CEN heat pump KEYMARK

Login

Summary of	Bosch Compress CS3400iAWS 10,12,14 OR-T	Reg. No.	011-1W0536
Certificate Holder			
Name	Bosch Thermotechnik GmbH		
Address	Junkersstraße 20 - 24	Zip	73249
City	Wernau	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	Bosch Compress CS3400iAWS 10,12,14 OR-T		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	3.2 kg		
Certification Date	10.06.2022		
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 9 (as of 2021-03)		

Model: CS3400iAWS 10 ORM-T

Configure model	
Model name	CS3400iAWS 10 ORM-T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	9.98 kW	8.88 kW
El input	2.09 kW	2.99 kW
COP	4.77	2.97

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	228 %	170 %
Prated	12 kW	12 kW
SCOP	5.77	4.32
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	9.6 kW	9.87 kW
COP Tj = +2°C	3.42	2.61
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.51 kW	7.68 kW
COP Tj = +7°C	5.37	3.74
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	6.17 kW	5.94 kW
COP Tj = 12°C	7.09	5.48
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	10.24 kW	10.28 kW
COP Tj = Tbiv	3.78	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.6 kW	9.87 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.61
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.4 kW	2.13 kW
Annual energy consumption Qhe	2778 kWh	3712 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

CEN heat pump KEYMARK

	Low temperature	Medium temperature
η_s	155 %	126 %
Prated	10 kW	10 kW
SCOP	3.95	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.11 kW	6.12 kW
COP Tj = -7°C	3.63	2.9
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.48 kW	4.23 kW
COP Tj = +2°C	4.56	3.76
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.5
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.14 kW	5.97 kW
COP Tj = 12°C	7.1	5.86
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	7.7 kW	7.71 kW
COP Tj = Tbiv	2.67	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.2 kW	6.91 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10 kW	10 kW
Annual energy consumption Qhe	6248 kWh	7631 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.7	7.39
COP Tj = -15°C (if TOL<-20°C)	2.67	2.07
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

CEN heat pump KEYMARK

	Low temperature	Medium temperature
η_s	183 %	135 %
Prated	10 kW	10 kW
SCOP	4.66	3.45
Tbiv	-9 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.84 kW	8.62 kW
COP Tj = -7°C	3.14	2.14
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.36 kW	5.61 kW
COP Tj = +2°C	4.68	3.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.21 kW	4.83 kW
COP Tj = +7°C	5.46	4.22
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.20 kW	5.89 kW
COP Tj = 12°C	7.44	5.83
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.03 kW	8.62 kW
COP Tj = Tbiv	2.88	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	7.71 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.24 kW	2.29 kW
Annual energy consumption Qhe	4435 kWh	5985 kWh

Domestic Hot Water (DHW)

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	138 %
COP	3.33
Heating up time	01:26 h:min
Standby power input	40 W
Reference hot water temperature	50.6 °C
Mixed water at 40°C	255 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	104 %
COP	2.5
Heating up time	02:08 h:min
Standby power input	50 W
Reference hot water temperature	51.6 °C
Mixed water at 40°C	260 l

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	120 %
COP	2.87
Heating up time	01:53 h:min
Standby power input	50 W
Reference hot water temperature	52.7 °C
Mixed water at 40°C	264 l

Model: CS3400iAWS 10 ORE-T

Configure model

Model name	CS3400iAWS 10 ORE-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data

Power supply	3x400V 50Hz

Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	9.98 kW	8.88 kW
El input	2.09 kW	2.99 kW
COP	4.77	2.97

EN 14511-4

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	228 %	170 %
Prated	12 kW	12 kW
SCOP	5.77	4.32
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	9.6 kW	9.87 kW
COP Tj = +2°C	3.42	2.61
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.51 kW	7.68 kW
COP Tj = +7°C	5.37	3.74
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	6.17 kW	5.94 kW
COP Tj = 12°C	7.09	5.48
Cdh Tj = +12 °C	0.97	0.98

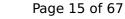| Pdh Tj = Tbiv	10.24 kW	10.28 kW
COP Tj = Tbiv	3.78	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.6 kW	9.87 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.61
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.4 kW	2.13 kW
Annual energy consumption Qhe	2778 kWh	3712 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

