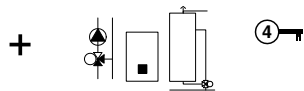


Key module 3

for solar plants

Function key 3, 1 collector sensor, 1 calorifier sensor, 4 loose plugs

6012 156



Key module 4

for 2nd mixing circuit and solid fuel/storage tank/bivalent installation

Function key 4, 1 flow sensor, 3 immersion sensors, 6 loose plugs.

6012 157

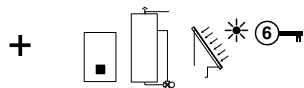


Key module 5

for 2nd mixing circuit and solar plants

Function key 5, 1 flow sensor, 1 collector sensor, 1 calorifier sensor, 6 loose plugs

6012 158

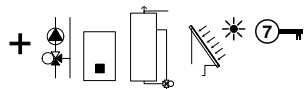


Key module 6

for solid fuel/storage tank/bivalent installation and solar plants

Function key 6, 1 collector sensor, 4 immersion sensor, 6 loose plugs.

6012 159



Key module 7

for 2nd mixing circuit, solid fuel/storage tank/bivalent installation and solar plants

Function key 7, 1 flow sensor, 1 collector sensor, 4 immersion sensors, 8 loose plugs

6012 160

System solutions and applications
see Hoval CD

Sensor type

Immersion-/calorifier sensor:

Type KVT20/5/6 (L = 5 m)
without immersion sleeve










flow sensor

Type VF204S with plug

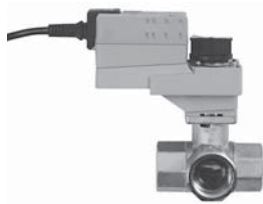
Collector sensor

Type PT1000 (Silicone)

■ Part No.

	Accessories	Part No.
	Room station RS-T for TopTronic® T effective on one mixing circuit	2034 939
	Remote control RFF-T for TopTronic® T effective on one mixing circuit	2022 239
	Outdoor sensor AF 200 (may be included in the heat generator scope of delivery) for one mixing circuit or for the mean value (per regulator 2 outdoor temperature sensors possible)	2022 995
	Contact sensor VF202K usable as flow or return sensor. with 2 m cable and plug	6012 595
	Contact sensor VF204S can be used as flow or return flow sensor with 4 m cable and plug	6012 688
	Cable sensor KVT 20/5/6 with 5 m cable	2022 992
	Protective pipe immersion sleeve SB280 1/2" brass nickel-plated PN10 - 280 mm	2018 837
	Solar temperature sensor PT 1000 silicone sensor, can be used as collector/calorifier sensor L = 2.5 m max. permissible temperature 240 °C (included in key module Solar)	2022 990
	Necessary at boiler room temperatures < 10 °C Crankcase heater for Belaria® compact IR (7-11), Belaria® twin I, twin IR (15-30), Thermalia® (6-15), twin (20-42) for compressor protection For Belaria® twin I, twin IR (15-30), Thermalia® twin (20-42) 2 pieces are necessary!	6019 718

■ Part No.



Accessories for water heating

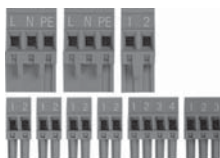
Part No.

**Motorised switch ball valves
type R3..B/LR230A, NR230A, SR230A,
connections with inner thread
with drive**

Type	DN	Screw connection	kvs ¹	
R3025-BL2/LR230A	25	Rp 1"	10.0	6027 411
R3032-BL3/NR230A	32	Rp 1¼"	15.0	6027 412
R3040-BL4/SR230A	40	Rp 1½"	47.0	6027 413
R3050-BL4/SR230A	50	Rp 2"	75.0	6027 414

¹ Through-flow quantity in m³/h at 100% opening and with a pressure loss of 1 bar.

Circulating pumps, controlling elements, energy storage tank see separate brochures


Expansion connector set

6032 509

for the automatic heat pump ECR461.

Use for additional function:

- Flow monitor
- Crankcase bottom heating
- Condensation drain heating
- Heat quantity metering

Plugs:

- 1x 230V digital input
- 2x 230V outputs
- 4x low-voltage inputs
- 1x ratio. Input


Universal connector set

6032 510

for automatic heat pump ECR461

Plugs:

- 3x 230V digital input
- 4x 230V outputs
- 6x low-voltage inputs
- 2x low-voltage outputs
- 1x ratio. input
- 1x electr. expansion valve

■ Part No.

Accessories for water heating

Part No.

Accessories water/water



Cable sensor KTY81-210
 can be used as heat source sensor
 dew point resistant.
 Connection made of PVC
 Cross-section: 2 x 0.22 mm²
 L = 2500 mm
 50 mm free ends with wire end ferrules
 Measuring current of approx. 1mA
 Protective sleeve:
 6 mm, L = 50 mm, material V4A 1.4571
 max. operating temperature:
 -50°C to +200 °C

2040 586



Float ball flow switch
 nominal pressure 10 bar
 installed length 335 mm
 bistable reed contact as
 contact open, if there is no flow

Area of application l/h	°C	Connection
1500-15000	0-80	Rp 2"

2040 709



Flow switch F61 TB-9100
 (alternative in case of lack of space)
 for heat source ground water
 Type of protection: IP 67
 Area of application: -30/85 °C
 Connection: 1" external
 Min. water volume: 1.2 m³/h

2004 483



**Freeze protection concentrate
 PowerCool DC 924-PXL**
 on basis propylene glycol
 completely mixable with water
 with corrosion protection
 Frost protection: -20 °C with
 40% mixture ratio
 Content plastic container: 10 kg

2009 987

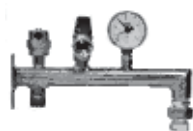
■ Part No.

