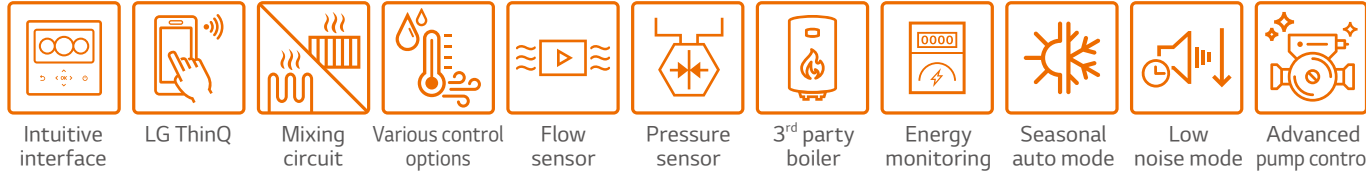
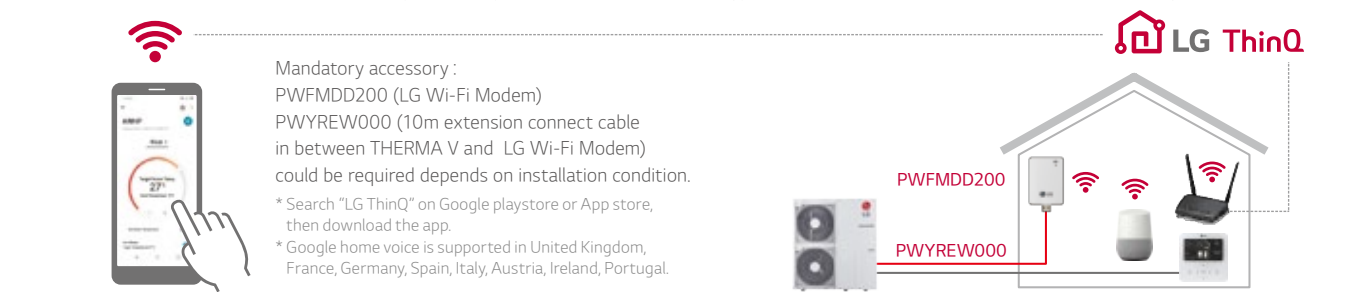


User Convenience



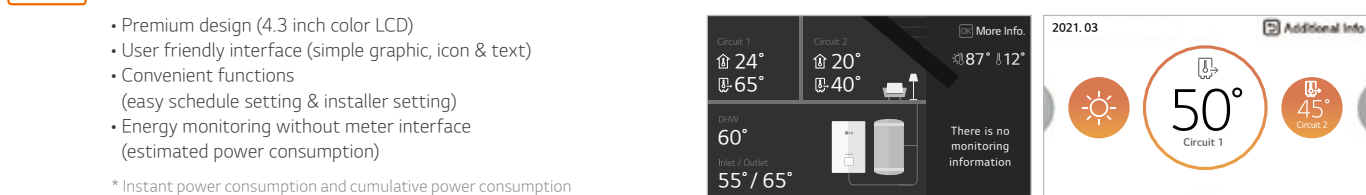
Seamless Connectivity

LG ThinQ allows users to monitor and control compatible LG products remotely, so they can set the temperature and regulate the use of their THERMA V anytime, anywhere. ThinQ technology also works with voice activation with Google Home.



Intuitive Control

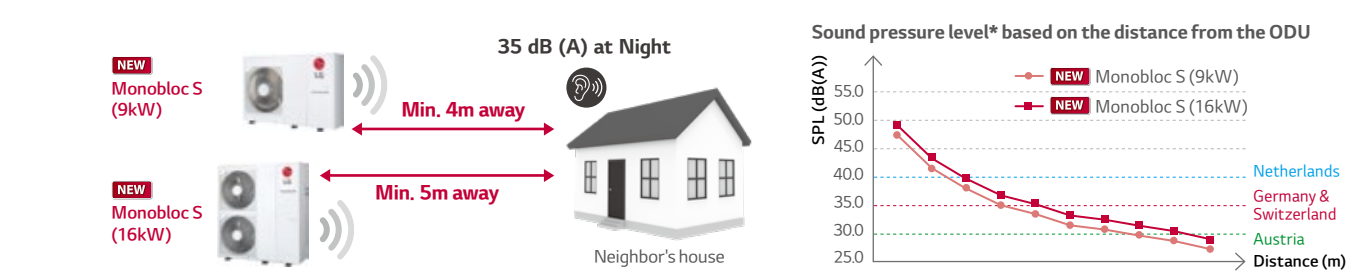
THERMA V is equipped with a new remote controller which supports various functions.



