THERMOTECHNIKA CROWN COOL

TECHNICAL DATA SHEET

TC HeatEco MONO 9,5 kW
Air to Water Heat Pump

Model		**TC HeatEco MONO 9,5 kW**	
Power Supply / Refrigerant		V/Hz/Ph	380-415/50/3 - R290
Max. Heating Capacity (1)		kW	9,3
C.O.P. (1)		W/W	4,68
Heating Capacity Min./Max. (1)		kW	3,99 ~ 9,3
Heating Power Input Min./Max. (1)		kW	0,8 ~ 2,1
C.O.P. Min/Max (1)		W/W	4,43 ~ 5,63
Fan speed		rpm	683
Max. Heating Capacity (2)		kW	8,8
C.O.P. (2)		W/W	3,63
Heating Capacity Min./Max. (2)		kW	4,4 ~ 8,8
Heating power input Min./Max. (2)		kW	0,83 ~ 2,39
C.O.P. Min./Max. (2)		W/W	3,63 ~ 5,3
Fan speed		rpm	648
Max. Cooling Capacity (3)		kW	4,8
E.E.R (3)		W/W	2,4
Cooling Capacity Min./Max. (3)		kW	3,1 ~ 4,8
Cooling Power Input Min./Max. (3)		kW	0,86 ~ 2,0
E.E.R. Min/Max. (3)		W/W	2,4 ~ 4,47
Fan speed		rpm	522
Max. Cooling Capacity (4)		kW	3,96
E.E.R (4)		W/W	2,41
Cooling Capacity Min./Max. (4)		kW	2,78 ~ 3,96
Cooling Power Input Min./Max. (4)		kW	0,73 ~2,32
E.E.R. Min/Max. (4)		W/W	1,64 ~ 4,31
Fan speed		rpm	613
Recommended circuit breaker		A	16
IP rating			IPX4
Max. power consuption	Fan	W	205
	Outdoor unit	kW	3,9
	Secondary pump	W	95

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Model		**TC HeatEco MONO 9,5 kW**	
Workable Ambient Temperature Range		°C	-25 ~ 43
Max. Air intake temperature (Heating/Cooling)		°C	43/43
Min. Air intake temperature (Heating/Cooling)		°C	-25/21
Max. System Water Temperature (Heating / Cooling)		°C	75/35
Min. System Water Temperature (Heating / Cooling)		°C	10/5
Max. Operation High Pressure		MPa	3,0
Max. Operation Low Pressure		MPa	0,8
Compressor	Type		EDTM310D85EMT
	Oil in compressor		PAG XS-601C1
	Oil volume in compressor	ml	600
Refrigerant	Type / Amount	- / kg	R290/0,7 kg
	Global warming potential (GWP)		3
	CO2 equivalent		0
	Max. refrigerant operating pressure	MPa	3
Fan	Quantity	db	1
	Airflow	m^3/h	3500
	Rated power	W	120
Noise Level (sound power)		dB(A)	65
Water Side Heat Exchanger	Type		Plate Heat Exchanger
	Water Pressure Drop	kPa	17
	Piping Connection	Inch	1
Allowable Water Flow	Min./Rated./Max.	L/S	0,41/0,45/0,54
Max. flow temperature		°C	75
SCOP			4,91
Energy efficiency class			A+++
Net Dimension(L×D×H)		mm	1204x515x812
Net Weight		Kg	99

Note:

(1) Heating condition: water inlet/outlet temperature: 30°C/35°C, Ambient temperature: DB 7°C/WB 6°C;

(2) Heating condition: water inlet/outlet temperature: 40°C/45°C, Ambient temperature: DB 7°C/WB 6°C;

(3) Cooling condition: water inlet/outlet temperature: 23°C/18°C, Ambient temperature: DB 35°C/WB 24°C;

(4) Cooling condition: water inlet/outlet temperature: 12°C/7°C, Ambient temperature: DB 35°C/WB 24°C;

(5) The specifications are subject to change without prior notice. For actual specifications of unit, please refer to the stickers on the unit.