Part No.



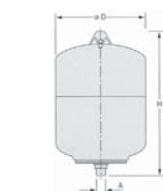
Ground water pump kit SB-GWP
 Contactor for actuation of a 3-phase ground water pump.
 Ready to connect without thermal overload protection

6025 513



Safety group for brine circuit SI-Gr.
 Retaining bar incl. safety valve, pressure gauge, air vent and connection fittings for expansion chambers

2015 354



Expansion tank N25
 for brine operation, white coated, nominal size 25 l
 max. operating pressure 3 bar, supply pressure 1.5 bar
 For systems up to approx. 20 kW

2006 677

Service



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 Thermalia® twin (20-42) with R410A and Thermalia® twin H (20-35) with R134a

Type Stage	(20)		(26)		(36)		(42)		H(20)		H(28)		H(35)				
	1	2	1	2	1	2	1	2	1	2	1	2	1	2			
• Heat output (Q)	for B0W35	kW ¹		10.7	20.4	13.7	26.2	18.4	35.3	21.9	42.0	6.8	12.9	9.7	18.3	11.6	21.9
	for W10W35	kW ¹		14.3	27.3	18.3	35.1	24.2	46.4	28.8	55.4	9.6	18.1	13.6	25.6	16.2	30.6
• Power consumption	for B0W35	kW ¹		2.1	4.2	2.7	5.5	3.6	7.1	4.4	8.8	1.4	2.8	2.0	3.9	2.3	4.6
	for W10W35	kW ¹		2.1	4.2	2.7	5.5	3.6	7.2	4.6	9.1	1.5	3.0	2.1	4.2	2.5	4.9
• Performance	for B0W35	COP		5.1	4.9	5.0	4.8	5.2	5.0	5.0	4.8	4.9	4.7	4.9	4.7	5.0	4.8
	for W10W35	COP		6.8	6.5	6.7	6.4	6.7	6.4	6.3	6.1	6.3	6.1	6.3	6.1	6.5	6.2
• Operating weight		approx. kg		280		286		298		310		273		283		293	
• Compressor type		2 x spiral (scroll), hermetic															
• Refrigerant filling R410A		kg		6.5		7.1		8.2		9.0		-		-		-	
• Refrigerant filling R134a		kg		-		-		-		-		5.0		5.5		6.0	
• Condenser/evaporator		Plate heat exchanger															
• Material		Stainless steel V4A, AISI 316, 1.4401															
• Connections		R		5/4"		5/4"		2"		2"		2"		2"		2"	
• Piping connections with flex. connecting hose		Rp		1½"		1½"		2"		2"		1½"		1½"		1½"	
<i>Nominal volume flow and resistance brine/water heat pump</i>																	
• Heating ($\Delta t = 7K$)		m ³ /h		2.5		3.3		4.4		5.2		1.6		2.3		2.7	
• ΔP Pressure loss condenser		kPa		5.3		7.3		5.0		5.3		1.6		2.0		2.3	
• Heat source ($\Delta t = 3K$)		m ³ /h		5.0		6.3		8.1		10.2		3.3		4.7		5.6	
• ΔP Pressure loss evaporator		kPa		12		13		14		14		4.0		5.0		6.0	
<i>Nominal volume flow and resistance water/water heat pump</i>																	
• Heating ($\Delta t = 7K$)		m ³ /h		3.4		4.3		5.7		6.8		2.2		3.2		3.8	
• ΔP Pressure loss condenser		kPa		9.8		12.5		8.5		9.0		3.1		3.9		4.4	
• Heat source ($\Delta t = 5K$)		m ³ /h		4.0		5.0		6.8		8.0		2.6		3.7		4.4	
• ΔP Pressure loss evaporator		kPa		5.0		5.5		6.5		6.0		2.4		3.0		3.6	
• Operating pressure		Water side															
		bar		6													
• Operating limit values - see diagram range of application																	
• Installation place operation ⁴		min./max.		°C						5/40							
• Storage		min./max.		°C						-15/50							
Electrical data³																	
• Voltage		V								3 x 400							
• Frequency		Hz								50							
• Voltage range		V								380-420							
• Operating pressure compressor I _{max}		A		13.1		18.1		24.0		29.3		12.0		15.5		19.1	
• Starting current with starting current limiter ²		A		23.8		25.7		36.7		39.3		19.0		27.3		32.2	
• Principal current (external protection)		A		16		20		32		32		16		20		25	
• with brine systems		Type		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K	
• Principal current (external protection)		A		25		32		40		40		20		25		32	
• with ground water systems		Type		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K		C,D,K	
• Control current (external protection)		A		13		13		13		13		13		13		13	
		Type		B,C,D,K,Z		B,C,D,K,Z		B,C,D,K,Z		B,C,D,K,Z		B,C,D,K,Z		B,C,D,K,Z		B,C,D,K,Z	

¹ kW = standard values according to EN 14511; values for B0W35 with 25% ethylene glycol (Antifrogen N)

² Effective value, operating current compressor 1 + starting current with starting current limiter

³ Values for electrical data apply for supply voltage of 3 x 400 V

⁴ <10 °C crankcase heater necessary

■ Technical data

Hoval Thermalia® twin (20-42) and twin H (20-35)

Sound emission

The effective sound pressure level ¹ in the installation room is dependent on different factors like room size, absorptive capacity, reflection, free sound spreading etc.