Reduced Noise Level

R32 Monobloc S can be installed at the minimum of 4m away (based on 9kW model & Low noise mode) from neighboring houses while complying with German noise regulation.

Description		Germany	Austria	Switzerland	Netherlands
		Day Time 50 dB (A) (06:00 - 22:00)	40 dB (A) (06:00 - 19:00)	40 dB (A) (07:00 - 19:00)	45 dB (A) (07:00 - 19:00)
Sound Pressure Threshold	Evening	-	35 dB (A) (19:00 - 22:00)	-	-
	Night Time	35 dB (A) (22:00 - 06:00)	30 dB (A) (22:00 - 06:00)	35 dB (A) (19:00 - 07:00)	40 dB (A) (19:00 - 07:00)



* Sound Pressure Level is converted from Sound Power Level of Low Noise Mode based on Tonality penalty of 0dB and installation in free-field.

Seasonal Auto Mode

The operation mode and target temperature will be changed according to the outdoor temperature automatically. Moreover, this function can be conveniently set using visualized graphics.



* Instant power consumption and cumulative power consumption

* Search "LG ThinQ" on Google playstore or App store, then download the app.

* Google home voice is supported in United Kingdom, France, Germany, Spain, Italy, Austria, Ireland, Portugal.

R32 Monobloc S at a Glance



R32 Monobloc S

Enhanced installation flexibility

- All-in-one outdoor unit
- Low sound level allowing high installation location flexibility
- ODU with built-in hydronic components : water pump, flow sensor, pressure sensor, expansion tank, air vent, etc.
- User-friendly installation settings interface
- Optional electric backup heater (3kW or 6kW)
- Enhanced connectivity for 3rd party backup heater

High efficiency & wide operational range

- R32 refrigerant with reduced global warming potential (GWP)
- Less environmental impact with low refrigerant amount
- 100% heating capacity at -15°C OAT (@ LWT 35°C, except for 16kW model)
- Improved heating operation at defrost condition
- SCOP up to 4.67 (Average climate / Low temp. application) : A+++
- SCOP up to 3.47 (Average climate / Mid temp. application) : A++
- COP up to 4.90 (Outdoor air 7°C / Leaving water 35°C)
- Leaving water temperature up to 65°C
- Expanded operative range of solar thermal system

Innovative design & technology

- Improved heat exchanger design (New Black Fin)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- Advanced water pump control (Optimal flow rate, fixed capacity, fixed flow rate, fixed ΔT)
- Enhanced 2nd circuit control logic
- Energy monitoring of estimated power consumption via remote controller
- Modbus connectivity without gateway
- Control for DHW recirculation pump based on schedule

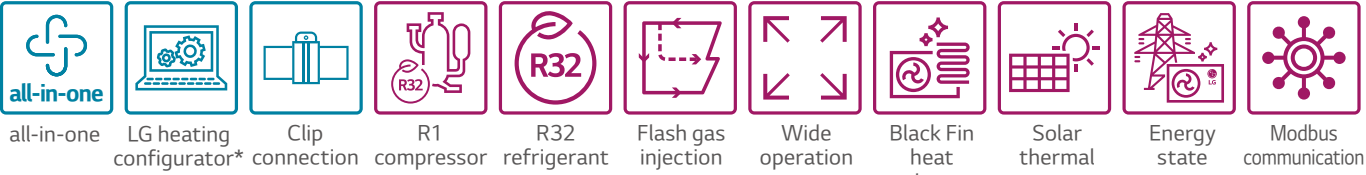
Product	Capacity (kW)	Unit		Appearance
		1Ø	3Ø	
R32 Monobloc S	5	HM051MR U44	-	
	7	HM071MR U44	-	
	9	HM091MR U44	-	
	12	HM121MR U34	HM123MR U34	
	14	HM141MR U34	HM143MR U34	
	16	HM161MR U34	HM163MR U34	