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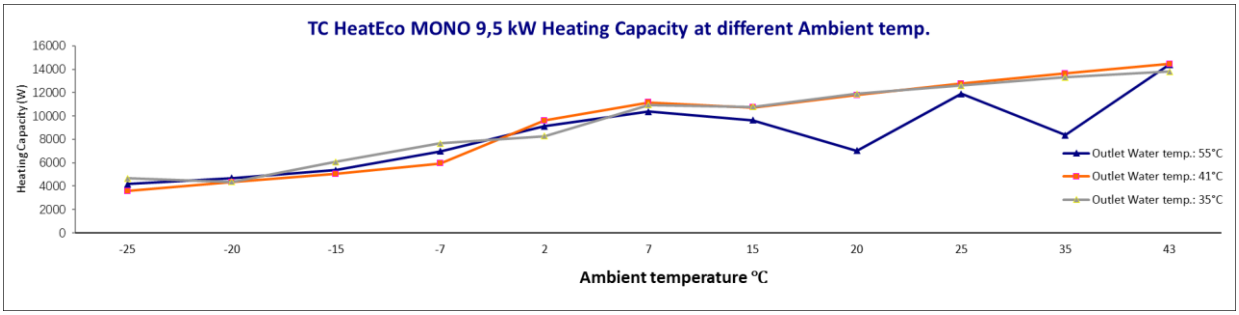
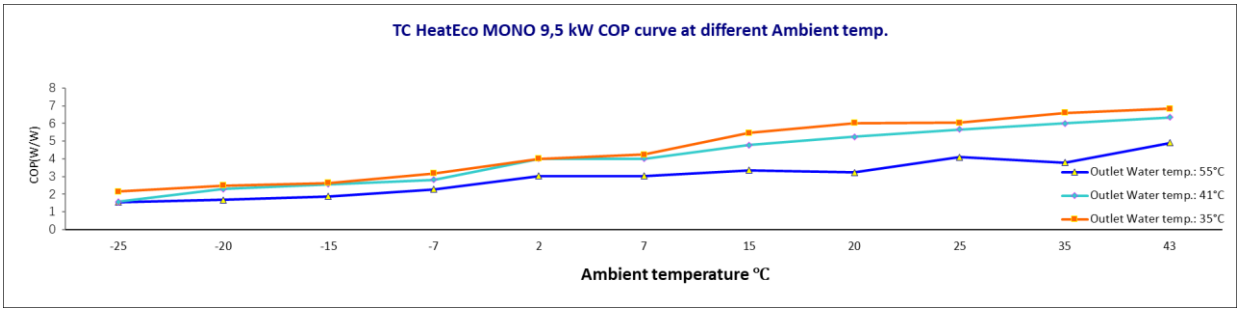
TECHNICAL DATA SHEET

Test report of TC HeatEco MONO 9,5 kW Heating Capacity, Power Input and COP at different Ambient temperatures

Ambient Temp. (°C)	-25	-20	-15	-7	2	7	15	20	25	35	43
Heating Capacity (W) (Outlet Water Temp. 55°C)	4181	4682	5362	6961	9119	10369	9636	7019	11894	8358	14405
Heating Capacity (W) (Outlet Water Temp. 41°C)	3565	4328	5037	5945	9599	11152	10729	11784	12762	13631	14448
Heating Capacity (W) (Outlet Water Temp. 35°C)	4672	4352	6066	7653	8268	10936	10779	11908	12590	13309	13801
Power Input (W) (Outlet Water Temp. 55°C)	2682	2789	2852	3072	3423	3423	2868	2173	2905	2206	2938
Power Input (W) (Outlet Water Temp. 41°C)	2276	1885	1963	2106	2791	2791	2248	2251	2256	2268	2280
Power Input (W) (Outlet Water Temp. 35°C)	2184	1753	2310	2406	2057	2585	1971	1979	1997	2015	2021
COP (Outlet Water Temp. 55°C)	1,56	1,68	1,88	2,27	3,03	3,03	3,36	3,23	4,09	3,78	4,90
COP (Outlet Water Temp. 41°C)	1,57	2,30	2,57	2,82	4	4,00	4,77	5,24	5,66	6,01	6,34
COP (Outlet Water Temp. 35°C)	2,14	2,48	2,63	3,18	4,01	4,23	5,47	6,02	6,03	6,60	6,83