Therefore it is important that the installation room lies, if possible, outside the noise-sensitive range and is supplied with sound-absorbing doors.

Ducts and pipes must be fixed to walls and ceiling in a way that no structure-borne sound is being transmitted to the system.

Type Thermalia® twin	(20)		(26)		(36)		(42)	
Stage	1	2	1	2	1	2	1	2
Sound power level dB(A)	47	50	49	51	52	55	53	56
Sound pressure level dB(A) ¹	35	38	37	39	40	43	41	44

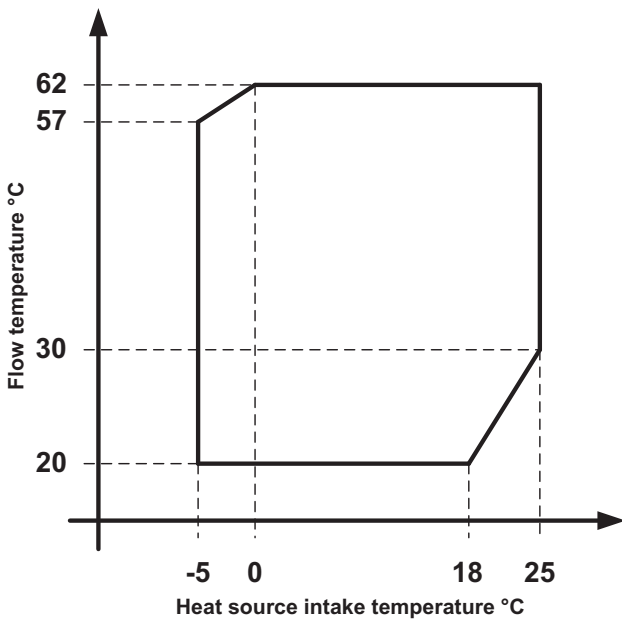
¹ Sound pressure level, distance 1 m
(in standard room with approx. 5-6 dB(A) sound absorption)

Type Thermalia® twin H	(20)		(28)		(35)	
Stage	1	2	1	2	1	2
Sound power level dB(A)	47	50	49	51	52	55
Sound pressure level dB(A) ¹	35	38	37	39	40	43

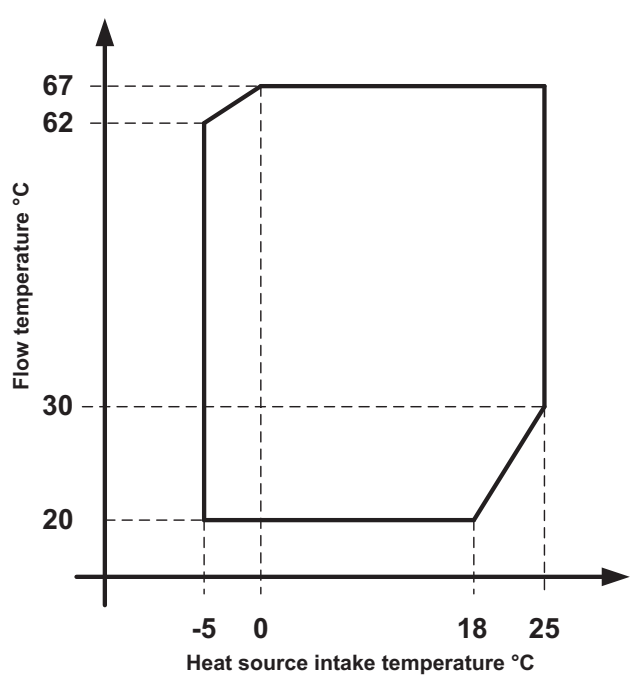
¹ Sound pressure level, distance 1 m
(in standard room with approx. 5-6 dB(A) sound absorption)

Diagrams range of application

Thermalia® twin (20-42)



Thermalia® twin H (20-35)

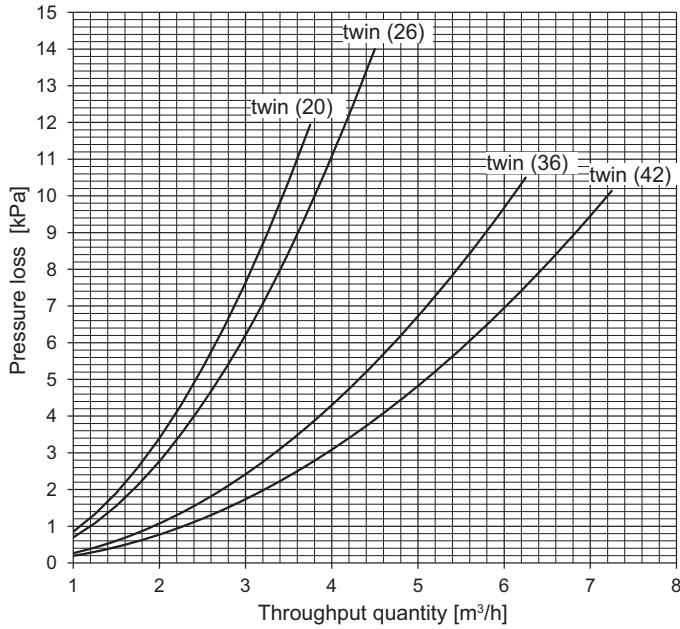


■ Technical data

Hoval Thermalia® twin (20-42)