THERMA V™ R32 Monobloc S

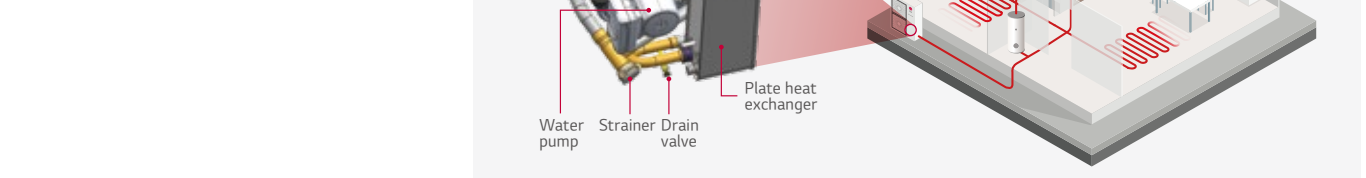


EASY INSTALLATION EXCELLENT PERFORMANCE & EFFICIENCY



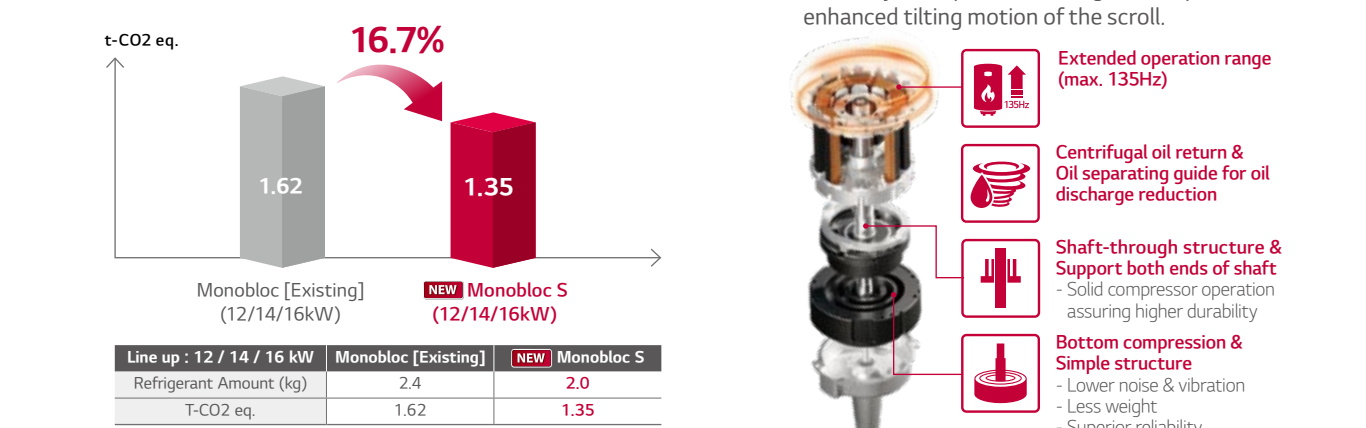
Monobloc Concept

- R32 Monobloc S is an all-in-one concept and reduced weight allows for quicker and easier installations.
- Additional hydronic components are included in the package
- Easier and quicker installation without refrigerant piping work



