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Login

Summary of	TTL 6.5/8.5 ACS	Reg. No.	011-1W0062	
Certificate Holder	Certificate Holder			
Name	tecalor GmbH			
Address	Fürstenbergerstr. 77	Zip	37603	
City	Holzminden	Country	Germany	
Certification Body	DIN CERTCO Gesellschaft für Konfo	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTL 6.5/8.5 ACS			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R410A			
Mass of Refrigerant	2 kg			
Certification Date	13.10.2017			
Testing basis	HP KEYMARK certification scheme rules rev. no. 6			



Model: TTL 6.5 ACS + TSBC 200 ECO, TSBB 200 S

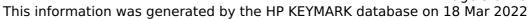
Configure model		
Model name	TTL 6.5 ACS + TSBC 200 ECO, TSBB 200 S	
Application	Heating + DHW + low temp	
Units	Indoor + Outdoor	
Climate Zone	n/a	
Reversibility Yes		
Cooling mode application (optional) n/a		

General Data		
Power supply 1x230V 50Hz		

Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	4.86 kW	4.31 kW
El input	1.02 kW	1.58 kW
СОР	4.76	2.73

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed





EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	27 dB(A)	27 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	177 %	125 %
Prated	6.80 kW	7.55 kW
SCOP	4.50	3.21
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	6.02 kW	5.10 kW
COP Tj = -7°C	2.90	1.97
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	3.89 kW	4.10 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.50 kW	2.60 kW
$COP Tj = +7^{\circ}C$	6.60	4.56
Cdh Tj = +7 °C	0.90	0.90





Pdh Tj = 12°C	3.39 kW	3.30 kW
COP Tj = 12°C	6.78	5.98
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	6.02 kW	6.10 kW
COP Tj = Tbiv	2.90	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.30 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	1.97
WTOL	60 °C	60 °C
Poff	17 W	17 W
РТО	30 W	30 W
PSB	17 W	17 W
PCK	5 W	5 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.50 kW	7.55 kW
Annual energy consumption Qhe	3120 kWh	4865 kWh

Domestic Hot Water (DHW)



EN 16147		
Declared load profile	L	
Efficiency ηDHW	113 %	
СОР	2.70	
Heating up time	01:50 h:min	
Standby power input	35.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	245 I	

Model: TTL 8.5 ACS + TSBC 200 ECO, TSBB 200 S

Configure model		
Model name	TTL 8.5 ACS + TSBC 200 ECO, TSBB 200 S	
Application	Heating + DHW + low temp	
Units	Indoor + Outdoor	
Climate Zone	n/a	
Reversibility Yes		
Cooling mode application (optional) n/a		

General Data		
Power supply 1x230V 50Hz		

Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	4.86 kW	4.31 kW
El input	1.02 kW	1.58 kW
СОР	4.76	2.73

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	27 dB(A)	27 dB(A)
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	177 %	125 %
Prated	9.19 kW	7.55 kW
SCOP	4.50	3.21
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	8.13 kW	5.10 kW
COP Tj = -7°C	2.72	1.97
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2^{\circ}$ C	5.22 kW	4.10 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.50 kW	2.60 kW
COP Tj = +7°C	6.60	4.56
Cdh Tj = +7 °C	0.90	0.90





Pdh Tj = 12°C	3.39 kW	3.30 kW
COP Tj = 12°C	6.78	5.98
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	8.13 kW	6.10 kW
COP Tj = Tbiv	2.72	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.92 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.97
WTOL	60 °C	60 °C
Poff	17 W	17 W
РТО	30 W	30 W
PSB	17 W	17 W
PCK	5 W	5 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.27 kW	7.55 kW
Annual energy consumption Qhe	4218 kWh	4865 kWh

Domestic Hot Water (DHW)



EN 16147		
Declared load profile	L	
Efficiency ηDHW	113 %	
СОР	2.70	
Heating up time	01:50 h:min	
Standby power input	35.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	245 I	

Model: TTL 6.5 ACS, low temperature, all climates

Configure model		
Model name	TTL 6.5 ACS, low temperature, all climates	
Application	Heating (low temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

	General Data	
Power supply	1x230V 50Hz	

Heating

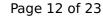
EN 14511-2	
	Low temperature
Heat output	4.86 kW
El input	1.02 kW
СОР	4.76

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed



EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)

EN 14825	
	Low temperature
η_{s}	177 %
Prated	6.80 kW
SCOP	4.50
Tbiv	-7 °C
TOL	-10 °C
Pdh Tj = -7° C	6.02 kW
$COPTj = -7^{\circ}C$	2.90
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	3.89 kW
COP Tj = +2°C	4.35
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	3.50 kW
$COPTj = +7^{\circ}C$	6.60
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.39 kW





