

Page 1 of 16

This information was generated by the HP KEYMARK database on 18 Mar 2022

Login

Summary of	TTL 3.5 ACS	Reg. No.	011-1W0116	
Certificate Holder	Certificate Holder			
Name	tecalor GmbH			
Address	Fürstenbergerstr. 77	Zip	37603	
City	Holzminden	Country	Germany	
Certification Body	DIN CERTCO Gesellschaft für	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTL 3.5 ACS	TTL 3.5 ACS		
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R410A	R410A		
Mass of Refrigerant	1.1 kg	1.1 kg		
Certification Date	19.01.2017			



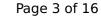
Model: TTL 3.5 ACS + HSBB 200 classic, HSBB 200 S classic

Configure model		
Model name	TTL 3.5 ACS + HSBB 200 classic, HSBB 200 S classic	
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	

Average Climate

EN 14825		
	Low temperature	Medium temperature
η_{s}	166 %	116 %
Prated	3.62 kW	3.83 kW
SCOP	4.22	2.96
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	3.20 kW	2.79 kW
COP Tj = -7°C	2.88	2.01
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	1.95 kW	2.01 kW
COP Tj = +2°C	4.11	2.94





		TR database on 10 Mai 2022
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	1.59 kW	1.25 kW
COP Tj = +7°C	5.81	4.13
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	1.66 kW	1.54 kW
COP Tj = 12°C	6.34	5.13
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	3.20 kW	3.09 kW
COP Tj = Tbiv	2.88	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.04 kW	2.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	2.01
Rated airflow rate	0 m³/h	0 m³/h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
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	0.58 kW	3.83 kW
Annual energy consumption Qhe	1771 kWh	2672 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	33 dB(A)	33 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

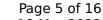
Heating

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 14511-2		
	Low temperature	Medium temperature
Heat output	2.27 kW	1.92 kW
El input	0.50 kW	0.74 kW
СОР	4.54	2.59

Domestic Hot Water (DHW)

Average Climate





EN 16147		
Mixed water at 40°C	245	
Declared load profile	L	
Efficiency ηDHW	113 %	
СОР	2.70	
Heating up time	1:50 h:min	
Standby power input	35.0 W	
Reference hot water temperature	52.5 °C	



Model: TTL 3.5 ACS

Configure model		
Model name	TTL 3.5 ACS	
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	

Average Climate

EN 12102-1		
	Low temperature	
Sound power level indoor	0 dB(A)	
Sound power level outdoor	52 dB(A)	

EN 14825	
	Low temperature
η_{S}	166 %
Prated	3.62 kW
SCOP	4.22
Tbiv	-7 °C
TOL	-10 °C
Pdh Tj = -7°C	3.20 kW





This information was generated by the HF KETM	ANN database on 10 Mai 2022
COP Tj = -7°C	2.88
Cdh Tj = -7 °C	0.900
Pdh Tj = +2°C	1.95 kW
COP Tj = +2°C	4.11
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	1.59 kW
$COP Tj = +7^{\circ}C$	5.81
Cdh Tj = +7 °C	0.900
Pdh Tj = 12°C	1.66 kW
COP Tj = 12°C	6.34
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	3.20 kW
COP Tj = Tbiv	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07
Rated airflow rate	0 m³/h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900
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	0.58 kW
Annual energy consumption Qhe	1771 kWh

Warmer Climate

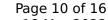
EN 12102-1	
	Low temperature
Sound power level indoor	0 dB(A)
Sound power level outdoor	52 dB(A)

EN 14825	
	Low temperature
η_{S}	200 %
Prated	3.00 kW
SCOP	5.07
Tbiv	2 °C
TOL	2 °C
Pdh Tj = -7°C	0.00 kW
COP Tj = -7°C	0.00
Pdh Tj = +2°C	3.04 kW





$COP Tj = +2^{\circ}C$	3.39
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	1.95 kW
$COP Tj = +7^{\circ}C$	5.18
Cdh Tj = +7 °C	0.900
Pdh Tj = 12°C	1.63 kW
COP Tj = 12°C	6.14
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	3.04 kW
COP Tj = Tbiv	3.39
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.39
Rated airflow rate	0 m³/h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900
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



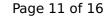


Annual energy consumption Qhe	791 kWh
-------------------------------	---------

Colder Climate

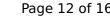
EN 12102-1	
	Low temperature
Sound power level indoor	0 dB(A)
Sound power level outdoor	52 dB(A)

EN 14825	
	Low temperature
η_{s}	148 %
Prated	3.38 kW
SCOP	3.77
Tbiv	-15 °C
TOL	-20 °C
Pdh Tj = -7°C	2.05 kW
COP Tj = -7°C	3.20
Cdh Tj = -7 °C	0.900
Pdh Tj = +2°C	1.25 kW
COP Tj = +2°C	4.55
Cdh Tj = +2 °C	0.900





Pdh Tj = $+7^{\circ}$ C	1.39 kW
COP Tj = +7°C	6.03
Cdh Tj = $+7$ °C	0.900
Pdh Tj = 12°C	1.64 kW
COP Tj = 12°C	6.22
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	2.76 kW
COP Tj = Tbiv	2.56
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.13
Rated airflow rate	0 m³/h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900
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	3.38 kW
Annual energy consumption Qhe	2208 kWh
Pdh Tj = -15°C (if TOL<-20°C)	





 $$\operatorname{\textit{Page}}\ 12$$ of 16 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = -15°C (if TOL<-20°C)	
Cdh Tj = -15 °C	

Heating

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 14511-2		
Low temperature		
Heat output	2.27 kW	
El input	0.50 kW	
СОР	4.54	



Model: TTL 3.5 ACS + HSBC 200, HSBC 200 S

Configure model			
Model name TTL 3.5 ACS + HSBC 200, HSBC 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			

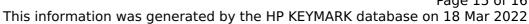
Average Climate

EN 14825		
	Low temperature	Medium temperature
η_{s}	166 %	116 %
Prated	3.62 kW	3.83 kW
SCOP	4.22	2.96
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	3.20 kW	2.79 kW
COP Tj = -7°C	2.88	2.01
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	1.95 kW	2.01 kW
COP Tj = +2°C	4.11	2.94
Cdh Tj = +2 °C	0.900	0.900



Page 14 of 16 This information was generated by the HP KEYMARK database on 18 Mar 2022

rins information was general		1
Pdh Tj = $+7^{\circ}$ C	1.59 kW	1.25 kW
$COP Tj = +7^{\circ}C$	5.81	4.13
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	1.66 kW	1.54 kW
COP Tj = 12°C	6.34	5.13
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	3.20 kW	3.09 kW
COP Tj = Tbiv	2.88	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.20 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.88	2.20
Rated airflow rate	0 m³/h	0 m³/h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
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	0.58 kW	3.83 kW
Annual energy consumption Qhe	1771 kWh	2672 kWh





EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	33 dB(A)	33 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

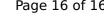
Heating

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 14511-2		
	Low temperature	Medium temperature
Heat output	2.27 kW	1.92 kW
El input	0.50 kW	0.74 kW
СОР	4.54	2.59

Domestic Hot Water (DHW)

Average Climate





 $$\operatorname{\textit{Page}}\ 16$$ of 16 This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 16147		
Mixed water at 40°C	245	
Declared load profile	L	
Efficiency ηDHW	113 %	
СОР	2.70	
Heating up time	1:50 h:min	
Standby power input	35.0 W	
Reference hot water temperature	52.5 °C	