Less Environmental Impact

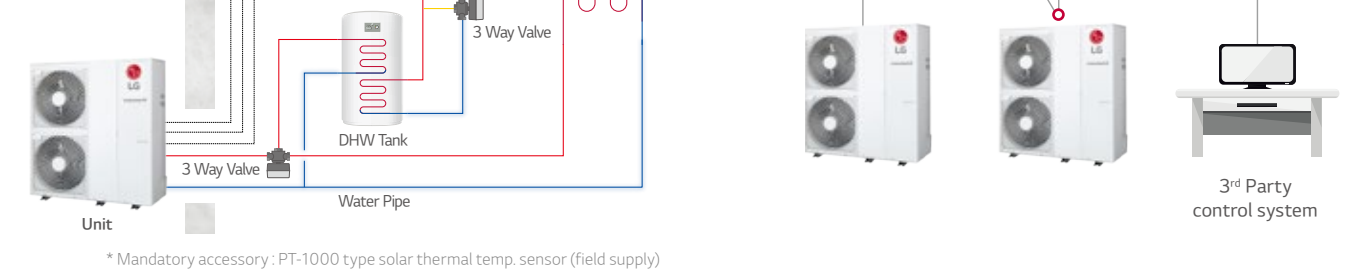
R32 Monobloc S produces less carbon emission by reducing the amount of refrigerant in the system compared to current model.



Line up : 12 / 14 / 16 kW	Monobloc [Existing] (12/14/16kW)	NEW Monobloc S (12/14/16kW)
Refrigerant Amount (kg)	2.4	2.0
T-CO2 eq.	1.62	1.35

Combination with Solar Thermal System

By combining the solar system with Therma V, the efficiency of DHW heating operation can be maximized.



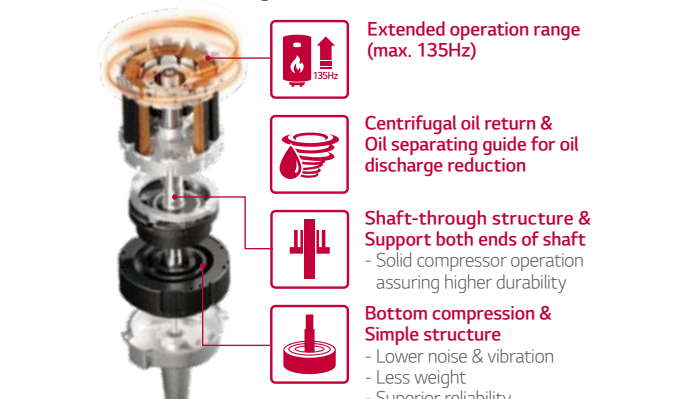
* Mandatory accessory: PT-1000 type solar thermal temp. sensor (field supply)

* This result is based on LG internal test and it can be different depending on actual environment.

* Will be supported within this year

RI Compressor™ LG's Revolutionary Technology

RI Compressor™ technology offers advanced efficiency, reliability and operational range due in part to the enhanced tilting motion of the scroll.



Direct Modbus Communication

R32 Monobloc S can be connected and controlled by 3rd party control system using Modbus protocol directly, without Modbus RTU gateway.

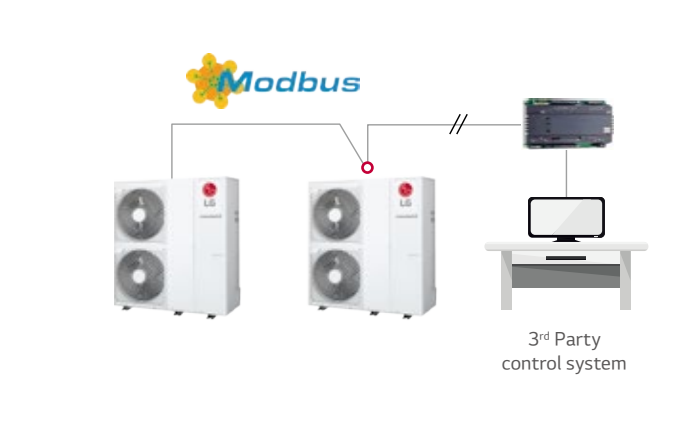


Diagram illustrating the components of the R1 Compressor unit, numbered 1 through 11:

- 1 Standard III remote controller (separately provided)
- 2 R1 Compressor
- 3 NEW Compressor noise shield
- 4 NEW Black Fin heat exchanger (ref/air)
- 5 Plate type heat exchanger (ref/water)
- 6 Water pump (GRUNDFOS)
- 7 NEW Water flow sensor
- 8 Expansion vessel (8ℓ)
- 9 NEW Water pressure sensor
- 10 Air vent valve
- 11 Strainer

* ΔT = temperature difference between inlet and outlet water temperature.