COP Tj = 12°C 6.78 Cdh Tj = +12 °C 0.90 Pdh Tj = Tbiv 6.02 kW COP Tj = Tbiv 2.90 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.30 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.80 WTOL 60 °C Poff 17 W PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW Annual energy consumption Qhe 3120 kWh		
Pdh Tj = Tbiv COP Tj = Tbiv 2.90 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.30 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.80 WTOL 60 °C Poff 17 W PTO 30 W PSB 17 W PCK Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP	COP Tj = 12°C	6.78
COP Tj = Tbiv 2.90 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.80 WTOL 60 °C Poff 17 W PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	Pdh Tj = Tbiv	6.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh WTOL 60 °C 17 W PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	COP Tj = Tbiv	2.90
WTOL Poff 17 W PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.30 kW
Poff 17 W PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80
PTO 30 W PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	WTOL	60 °C
PSB 17 W PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	Poff	17 W
PCK 5 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.50 kW	PTO	30 W
Supplementary Heater: Type of energy input Supplementary Heater: PSUP 0.50 kW	PSB	17 W
Supplementary Heater: PSUP 0.50 kW	PCK	5 W
	Supplementary Heater: Type of energy input	Electricity
Annual energy consumption Qhe 3120 kWh	Supplementary Heater: PSUP	0.50 kW
	Annual energy consumption Qhe	3120 kWh

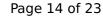
Warmer Climate

EN 14825	
	Low temperature
ηs	213 %
rated	6.30 kW
SCOP	5.41





Tbiv	2 °C
TOL	2 °C
Pdh Tj = +2°C	6.30 kW
COP Tj = +2°C	3.60
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	4.10 kW
$COPTj = +7^{\circ}C$	5.25
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.37 kW
COP Tj = 12°C	6.61
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	6.30 kW
COP Tj = Tbiv	3.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.60
WTOL	60 °C
Poff	17 W
PTO	30 W
PSB	17 W
РСК	5 W
Supplementary Heater: Type of energy input	Electricity



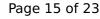


Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1556 kWh

EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)

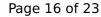
Colder Climate

EN 14825	
	Low temperature
η_{S}	151 %
Prated	5.80 kW
SCOP	3.85
Tbiv	-15 °C
TOL	-20 °C
Pdh Tj = -7 °C	3.51 kW
COP Tj = -7° C	3.30
Cdh Tj = -7 °C	0.90
Pdh Tj = $+2$ °C	2.28 kW
$COP Tj = +2^{\circ}C$	4.55
Cdh Tj = +2 °C	0.90





	T .
Pdh Tj = +7°C	2.79 kW
$COP Tj = +7^{\circ}C$	5.81
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.39 kW
COP Tj = 12°C	6.71
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	5.80 kW
COP Tj = Tbiv	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40
WTOL	60 °C
Poff	17 W
РТО	30 W
PSB	17 W
PCK	5 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	5.80 kW
Annual energy consumption Qhe	3713 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80
COP Tj = -15°C (if TOL<-20°C)	2.70
Cdh Tj = -15 °C	0.90





EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)



Model: TTL 8.5 ACS, low temperature, all climates

Configure model		
Model name	TTL 8.5 ACS, low temperature, all climates	
Application	Heating (low temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

Heating

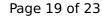
EN 14511-2	
	Low temperature
Heat output	4.86 kW
El input	1.02 kW
СОР	4.76

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed



EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)

EN 14825	
	Low temperature
η_{s}	177 %
Prated	9.19 kW
SCOP	4.50
Tbiv	-7 °C
TOL	-10 °C
Pdh Tj = -7°C	8.13 kW
COP Tj = -7°C	2.72
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	5.22 kW
$COP Tj = +2^{\circ}C$	4.35
Cdh Tj = +2 °C	0.90
Pdh Tj = +7°C	3.50 kW
COP Tj = +7°C	6.60
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.39 kW





COP Tj = 12°C	6.78
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	8.13 kW
COP Tj = Tbiv	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64
WTOL	60 °C
Poff	17 W
РТО	30 W
PSB	17 W
PCK	5 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.27 kW
Annual energy consumption Qhe	4218 kWh

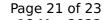
Warmer Climate

EN 14825	
	Low temperature
η_s	215 %
Prated	7.60 kW
SCOP	5.44
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Tbiv	2 °C
TOL	2 °C
Pdh Tj = +2°C	7.60 kW
COP Tj = +2°C	3.44
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	4.89 kW
$COPTj = +7^{\circ}C$	5.15
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.37 kW
COP Tj = 12°C	6.61
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	7.60 kW
COP Tj = Tbiv	3.44
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.44
WTOL	60 °C
Poff	17 W
РТО	30 W
PSB	17 W
PCK	5 W
Supplementary Heater: Type of energy input	Electricity





Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1867 kWh

EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)

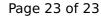
Colder Climate

EN 14825	
	Low temperature
η_{s}	147 %
Prated	8.70 kW
SCOP	3.75
Tbiv	-15 °C
TOL	-20 °C
Pdh Tj = -7°C	5.27 kW
COP Tj = -7°C	3.17
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	3.21 kW
COP Tj = +2°C	4.46
Cdh Tj = +2 °C	0.90





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Pdh Tj = $+7$ °C	2.79 kW
$COP Tj = +7^{\circ}C$	5.81
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	3.39 kW
COP Tj = 12°C	6.71
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	7.10 kW
COP Tj = Tbiv	2.54
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19
WTOL	60 °C
Poff	17 W
РТО	30 W
PSB	17 W
PCK	5 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	8.70 kW
Annual energy consumption Qhe	5722 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.10
COP Tj = -15 °C (if TOL< -20 °C)	2.54
Cdh Tj = -15 °C	0.90





EN 12102-1	
	Low temperature
Sound power level outdoor	57 dB(A)