CEN heat pump
KEYMARK

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	Low temperature	Medium temperature
η_s	155 %	126 %
Prated	10 kW	10 kW
SCOP	3.95	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.11 kW	6.12 kW
COP Tj = -7°C	3.63	2.9
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.48 kW	4.23 kW
COP Tj = +2°C	4.56	3.76
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.5
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.14 kW	5.97 kW
COP Tj = 12°C	7.1	5.86
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	7.7 kW	7.71 kW
COP Tj = Tbiv	2.67	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.2 kW	6.91 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10 kW	10 kW
Annual energy consumption Qhe	6248 kWh	7631 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.7	7.39
COP Tj = -15°C (if TOL<-20°C)	2.67	2.07
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

CEN heat pump KEYMARK

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	183 %	135 %
Prated	10 kW	10 kW
SCOP	4.66	3.45
Tbiv	-9 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.84 kW	8.62 kW
COP Tj = -7°C	3.14	2.14
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.36 kW	5.61 kW
COP Tj = +2°C	4.68	3.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.21 kW	4.83 kW
COP Tj = +7°C	5.46	4.22
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.20 kW	5.89 kW
COP Tj = 12°C	7.44	5.83
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.03 kW	8.62 kW
COP Tj = Tbiv	2.88	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	7.71 kW

This information was generated by the HP KEYMARK database on 23 Jun 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.24 kW	2.29 kW
Annual energy consumption Qhe	4435 kWh	5985 kWh

Model: CS3400iAWS 10 ORB-T

Configure model	
Model name	CS3400iAWS 10 ORB-T
Application	Heating (medium temp)
Units	Indoor + 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	9.98 kW	8.88 kW
El input	2.09 kW	2.99 kW
COP	4.77	2.97

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	228 %	170 %
Prated	12 kW	12 kW
SCOP	5.77	4.32
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	9.6 kW	9.87 kW
COP Tj = +2°C	3.42	2.61
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.51 kW	7.68 kW
COP Tj = +7°C	5.37	3.74
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	6.17 kW	5.94 kW
COP Tj = 12°C	7.09	5.48
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	10.24 kW	10.28 kW
COP Tj = Tbiv	3.78	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.6 kW	9.87 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.61
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	2.4 kW	2.13 kW
Annual energy consumption Qhe	2778 kWh	3712 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	155 %	126 %
Prated	10 kW	10 kW
SCOP	3.95	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.11 kW	6.12 kW
COP Tj = -7°C	3.63	2.9
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.48 kW	4.23 kW
COP Tj = +2°C	4.56	3.76
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.5
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.14 kW	5.97 kW
COP Tj = 12°C	7.1	5.86
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	7.7 kW	7.71 kW
COP Tj = Tbiv	2.67	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.2 kW	6.91 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	10 kW	10 kW
Annual energy consumption Qhe	6248 kWh	7631 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.7	7.39
COP Tj = -15°C (if TOL<-20°C)	2.67	2.07
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	183 %	135 %
Prated	10 kW	10 kW
SCOP	4.66	3.45
Tbiv	-9 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.84 kW	8.62 kW
COP Tj = -7°C	3.14	2.14
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.36 kW	5.61 kW
COP Tj = +2°C	4.68	3.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.21 kW	4.83 kW
COP Tj = +7°C	5.46	4.22
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.20 kW	5.89 kW
COP Tj = 12°C	7.44	5.83
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.03 kW	8.62 kW
COP Tj = Tbiv	2.88	2.13
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	7.71 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	1.24 kW	2.29 kW
Annual energy consumption Qhe	4435 kWh	5985 kWh

Model: CS3400iAWS 12 ORM-T

Configure model	
Model name	CS3400iAWS 12 ORM-T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	11.6 kW	10.80 kW
El input	2.58 kW	3.75 kW
COP	4.5	2.88

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

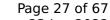|	Low temperature	Medium temperature
η_s	229 %	168 %
Prated	13 kW	13 kW
SCOP	5.79	4.27
Tbiv	3 °C	3 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.9 kW	11.3 kW
COP Tj = +2°C	3.28	2.48
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.66 kW	8.67 kW
COP Tj = +7°C	5.22	3.61
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.13	5.51
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	11.3 kW	11.57 kW
COP Tj = Tbiv	3.46	2.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.9 kW	11.3 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.1 kW	1.7 kW
Annual energy consumption Qhe	2999 kWh	4068 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	156 %	126 %
Prated	11 kW	11 kW
SCOP	3.97	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.96 kW	6.95 kW
COP Tj = -7°C	3.61	2.76
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.5 kW	4.44 kW
COP Tj = +2°C	4.6	4.02
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.28 kW	5.01 kW
COP Tj = +7°C	5.56	4.54
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.09	5.89
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.57 kW	8.16 kW
COP Tj = Tbiv	2.45	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.9 kW	7.15 kW

Disclaimer: this document is a summary of the certified performance.
The authoritative source of this information is the heat pump certificate as executed by the certification body and the related technical data.