	Technical Specification		Unit	HA031M E1	HA061M E1	HA063M E1
	Backup Heater	Type	-	Sheath		
		Number of Heating Coil	EA	1	2	3
		Capacity Combination	kW	3.0	3.0 + 3.0	2.0 + 2.0 + 2.0
		Heating Steps	Step	1	2	1
		Power Supply	V, Ø, Hz	220 ~ 240, 1, 50		380 ~ 415, 3, 50
		Current (Rated)	A	12.5	25.0	8.7
		Circuit Breaker (ELCB)	A	25	40	25
		Dimensions (W x H x D)	mm	210 x 607 x 217		
	Wiring Connections	Power Cable (Included Earth, H07RN-F)	mm ² x cores	1.5 x 3C	4.0 x 3C	2.5 x 4C
Communication Cable (H07RN-F)		mm ² x cores	0.75 x 4C		0.75 x 2C	

Description		OAT [†] (°B)	LWT ^{†2} (°B)	Unit	HM051MR U44	HM071MR U44	HM091MR U44	HM121MR U34	HM141MR U34	HM161MR U34
Nominal Capacity	Heating	7°C	35°C	kW	5.50	7.00	9.00	12.00	14.00	16.00
		7°C	55°C		5.50	5.50	5.50	11.00	11.50	12.00
		21°C	35°C		4.40	5.60	6.80	11.00	12.00	13.80
	Cooling	35°C	19°C		5.50	5.50	9.00	12.00	14.00	16.50
		35°C	7°C		5.50	7.00	9.00	12.00	14.00	16.00
		7°C	35°C		1.17	1.49	1.96	2.45	2.92	3.40
Nominal Power Input	Heating	7°C	55°C	kW	2.04	2.04	2.04	3.79	4.04	4.29
		21°C	19°C		1.22	1.58	1.94	3.01	3.31	3.83
		35°C	19°C		1.17	1.49	2.14	3.01	3.26	3.63
	Cooling	35°C	7°C		1.67	2.19	2.90	3.64	4.24	5.16
		7°C	35°C		4.70	4.70	4.60	4.90	4.80	4.70
		7°C	55°C		2.70	2.70	2.70	2.90	2.85	2.80
COP	Heating	21°C	35°C	W/W	3.60	3.55	3.50	3.65	3.63	3.60
		35°C	19°C		4.70	4.50	4.40	4.75	4.30	4.30
EER	Cooling	35°C	7°C	W/W	3.30	3.20	3.10	3.30	3.30	3.10
		35°C	7°C		3.30	3.20	3.10	3.30	3.30	3.10