Heating

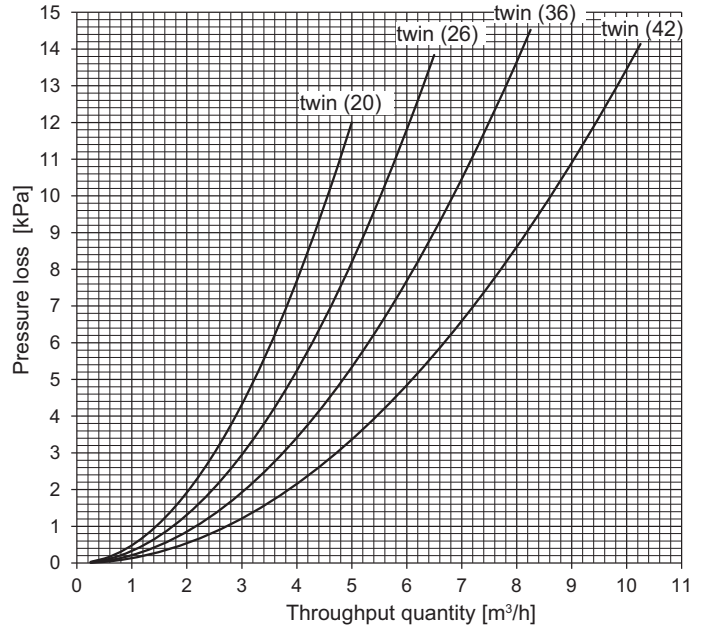
Pressure loss condenser with water



Heat source

Pressure loss evaporator

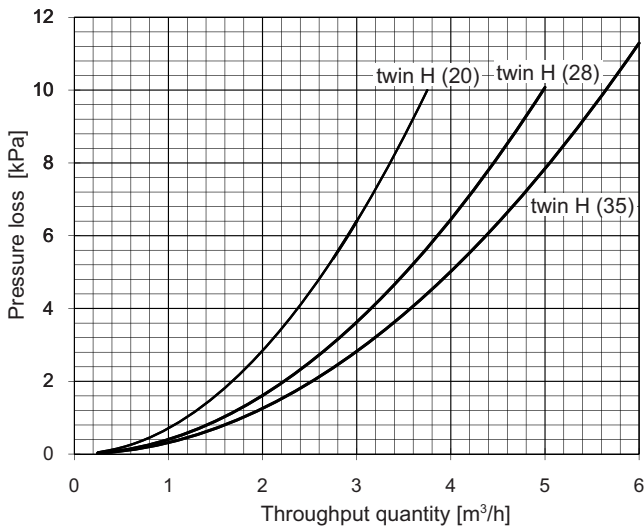
with ethylene glycol 25% (Antifrogen N)



Hoval Thermalia® twin H (20-35)

Heating

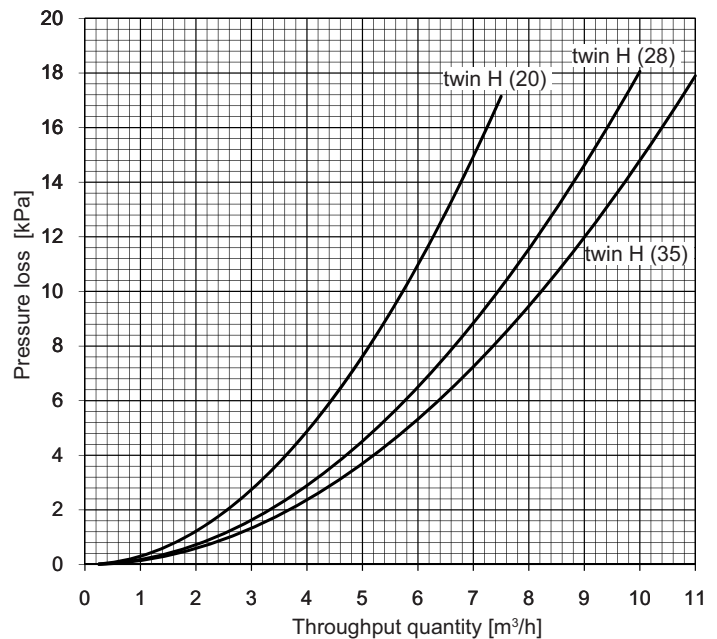
Pressure loss condenser with water



Heat source

Pressure loss evaporator

with ethylene glycol 25% (Antifrogen N)



Refrigeration capacity

$$Q_0 = Q - P$$

- Q_0 = Refrigeration capacity (kW)
- Q = Heat output (kW)
- P = Power consumption compressor (kW)
- Δt_2 = Temperature difference heat source supply/discharge (K)
- C = 0.86
- c_p = 0.89 (specific heat)
- γ = 1.05 (specific weight, density)

Volume flow condenser

$$V = \frac{Q_0 \cdot c}{\Delta t_2 \cdot c_p \cdot \gamma} \quad (\text{m}^3/\text{h})$$

- Δp (kPa) = Pressure loss with frost protection (1 kPa = 0.1 mWC)
- $\Delta p = f \times \Delta P$ f Ethylene glycol % (Antifrogen N)
- 0.97 20
- 1 25
- 1.03 30
- Δp_w (kPa) = Pressure loss with water (1 kPa = 0.1 mWC)
- $\Delta p_w = \Delta P \times 0.89$