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.05	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11 kW	11 kW
Annual energy consumption Qhe	6834 kWh	8388 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.57	7.78
COP Tj = -15°C (if TOL<-20°C)	2.45	1.96
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	11 kW	11 kW
SCOP	4.56	3.48
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.22 kW	9.51 kW
COP Tj = -7°C	3.02	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.14 kW	6.06 kW
COP Tj = +2°C	4.56	3.52
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.22 kW	5.01 kW
COP Tj = +7°C	5.46	4.35
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.17 kW	5.97 kW
COP Tj = 12°C	7.21	5.69
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	10.76 kW	9.51 kW
COP Tj = Tbiv	2.62	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.76 kW	8.89 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.62	1.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	2.11 kW
Annual energy consumption Qhe	4983 kWh	6527 kWh

Domestic Hot Water (DHW)

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	138 %
COP	3.33
Heating up time	01:26 h:min
Standby power input	40 W
Reference hot water temperature	50.6 °C
Mixed water at 40°C	255 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	104 %
COP	2.5
Heating up time	02:08 h:min
Standby power input	50 W
Reference hot water temperature	51.6 °C
Mixed water at 40°C	260 l

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	120 %
COP	2.87
Heating up time	01:53 h:min
Standby power input	50 W
Reference hot water temperature	52.7 °C
Mixed water at 40°C	264 l

Model: CS3400iAWS 12 ORE-T

Configure model	
Model name	CS3400iAWS 12 ORE-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

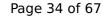| EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	11.6 kW	10.80 kW
El input	2.58 kW	3.75 kW
COP	4.5	2.88

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	229 %	168 %
Prated	13 kW	13 kW
SCOP	5.79	4.27
Tbiv	3 °C	3 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.9 kW	11.3 kW
COP Tj = +2°C	3.28	2.48
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.66 kW	8.67 kW
COP Tj = +7°C	5.22	3.61
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.13	5.51
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	11.3 kW	11.57 kW
COP Tj = Tbiv	3.46	2.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.9 kW	11.3 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.1 kW	1.7 kW
Annual energy consumption Qhe	2999 kWh	4068 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	156 %	126 %
Prated	11 kW	11 kW
SCOP	3.97	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.96 kW	6.95 kW
COP Tj = -7°C	3.61	2.76
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.5 kW	4.44 kW
COP Tj = +2°C	4.6	4.02
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.28 kW	5.01 kW
COP Tj = +7°C	5.56	4.54
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.09	5.89
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.57 kW	8.16 kW
COP Tj = Tbiv	2.45	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.9 kW	7.15 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.05	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11 kW	11 kW
Annual energy consumption Qhe	6834 kWh	8388 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.57	7.78
COP Tj = -15°C (if TOL<-20°C)	2.45	1.96
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	11 kW	11 kW
SCOP	4.56	3.48
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.22 kW	9.51 kW
COP Tj = -7°C	3.02	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.14 kW	6.06 kW
COP Tj = +2°C	4.56	3.52
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.22 kW	5.01 kW
COP Tj = +7°C	5.46	4.35
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.17 kW	5.97 kW
COP Tj = 12°C	7.21	5.69
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	10.76 kW	9.51 kW
COP Tj = Tbiv	2.62	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.76 kW	8.89 kW

This information was generated by the HP KEYMARK database on 23 Jun 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.62	1.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	2.11 kW
Annual energy consumption Qhe	4983 kWh	6527 kWh

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CEN heat pump KEYMARK

Model: CS3400iAWS 12 ORB-T

Configure model	
Model name	CS3400iAWS 12 ORB-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

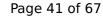| EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	11.6 kW	10.80 kW
El input	2.58 kW	3.75 kW
COP	4.5	2.88

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	229 %	168 %
Prated	13 kW	13 kW
SCOP	5.79	4.27
Tbiv	3 °C	3 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.9 kW	11.3 kW
COP Tj = +2°C	3.28	2.48
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.66 kW	8.67 kW
COP Tj = +7°C	5.22	3.61
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.13	5.51
Cdh Tj = +12 °C	0.97	0.98

