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Login

Summary of	TTL 4.5 ACS	Reg. No.	011-1W0117
Certificate Holder			
Name	tecalor GmbH		
Address	Fürstenbergerstr. 77	Zip	37603
City	Holzminden	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTL 4.5 ACS		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	1.1 kg		
Certification Date	19.01.2017		

Model: TTL 4.5 ACS + HSBC 200, HSBC 200 S

Configure model	
Model name	TTL 4.5 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

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

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)

EN 14825		
	Low temperature	**Medium temperature**
η_s	165 %	116 %
Prated	4.59 kW	3.83 kW
SCOP	4.20	2.96
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	4.03 kW	2.79 kW
COP Tj = -7°C	2.67	2.01
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.53 kW	2.01 kW
COP Tj = +2°C	4.00	2.94
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	1.63 kW	1.25 kW
COP Tj = +7°C	6.06	4.13
Cdh Tj = +7 °C	0.900	0.900

Pdh Tj = 12°C	1.67 kW	1.54 kW
COP Tj = 12°C	6.43	5.13
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	4.03 kW	3.09 kW
COP Tj = Tbiv	2.67	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.80 kW	2.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	2.01
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	0.79 kW	3.83 kW
Annual energy consumption Qhe	2258 kWh	2672 kWh

Domestic Hot Water (DHW)

Average Climate

EN 16147

Declared load profile	L
Efficiency ηDHW	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

Model: TTL 4.5 ACS + HSBB 200 classic, HSBB 200 S classic

Configure model	
Model name	TTL 4.5 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

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

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)

EN 14825

	Low temperature	Medium temperature
η_s	165 %	116 %
Prated	4.59 kW	3.83 kW
SCOP	4.20	2.96
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-7 °C
Pdh Tj = -7°C	4.03 kW	2.79 kW
COP Tj = -7°C	2.67	2.01
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	2.53 kW	2.01 kW
COP Tj = +2°C	4.00	2.94
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	1.63 kW	1.25 kW
COP Tj = +7°C	6.06	4.13
Cdh Tj = +7 °C	0.900	0.900

Pdh Tj = 12°C	1.67 kW	1.54 kW
COP Tj = 12°C	6.43	5.13
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	4.03 kW	30.90 kW
COP Tj = Tbiv	2.67	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.80 kW	2.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	2.01
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	0.79 kW	3.83 kW
Annual energy consumption Qhe	2258 kWh	2672 kWh

Domestic Hot Water (DHW)

Average Climate

EN 16147

Declared load profile	L
Efficiency ηDHW	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

Model: TTL 4.5 ACS, low temperature, all climates

Configure model	
Model name	TTL 4.5 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	**Medium temperature**
Heat output	2.27 kW	1.92 kW
El input	0.50 kW	
COP	4.54	

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

Average Climate

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

EN 14825	
	Low temperature
η_s	165 %
Prated	4.59 kW
SCOP	4.20
Tbiv	-7 °C
TOL	-10 °C
Pdh Tj = -7°C	4.03 kW
COP Tj = -7°C	2.67
Cdh Tj = -7 °C	0.900
Pdh Tj = +2°C	2.53 kW
COP Tj = +2°C	4.00
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	1.63 kW
COP Tj = +7°C	6.06
Cdh Tj = +7 °C	0.900

Pdh Tj = 12°C	1.67 kW
COP Tj = 12°C	6.43
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	4.03 kW
COP Tj = Tbiv	2.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51
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	0.79 kW
Annual energy consumption Qhe	2258 kWh

Warmer Climate

EN 14825	
	Low temperature
η_s	203 %

Prated	3.48 kW
SCOP	5.14
Tbiv	2 °C
TOL	2 °C
Pdh Tj = +2°C	3.48 kW
COP Tj = +2°C	3.23
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	2.51 kW
COP Tj = +7°C	5.18
Cdh Tj = +7 °C	0.900
Pdh Tj = 12°C	1.64 kW
COP Tj = 12°C	6.23
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	3.48 kW
COP Tj = Tbiv	3.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23
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	904 kWh

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

Colder Climate

EN 14825	
	Low temperature
η_s	147 %
Prated	4.29 kW
SCOP	3.76
Tbiv	-15 °C
TOL	-20 °C
Pdh Tj = -7°C	2.94 kW
COP Tj = -7°C	3.12
Cdh Tj = -7 °C	0.900

Pdh Tj = +2°C	1.75 kW
COP Tj = +2°C	4.61
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	1.42 kW
COP Tj = +7°C	6.34
Cdh Tj = +7 °C	0.900
Pdh Tj = 12°C	1.65 kW
COP Tj = 12°C	6.27
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	3.48 kW
COP Tj = Tbiv	2.52
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.13
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	4.29 kW

Annual energy consumption Qhe	2812 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.48
COP Tj = -15°C (if TOL<-20°C)	2.52
Cdh Tj = -15 °C	0.900

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