■ Technical data

Performance data

Hoval Thermalia® twin H (20-26) with R410A

Hoval Thermalia®		twin (20) I				twin (20) II			twin (26) I			twin (26) II		
Flow	Heat source		Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP
t _{VL} (°C)	Medium t ₁	(°C)	kW	kW		kW	kW		kW	kW		kW	kW	
30	Brine (Sole)	-5	9.5	1.9	5.1	18.1	3.7	4.9	12.1	2.4	5.0	23.3	4.9	4.8
		-2	10.3	1.9	5.6	19.8	3.7	5.3	13.2	2.4	5.4	25.4	4.9	5.2
		0	10.9	1.9	5.9	20.9	3.7	5.6	14.0	2.4	5.8	26.8	4.9	5.5
		2	11.5	1.8	6.2	22.0	3.7	6.0	14.7	2.4	6.1	28.2	4.8	5.8
		5	12.4	1.8	6.7	23.8	3.7	6.5	15.8	2.4	6.6	30.4	4.8	6.3
	Water	8	13.7	1.8	7.6	26.3	3.6	7.3	17.6	2.3	7.5	33.7	4.7	7.2
		10	14.5	1.8	8.1	27.8	3.6	7.8	18.6	2.3	7.9	35.7	4.7	7.6
		12	15.3	1.8	8.5	29.3	3.6	8.2	19.6	2.3	8.4	37.6	4.7	8.0
		15	16.5	1.8	9.2	31.6	3.6	8.8	21.1	2.3	9.0	40.5	4.7	8.7
		35	Brine (Sole)	-5	9.3	2.1	4.4	17.8	4.2	4.2	11.9	2.7	4.3	22.8
-2	10.1			2.1	4.8	19.4	4.2	4.6	12.9	2.7	4.7	24.8	5.5	4.5
0	10.7			2.1	5.1	20.4	4.2	4.9	13.7	2.7	5.0	26.2	5.5	4.8
2	11.3			2.1	5.4	21.6	4.2	5.2	14.4	2.7	5.3	27.6	5.5	5.0
5	12.2			2.1	5.8	23.4	4.2	5.6	15.4	2.7	5.6	29.7	5.5	5.4
Water	8		13.5	2.1	6.4	25.8	4.2	6.2	17.3	2.7	6.3	33.1	5.5	6.0
	10		14.3	2.1	6.8	27.3	4.2	6.5	18.3	2.7	6.7	35.1	5.5	6.4
	12		15.0	2.1	7.2	28.8	4.2	6.9	19.3	2.7	7.0	37.0	5.5	6.8
	15		16.2	2.1	7.8	31.1	4.2	7.5	20.8	2.7	7.6	39.9	5.5	7.3
	40		Brine (Sole)	-5	9.2	2.4	3.9	17.6	4.8	3.7	11.7	3.1	3.8	22.5
-2		10.0		2.4	4.2	19.2	4.8	4.0	12.8	3.1	4.1	24.5	6.2	4.0
0		10.5		2.4	4.4	20.2	4.8	4.2	13.5	3.1	4.4	25.9	6.2	4.2
2		11.1		2.4	4.7	21.3	4.8	4.5	14.2	3.1	4.6	27.3	6.2	4.4
5		12.0		2.4	5.1	23.0	4.7	4.9	15.3	3.1	4.9	29.3	6.2	4.7
Water		8	13.2	2.4	5.5	25.4	4.8	5.3	17.0	3.1	5.4	32.6	6.3	5.2
		10	14.0	2.4	5.8	26.8	4.8	5.6	17.9	3.1	5.7	34.5	6.3	5.5
		12	14.8	2.4	6.2	28.3	4.8	5.9	18.9	3.1	6.0	36.4	6.3	5.8
		15	15.9	2.4	6.7	30.5	4.8	6.4	20.4	3.1	6.5	39.2	6.3	6.3
		45	Brine (Sole)	-5	9.1	2.7	3.4	17.5	5.3	3.3	11.5	3.5	3.3	22.2
-2	9.9			2.7	3.7	19.0	5.4	3.5	12.6	3.5	3.7	24.2	6.9	3.5
0	10.4			2.7	3.9	20.0	5.4	3.7	13.3	3.5	3.9	25.6	6.9	3.7
2	11.0			2.7	4.1	21.1	5.4	3.9	14.0	3.5	4.1	26.9	6.9	3.9
5	11.9			2.7	4.5	22.7	5.3	4.3	15.1	3.5	4.4	29.0	6.9	4.2
Water	8		13.0	2.7	4.8	24.9	5.4	4.6	16.6	3.5	4.7	32.0	7.1	4.5
	10		13.8	2.7	5.1	26.4	5.4	4.9	17.6	3.5	5.0	33.8	7.1	4.8
	12		14.5	2.7	5.4	27.8	5.4	5.2	18.6	3.5	5.3	35.7	7.1	5.1
	15		15.7	2.7	5.8	30.0	5.4	5.6	20.1	3.5	5.7	38.5	7.0	5.5
	50		Brine (Sole)	-5	8.8	3.0	3.0	17.0	6.0	2.8	11.4	3.9	2.9	21.8
-2		9.6		3.0	3.2	18.4	6.0	3.1	12.3	3.9	3.2	23.6	7.8	3.0
0		10.1		3.0	3.3	19.4	6.1	3.2	13.0	3.9	3.3	24.9	7.8	3.2
2		10.7		3.0	3.5	20.4	6.1	3.4	13.6	3.9	3.5	26.1	7.7	3.4
5		11.5		3.0	3.8	22.0	6.0	3.6	14.6	3.8	3.8	28.0	7.7	3.6
Water		8	12.5	3.1	4.1	24.0	6.1	3.9	16.1	4.0	4.0	30.8	8.0	3.8
		10	13.3	3.1	4.3	25.4	6.1	4.2	17.0	4.0	4.2	32.6	8.0	4.1
		12	14.0	3.1	4.6	26.8	6.1	4.4	17.9	4.0	4.5	34.4	8.0	4.3
		15	15.1	3.1	4.9	28.9	6.1	4.7	19.3	4.0	4.8	37.1	8.0	4.6
		55	Brine (Sole)	-5	8.6	3.3	2.6	16.4	6.6	2.5	11.2	4.4	2.5	21.4
-2	9.3			3.4	2.8	17.8	6.7	2.7	12.0	4.3	2.8	23.1	8.7	2.7
0	9.8			3.4	2.9	18.8	6.7	2.8	12.6	4.3	2.9	24.2	8.6	2.8
2	10.3			3.4	3.1	19.8	6.7	2.9	13.2	4.3	3.1	25.3	8.6	2.9
5	11.1			3.4	3.3	21.3	6.7	3.2	14.0	4.2	3.3	26.9	8.5	3.2
Water	8		12.1	3.4	3.5	23.1	6.9	3.4	15.5	4.5	3.4	29.7	9.0	3.3
	10		12.8	3.4	3.7	24.5	6.9	3.6	16.4	4.5	3.6	31.4	9.0	3.5
	12		13.5	3.4	3.9	25.8	6.9	3.8	17.3	4.5	3.8	33.2	9.0	3.7
	15		14.5	3.4	4.2	27.9	6.8	4.1	18.6	4.5	4.2	35.8	9.0	4.0
	60		Brine (Sole)	-5	8.4	3.9	2.1	16.0	7.8	2.1	10.6	5.2	2.0	20.3
-2		9.1		3.9	2.3	17.4	7.8	2.2	11.5	5.2	2.2	22.1	10.3	2.1
0		9.5		3.9	2.4	18.3	7.8	2.3	12.2	5.1	2.4	23.3	10.3	2.3
2		10.1		3.9	2.6	19.3	7.8	2.5	12.8	5.1	2.5	24.6	10.3	2.4
5		10.9		3.9	2.8	20.8	7.9	2.6	13.8	5.1	2.7	26.4	10.3	2.6
Water		8	11.4	3.9	2.9	21.9	7.9	2.8	14.6	5.2	2.8	28.1	10.3	2.7
		10	12.1	3.9	3.1	23.2	7.9	2.9	15.5	5.2	3.0	29.7	10.3	2.9
		12	12.7	3.9	3.2	24.4	7.9	3.1	16.3	5.2	3.2	31.4	10.3	3.0
		15	13.7	3.9	3.5	26.3	7.9	3.3	17.6	5.2	3.4	33.8	10.3	3.3