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com

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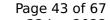| Pdh Tj = Tbiv	11.3 kW	11.57 kW
COP Tj = Tbiv	3.46	2.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.9 kW	11.3 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	2.1 kW	1.7 kW
Annual energy consumption Qhe	2999 kWh	4068 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

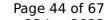|	Low temperature	Medium temperature
η_s	156 %	126 %
Prated	11 kW	11 kW
SCOP	3.97	3.23
Tbiv	-15 °C	-13 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.96 kW	6.95 kW
COP Tj = -7°C	3.61	2.76
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.5 kW	4.44 kW
COP Tj = +2°C	4.6	4.02
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.28 kW	5.01 kW
COP Tj = +7°C	5.56	4.54
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.15 kW	5.97 kW
COP Tj = 12°C	7.09	5.89
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.57 kW	8.16 kW
COP Tj = Tbiv	2.45	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.9 kW	7.15 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.05	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	11 kW	11 kW
Annual energy consumption Qhe	6834 kWh	8388 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.57	7.78
COP Tj = -15°C (if TOL<-20°C)	2.45	1.96
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	179 %	136 %
Prated	11 kW	11 kW
SCOP	4.56	3.48
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.22 kW	9.51 kW
COP Tj = -7°C	3.02	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.14 kW	6.06 kW
COP Tj = +2°C	4.56	3.52
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.22 kW	5.01 kW
COP Tj = +7°C	5.46	4.35
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.17 kW	5.97 kW
COP Tj = 12°C	7.21	5.69
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	10.76 kW	9.51 kW
COP Tj = Tbiv	2.62	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.76 kW	8.89 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.62	1.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	2.11 kW
Annual energy consumption Qhe	4983 kWh	6527 kWh

Model: CS3400iAWS 14 ORM-T

Configure model	
Model name	CS3400iAWS 14 ORM-T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	14.58 kW	12.70 kW
El input	3.41 kW	4.54 kW
COP	4.28	2.80

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	229 %	168 %
Prated	14 kW	14 kW
SCOP	5.79	4.27
Tbiv	3 °C	3 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.2 kW	11.85 kW
COP Tj = +2°C	3.16	2.38
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.88 kW	9.05 kW
COP Tj = +7°C	5.21	3.58
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.16 kW	5.97 kW
COP Tj = 12°C	7.19	5.56
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	12.6 kW	12.3 kW
COP Tj = Tbiv	3.33	2.56
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.2 kW	11.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.16	2.38
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	2.15 kW
Annual energy consumption Qhe	3228 kWh	4384 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

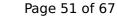|	Low temperature	Medium temperature
η_s	155 %	122 %
Prated	12 kW	12 kW
SCOP	3.96	3.12
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.62 kW	7.48 kW
COP Tj = -7°C	3.56	2.68
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.53 kW	4.64 kW
COP Tj = +2°C	4.64	3.86
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.57
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.15 kW	5.98 kW
COP Tj = 12°C	7.13	5.91
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	10.18 kW	8.85 kW
COP Tj = Tbiv	2.42	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.69 kW	7.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.7
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12 kW	12 kW
Annual energy consumption Qhe	7474 kWh	9483 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.18	8.31
COP Tj = -15°C (if TOL<-20°C)	2.42	1.88
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	178 %	138 %
Prated	12 kW	12 kW
SCOP	4.53	3.53
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.98 kW	10.26 kW
COP Tj = -7°C	2.73	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.71 kW	6.60 kW
COP Tj = +2°C	4.71	3.59
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.26 kW	5.09 kW
COP Tj = +7°C	5.40	4.48
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.11 kW	6.06 kW
COP Tj = 12°C	6.75	5.60
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.49 kW	10.26 kW
COP Tj = Tbiv	2.56	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.49 kW	9.04 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.54	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	2.96 kW
Annual energy consumption Qhe	5475 kWh	7031 kWh

Domestic Hot Water (DHW)

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	138 %
COP	3.33
Heating up time	01:26 h:min
Standby power input	40 W
Reference hot water temperature	50.6 °C
Mixed water at 40°C	255 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	104 %
COP	2.5
Heating up time	02:08 h:min
Standby power input	50 W
Reference hot water temperature	51.6 °C
Mixed water at 40°C	260 l