1) OAT : Outdoor Air Temperature 2) LWT : Leaving Water Temperature

Technical Specification				Unit	HM051MR U44	HM071MR U44	HM091MR U44	HM121MR U34 (10) HM123MR U34 (30)	HM141MR U34 (10) HM143MR U34 (30)	HM161MR U34 (10) HM163MR U34 (30)
Water Side	Operation Range (Leaving Water Temp.)	Heating Cooling	Min. ~ Max.	°C DB	15 - 65 5 - 27 (16 - 27) ¹⁾ 15 - 80 ²⁾					
	Water Pump	Model	-	-	Grundfos UPKM3K 20-75 CHBL		Grundfos UPML 20-105 CHBL			
	Flow Sensor	Measuring Range	l/min	-	5 - 80					
	Water Pressure Sensor	Measuring Range	bar (G)	-	0 - 20					
	Expansion Vessel	Volume	Max. / l	-	8					
	Piping Connections	Water Circuit	Inlet Outlet	inch inch	Male PT 1" according to ISO 7-1 (tapered pipe threads) Male PT 1" according to ISO 7-1 (tapered pipe threads)					
	Strainer	Max. Particle Size / Material	mm / -	-	0.6 / Stainless Steel					
	Safety Valve	Pressure Limit	Upper Limit	bar	3.0					
	Rated Water Flow Rate	at LWT 35 °C	l/min	-	15.8	20.1	25.9	34.5	40.3	46.0
Refrigerant Side	Operation Range (Outdoor Temp.)	Heating Cooling	Min - Max	°C DB	-25 - 35 5 - 48					
	Compressor	Type	-	-	Hermetic Sealed Scroll					
	Refrigerant	Type	-	-	R32					
		GWP (Global Warming Potential)	-	-	675					
		Precharged Amount t-CO2 eq.	-	-	g	1.400 0.945			2.000 1.350	
Sound Power Level	Heating	Rated Low Noise Mode	dB(A) dB(A)	54	57	55	60	56	61	
	Heating	Rated Low Noise Mode	dB(A) dB(A)	32	35	33	38	38	39	
Dimensions	Unit	mm	W × H × D	mm	1,239 × 894 × 330		34	1,239 × 1,380 × 330		
Weight	Unit	kg	-	-	83.0			118.6		
Exterior	Color / RAL Code			-	Warm Gray / RAL 7044					
Power Supply	Voltage, Phase, Frequency			V ∅, Hz	220-240, 1, 50					
	Rated	A	Heating	A	5.2	6.5	8.7	220-240, 1, 50 / 380-415, 3, 50		
	Running	A	Cooling	A	5.2	6.9	9.5	10: 10.9 / 30: 35 / 10: 12.9 / 30: 18 / 10: 15.1 / 30: 5.0		
	Recommended Current	A	Cooling	A	5.2	6.9	9.5	10: 11.2 / 30: 3.7 / 10: 14.4 / 30: 4.8 / 10: 17.7 / 30: 5.9		
	Remuning Circuit Breaker	A	Cooling	A	16	20	25	10: 4.0 / 30: 16		

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Description		Unit	HM051MR U44	HM071MR U44	HM091MR U44	
Space Heating (According to EN14825)	Average Climate	SCOP	4.66	4.48	4.55	
	Water Outlet 35°C	Seasonal Space Heating Efficiency (ηs)	%	175	176	179
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A+++	A+++	A+++
	Average Climate	SCOP	%	3.20	3.20	3.20
	Water Outlet 55°C	Seasonal Space Heating Efficiency (ηs)	%	125	125	125
		Seasonal Space Heating Eff. Class (A+++ to D Scale)	-	A++	A++	A++

Description		Unit	HM121MR U34 HM123MR U34	HM141MR U34 HM143MR U34	HM161MR U34 HM163MR U34	
Space Heating (According to EN 14825)	Average Climate Water Outlet 35°C	SCOP	-	4.67	4.53	
		Seasonal Space Heating Efficiency (ηs)	%	184	162	178
		Seasonal Space Heating Eff Class (A+++ to D Scale)	-	A+++	A+++	A+++
	Average Climate Water Outlet 55°C	SCOP	-	3.47	3.46	3.45
		Seasonal Space Heating Efficiency (ηs)	%	136	135	135
		Seasonal Space Heating Eff Class (A+++ to D Scale)	-	A++	A++	A++

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Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.29	5.32	5.36	5.38	5.41	5.43	5.45
45°C DB	5.09	5.15	5.21	5.25	5.31	5.36	5.40

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.36	6.45	6.55	6.61	6.71	6.77	6.84
45°C DB	5.71	5.82	5.92	5.99	6.10	6.17	6.24

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	7.66	7.66	7.65	7.65	7.65	7.65	7.65
45°C DB	6.31	6.35	6.39	6.42	6.45	6.48	6.51

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Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40°C DB	11.05	11.19	11.33	11.43	11.57	11.67	11.76
45°C DB	10.10	10.37	10.64	10.83	11.10	11.28	11.46

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
	TC	TC	TC	TC	TC	TC	TC
10°C DB	12.50	12.80	13.10	13.30	13.60	13.80	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
40°C DB	12.35	12.60	12.84	13.01	13.26	13.42	13.59
45°C DB	10.69	11.19	11.69	12.02	12.51	12.84	13.17

Outdoor Temperature	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
10°C DB	13.00	13.60	14.20	14.60	15.20	15.60	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
40°C DB	13.60	13.96	14.32	14.56	14.92	15.16	15.40
45°C DB	11.20	11.76	12.32	12.69	13.25	13.62	14.00