Q = Heat output (kW)
 P = Power consumption (kW)
 COP = Performance
 t₁ = Heat source (evaporator)
 Inlet temperature (°C)
 t_{VL} = Discharge temperature
 (Heating flow) at condenser (°C)

Performance data			
Medium	ΔT	Water/frost protection*	
Heat source			
Brine (Sole)	3K	75%	25%
Water	5K	100%	-
Heating			
Water	7-10 K	100%	-

Output correction factor				
Antifreeze content				
	20%	25%	30%	40%
Q	1.01	1	0.99	0.98
P	1.005	1	0.995	0.99

* Antifreeze: Ethylene glycol
 e.g. Antifrogen N

■ **Technical data**
Performance data

Hoval Thermalia® twin (36-42) with R410A

Hoval Thermalia®		twin (36) I			twin (36) II			twin (42) I			twin (42) II			
Flow	Heat source	Q	P	COP	Q	P	COP	Q	P	COP	Q	P	COP	
t _{VL} (°C)	Medium t _i (°C)	kW	kW		kW	kW		kW	kW		kW	kW		
30	Brine (Sole)	-5	16.4	3.2	5.2	31.4	6.3	5.0	19.2	3.9	4.9	36.8	7.9	4.7
		-2	17.8	3.2	5.7	34.2	6.3	5.4	21.0	3.9	5.3	40.3	7.9	5.1
		0	18.8	3.2	6.0	36.1	6.3	5.7	22.1	3.9	5.6	42.5	7.9	5.4
		2	19.8	3.2	6.3	38.0	6.3	6.0	23.3	3.9	5.9	44.8	7.9	5.7
		5	21.3	3.2	6.8	40.8	6.3	6.5	25.1	3.9	6.4	48.1	7.9	6.1
	Water	8	23.2	3.2	7.3	44.4	6.4	7.0	28.4	4.0	7.1	54.5	8.0	6.8
		10	24.6	3.2	7.7	47.2	6.4	7.4	29.5	4.0	7.4	56.7	8.0	7.1
		12	25.6	3.2	8.1	49.0	6.3	7.7	30.7	4.0	7.7	58.9	8.0	7.4
		15	27.1	3.2	8.6	51.9	6.3	8.2	32.4	4.0	8.1	62.2	8.0	7.7
		35	Brine (Sole)	-5	16.1	3.5	4.5	30.8	7.1	4.4	19.1	4.4	4.4	36.7
-2	17.5			3.6	4.9	33.5	7.1	4.7	20.8	4.4	4.7	39.9	8.8	4.5
0	18.4			3.6	5.2	35.3	7.1	5.0	21.9	4.4	5.0	42.0	8.8	4.8
2	19.3			3.6	5.4	37.1	7.1	5.2	22.9	4.4	5.2	44.0	8.8	5.0
5	20.8			3.6	5.8	39.8	7.2	5.5	24.5	4.4	5.6	47.0	8.8	5.4
Water	8		22.9	3.6	6.3	43.8	7.3	6.0	27.6	4.6	6.0	53.0	9.1	5.8
	10		24.2	3.6	6.7	46.4	7.2	6.4	28.8	4.6	6.3	55.4	9.1	6.1
	12		25.2	3.6	7.0	48.4	7.2	6.7	30.1	4.6	6.6	57.8	9.1	6.3
	15		26.8	3.6	7.4	51.4	7.3	7.1	32.0	4.6	7.0	61.4	9.2	6.7
	40		Brine (Sole)	-5	15.9	3.9	4.0	30.5	7.9	3.9	18.9	4.9	3.8	36.3
-2		17.2		4.0	4.3	33.1	7.9	4.2	20.5	4.9	4.1	39.4	9.9	4.0
0		18.1		4.0	4.5	34.8	8.0	4.4	21.6	5.0	4.4	41.5	9.9	4.2
2		19.1		4.0	4.8	36.6	8.0	4.6	22.7	5.0	4.6	43.5	9.9	4.4
5		20.5		4.0	5.1	39.3	8.1	4.9	24.3	4.9	4.9	46.6	9.9	4.7
Water		8	22.6	4.1	5.6	43.2	8.1	5.3	26.8	5.1	5.2	51.5	10.3	5.0
		10	23.8	4.1	5.9	45.6	8.1	5.6	28.1	5.1	5.5	54.0	10.3	5.3