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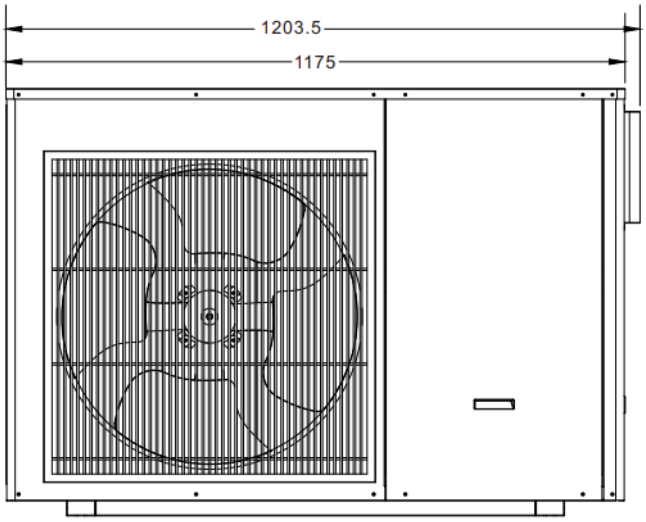
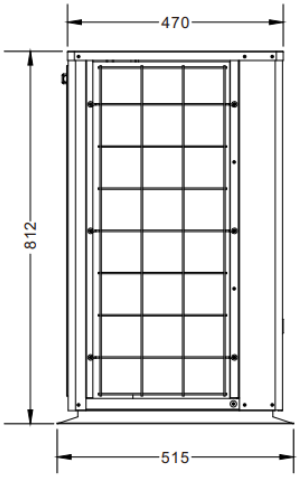
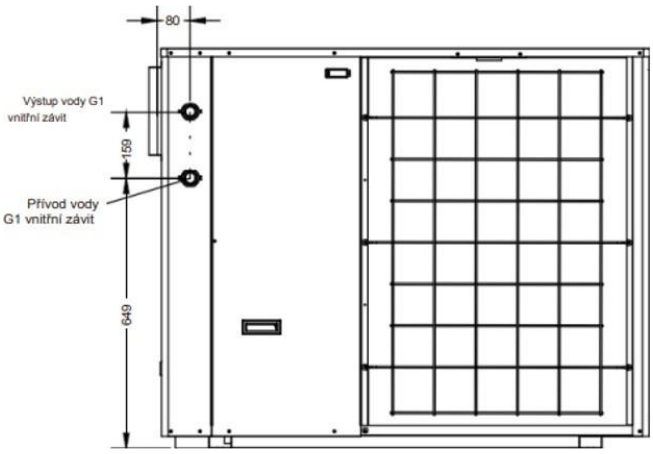
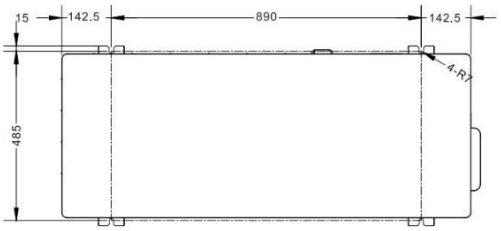
TC HeatEco MONO 9,5 kW dimensions









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TECHNICAL DATA SHEET

Parameters shall be declared for medium temperature application and for low-temperature application.

