

Subtype TTL 3.5 ACS

Certificate Holder	tecalor GmbH
Address	Fürstenbergerstr. 77
ZIP	37603
City	Holzminden
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	TTL 3.5 ACS
Registration number	011-1W0116
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	1.1 kg
Certification Date	19.01.2017

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

Model name	TTL 3.5 ACS + HSBB 200 classic, HSBB 200 S classic
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	113 %
COP	2.70
Heating up time	1:50 h:min
Standby power input	35.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	245 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	104 %
COP	1.00
Heating up time	2:52 h:min
Standby power input	42.1 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	245 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	104 %
COP	1.00
Heating up time	2:52 h:min
Standby power input	42.1 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	245 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	2.27 kW	1.92 kW
El input	0.50 kW	0.74 kW
COP	4.54	2.59
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	33 dB(A)	33 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)
EN 14825 Average Climate		
	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
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
PTO	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 Q _{he}	1771 kWh	2672 kWh

Model TTL 3.5 ACS

Model name	TTL 3.5 ACS
Application	Heating (low temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	2.27 kW	
El input	0.50 kW	
COP	4.54	

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	
Sound power level outdoor	52 dB(A)	

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	
Prated	3.62 kW	
SCOP	4.22	
Tbiv	-7 °C	
TOL	-10 °C	
Pdh Tj = -7°C	3.20 kW	
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°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
PTO	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

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	
Sound power level outdoor	52 dB(A)	

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	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°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
PTO	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	
COP Tj = -15°C (if TOL	
Cdh Tj = -15 °C	

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	
Sound power level outdoor	52 dB(A)	

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	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°C	3.39	
Cdh Tj = +2 °C	0.900	
Pdh Tj = +7°C	1.95 kW	
COP Tj = +7°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 m ³ /h
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900
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	0.00 kW
Annual energy consumption Qhe	791 kWh

Model TTL 3.5 ACS + HSBC 200, HSBC 200 S

Model name	TTL 3.5 ACS + HSBC 200, HSBC 200 S
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	113 %
COP	2.70
Heating up time	1:50 h:min
Standby power input	35.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	245 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	104 %
COP	1.00
Heating up time	2:52 h:min
Standby power input	42.1 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	245 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	104 %
COP	1.00
Heating up time	2:52 h:min
Standby power input	42.1 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	245 l

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

Defrost test	passed	
Starting and operating test	passed	
EN 14511-2 Heating		
	Low temperature	Medium temperature
Heat output	2.27 kW	1.92 kW
El input	0.50 kW	0.74 kW
COP	4.54	2.59
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	33 dB(A)	33 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)
EN 14825 Average Climate		
	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
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	3.20 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
PTO	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 Q _{he}	1771 kWh	2672 kWh