		12	24.9	4.1	6.1	47.7	8.2	5.9	29.5	5.1	5.7	56.6	10.3	5.5
		15	26.6	4.1	6.5	50.9	8.2	6.2	31.5	5.1	6.1	60.5	10.3	5.9
		45	Brine (Sole)	-5	15.8	4.3	3.6	30.3	8.7	3.5	18.7	5.5	3.4	36.0
-2	17.0			4.4	3.9	32.7	8.8	3.7	20.3	5.5	3.7	39.0	11.0	3.5
0	17.9			4.4	4.0	34.3	8.9	3.9	21.3	5.5	3.9	41.0	11.0	3.7
2	18.8			4.5	4.2	36.1	8.9	4.1	22.4	5.5	4.1	43.1	11.0	3.9
5	20.3			4.5	4.5	38.9	9.0	4.3	24.0	5.5	4.4	46.2	11.0	4.2
Water	8		22.2	4.5	5.0	42.6	9.0	4.7	26.0	5.7	4.5	49.9	11.4	4.4
	10		23.4	4.5	5.2	44.8	9.0	5.0	27.4	5.7	4.8	52.7	11.4	4.6
	12		24.6	4.5	5.4	47.1	9.1	5.2	28.9	5.7	5.1	55.5	11.4	4.9
	15		26.3	4.6	5.8	50.4	9.1	5.5	31.1	5.7	5.5	59.6	11.4	5.2
	50		Brine (Sole)	-5	15.5	4.8	3.2	29.6	9.6	3.1	18.0	6.3	2.9	34.5
-2		16.8		4.9	3.4	32.1	9.7	3.3	19.5	6.3	3.1	37.4	12.6	3.0
0		17.6		4.9	3.6	33.8	9.8	3.4	20.5	6.3	3.3	39.4	12.6	3.1
2		18.3		4.9	3.8	35.2	9.8	3.6	21.6	6.3	3.4	41.6	12.6	3.3
5		19.4		4.9	4.0	37.2	9.7	3.8	23.3	6.2	3.7	44.7	12.4	3.6
Water		8	21.9	5.0	4.4	42.1	10.1	4.2	25.4	6.5	3.9	48.7	13.0	3.8
		10	23.1	5.1	4.6	44.2	10.1	4.4	26.7	6.5	4.1	51.3	12.9	4.0
		12	24.2	5.1	4.7	46.3	10.2	4.6	28.0	6.5	4.3	53.8	12.9	4.2
		15	25.8	5.1	5.0	49.5	10.3	4.8	30.0	6.4	4.7	57.6	12.9	4.5
		55	Brine (Sole)	-5	15.1	5.3	2.8	29.0	10.6	2.7	17.2	7.0	2.4	33.0
-2	16.5			5.4	3.1	31.6	10.7	3.0	18.7	7.1	2.6	35.9	14.2	2.5
0	17.4			5.4	3.2	33.3	10.8	3.1	19.7	7.1	2.8	37.9	14.2	2.7
2	17.9			5.3	3.4	34.2	10.6	3.2	20.9	7.0	3.0	40.1	14.1	2.8
5	18.6			5.2	3.6	35.6	10.4	3.4	22.5	6.9	3.3	43.3	13.9	3.1
Water	8		21.7	5.6	3.9	41.5	11.2	3.7	24.8	7.2	3.4	47.5	14.5	3.3
	10		22.7	5.6	4.0	43.6	11.2	3.9	26.0	7.2	3.6	49.9	14.5	3.5
	12		23.8	5.6	4.2	45.6	11.3	4.0	27.2	7.2	3.8	52.2	14.4	3.6
	15		25.4	5.7	4.5	48.6	11.4	4.3	29.0	7.2	4.0	55.7	14.4	3.9
	60		Brine (Sole)	-5	14.4	6.5	2.2	27.7	13.1	2.1	16.9	8.4	2.0	32.5
-2		15.7		6.6	2.4	30.0	13.2	2.3	18.3	8.4	2.2	35.2	16.8	2.1
0		16.5		6.7	2.5	31.6	13.3	2.4	19.2	8.4	2.3	37.0	16.8	2.2
2		17.3		6.7	2.6	33.1	13.4	2.5	20.3	8.3	2.5	39.0	16.6	2.4
5		18.5		6.8	2.7	35.5	13.5	2.6	21.9	8.1	2.7	42.0	16.2	2.6
Water		8	21.3	6.4	3.3	40.7	12.7	3.2	23.9	8.3	2.9	45.9	16.6	2.8
		10	22.2	6.4	3.5	42.6	12.8	3.3	24.9	8.3	3.0	47.9	16.6	2.9
		12	23.2	6.4	3.6	44.5	12.8	3.5	26.0	8.3	3.1	49.9	16.5	3.0
		15	24.7	6.5	3.8	47.4	12.9	3.7	27.5	8.2	3.3	52.9	16.5	3.2