Item	Symbol	Value	Unit
Rated Heat Output (1)	Prated	6,59	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj:			
Tj=-7°C	Pdh	5,801	kW
Tj=+2°C	Pdh	3,629	kW
Tj=+7°C	Pdh	2,644	kW
Tj=+12°C	Pdh	3,054	kW
Tj=bivalent temperature	Pdh	5,801	kW
Tj= operation limit temperature	Pdh	5,679	kW
For air-to-water heat pumps: Tj= -15°C (if TOL<-20°C)	Pdh	-	kW
Bivalent Temperature	Tbiv	-7	°C
Cycling interval capacity for heating	Pcych	-	kW
Degradation co-efficient (2)	Cdh	0,9	-
Power Consumption in modes other than active mode:			
Off Mode	POFF	0,006	kW
Thermostat off mode	CTU	0,006	kW
Standby mode	PSB	0,006	kW
Crankcase heater mode	PCK	0,042	kW
Other Items			
Capacity Control		Variable	
Sound power level, indoor/outdoor	LWA	-/65	dB
Annual energy consumption	QHE	2768	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	193,1	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj:			
Tj=-7°C	PERd	88	%
Tj=+2°C	PERd	55	%
Tj=+7°C	PERd	40	%
Tj=+12°C	PERd	46	%
Tj=bivalent temperature	PERd	88	%
Tj= operation limit temperature	PERd	86	%
For air-to-water heat pumps: Tj= -15°C (if TOL<-20°C)	PERd	-	%
For air-to-water heat pumps: Operating limit temperature	TOL	-10	°C
Cycling interval efficiency	COPcyc	-	-
Heating water operating limit temperature	WTOL	75	°C
Supplementary heater			
Rated heat output	Psup		kW
Type of energy input	Electric		

Parameters shall be declared for medium temperature application and for low-temperature application.

Item	Symbol	Value	Unit
Rated Heat Output (1)	Prated	6,164	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj:			
Tj=-7°C	Pdh	5,396	kW
Tj=+2°C	Pdh	3,347	kW
Tj=+7°C	Pdh	2,505	kW
Tj=+12°C	Pdh	2,879	kW
Tj= bivalent temperature	Pdh	5,396	kW
Tj= operation limit temperature	Pdh	6,453	kW
For air-to-water heat pumps: Tj= -15°C (if TOL<-20°C)	Pdh	-	kW
Bivalent Temperature	Tbiv	-7	°C
Cycling interval capacity for heating	Pcych	-	kW
Degradation co-efficient (2)	Cdh	0,9	-
Power Consumption in modes other than active mode			
Off Mode	POFF	0,006	kW
Thermostat off mode	CTU	0,006	kW
Standby mode	PSB	0,006	kW
Crankcase heater mode	PCK	0,042	kW
Other Items			
Capacity Control		Variable	
Sound power level, indoor/outdoor	LWA	-/65	dB
Annual energy consumption	QHE	3271	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	152,6	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj:			
Tj=-7°C	PERd	88	%
Tj=+2°C	PERd	54	%
Tj=+7°C	PERd	41	%
Tj=+12°C	PERd	47	%
Tj= bivalent temperature	PERd	88	%
Tj= operation limit temperature	PERd	105	%
For air-to-water heat pumps: Tj= -15°C (if TOL<-20°C)	PERd	-	%
For air-to-water heat pumps: Operating limit temperature	TOL	-10	°C
Cycling interval efficiency	COPcyc	-	-
Heating water operating limit temperature	WTOL	75	°C
Supplementary heater			
Rated heat output	Psup		kW
Type of energy input	Electric		

(1) For heat pump heaters and combined heat pump heaters, the rated thermal output Prated must equal the design heating load Pdesign, and the rated thermal output Psup of the auxiliary heater must equal the auxiliary heating output sup(Tj).

(2) If the Cdh value is not determined by measurement, the default degradation coefficient is Cdh= 0.9.

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