Q = Heat output (kW)
P = Power consumption (kW)
COP = Performance
t_i = Heat source (evaporator)
Inlet temperature (°C)
t_{VL} = Discharge temperature
(Heating flow) at condenser (°C)

Performance data

Medium	ΔT	Water/frost protection*
Heat source		
Brine (Sole)	3K	75% 25%
Water	5K	100% -
Heating		
Water	7-10 K	100% -

Output correction factor

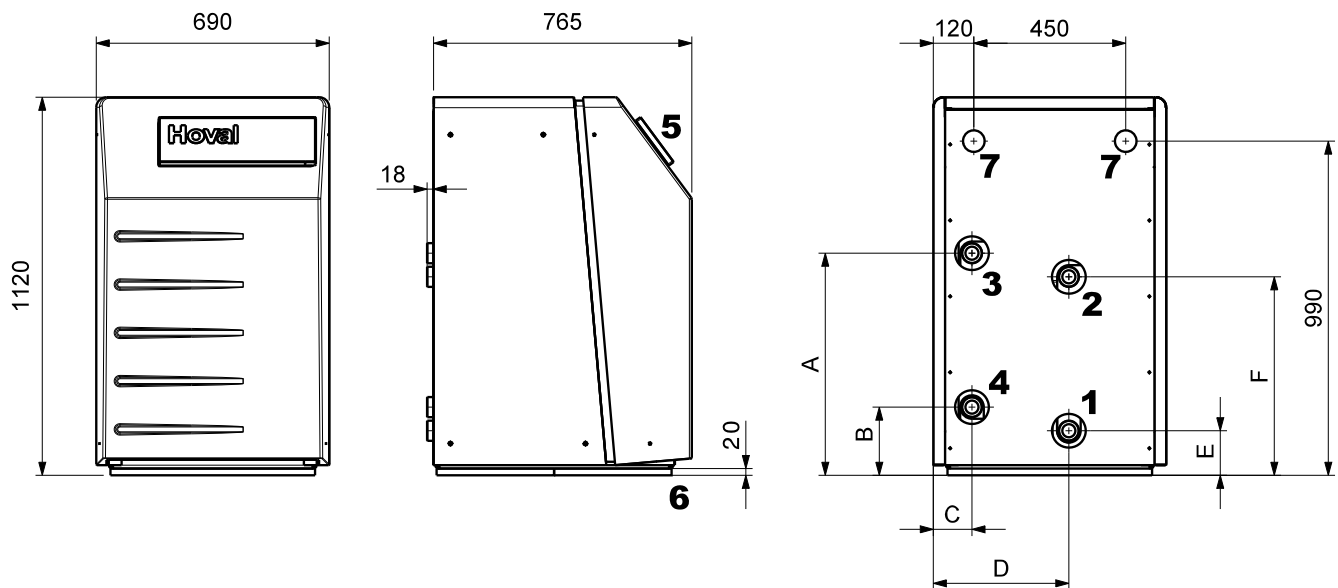
	Antifreeze content			
	20%	25%	30%	40%
Q	1.01	1	0.99	0.98
P	1.005	1	0.995	0.99

* Antifreeze: Ethylene glycol
e.g. Antifrogen N

■ Dimensions

Hoval Thermalia® twin (20-42) and twin H (20-35)

Dimensions in mm



Type	A	B	C	D	E	F
Thermalia® twin (20-42)	741	222	274.5	481.5	170	689
Thermalia® twin H (20-35)	658	202	114	401	132	588

- 1 Heat source - discharge R 2"
- 2 Heat source - inlet R 2"
- 3 Heating flow type R 2"
- 4 Heating return type R 2"
- 5 Operating panel
- 6 Vibration damping
- 7 Electrical connection

Required space (required wall distance in mm for operation and maintenance)

Front Rear Right or left side