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	120 %
COP	2.87
Heating up time	01:53 h:min
Standby power input	50 W
Reference hot water temperature	52.7 °C
Mixed water at 40°C	264 l

Model: CS3400iAWS 14 ORE-T

Configure model	
Model name	CS3400iAWS 14 ORE-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	14.58 kW	12.70 kW
El input	3.41 kW	4.54 kW
COP	4.28	2.80

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

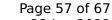|	Low temperature	Medium temperature
η_s	229 %	168 %
Prated	14 kW	14 kW
SCOP	5.79	4.27
Tbiv	3 °C	3 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.2 kW	11.85 kW
COP Tj = +2°C	3.16	2.38
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.88 kW	9.05 kW
COP Tj = +7°C	5.21	3.58
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.16 kW	5.97 kW
COP Tj = 12°C	7.19	5.56
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	12.6 kW	12.3 kW
COP Tj = Tbiv	3.33	2.56
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.2 kW	11.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.16	2.38
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.8 kW	2.15 kW
Annual energy consumption Qhe	3228 kWh	4384 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

This information was generated by the HP KEYMARK database on 23 Jun 2022

	Low temperature	Medium temperature
η_s	155 %	122 %
Prated	12 kW	12 kW
SCOP	3.96	3.12
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.62 kW	7.48 kW
COP Tj = -7°C	3.56	2.68
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.53 kW	4.64 kW
COP Tj = +2°C	4.64	3.86
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.57
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.15 kW	5.98 kW
COP Tj = 12°C	7.13	5.91
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	10.18 kW	8.85 kW
COP Tj = Tbiv	2.42	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.69 kW	7.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.7
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12 kW	12 kW
Annual energy consumption Qhe	7474 kWh	9483 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.18	8.31
COP Tj = -15°C (if TOL<-20°C)	2.42	1.88
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	178 %	138 %
Prated	12 kW	12 kW
SCOP	4.53	3.53
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.98 kW	10.26 kW
COP Tj = -7°C	2.73	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.71 kW	6.60 kW
COP Tj = +2°C	4.71	3.59
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.26 kW	5.09 kW
COP Tj = +7°C	5.40	4.48
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.11 kW	6.06 kW
COP Tj = 12°C	6.75	5.60
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.49 kW	10.26 kW
COP Tj = Tbiv	2.56	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.49 kW	9.04 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.54	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	2.96 kW
Annual energy consumption Qhe	5475 kWh	7031 kWh

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Disclaimer: this document is a summary of the certified performance.
The authoritative source of this information is the heat pump certificate as executed by the certification body and the related technical data.

Model: CS3400iAWS 14 ORB-T

Configure model	
Model name	CS3400iAWS 14 ORB-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

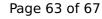| EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	14.58 kW	12.70 kW
El input	3.41 kW	4.54 kW
COP	4.28	2.80

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

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

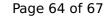|	Low temperature	Medium temperature
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Prated	14 kW	14 kW
SCOP	5.79	4.27
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Pdh Tj = +2°C	12.2 kW	11.85 kW
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Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	8.88 kW	9.05 kW
COP Tj = +7°C	5.21	3.58
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.16 kW	5.97 kW
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Cdh Tj = +12 °C	0.97	0.98

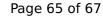|		
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.16	2.38
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	1.8 kW	2.15 kW
Annual energy consumption Qhe	3228 kWh	4384 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

	Low temperature	Medium temperature
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SCOP	3.96	3.12
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.62 kW	7.48 kW
COP Tj = -7°C	3.56	2.68
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.53 kW	4.64 kW
COP Tj = +2°C	4.64	3.86
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	5.26 kW	5.01 kW
COP Tj = +7°C	5.43	4.57
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Pdh Tj = 12°C	6.15 kW	5.98 kW
COP Tj = 12°C	7.13	5.91
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Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	12 kW	12 kW
Annual energy consumption Qhe	7474 kWh	9483 kWh
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COP Tj = -15°C (if TOL<-20°C)	2.42	1.88
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825

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	Low temperature	Medium temperature
η_s	178 %	138 %
Prated	12 kW	12 kW
SCOP	4.53	3.53
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.98 kW	10.26 kW
COP Tj = -7°C	2.73	2.10
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	6.71 kW	6.60 kW
COP Tj = +2°C	4.71	3.59
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.26 kW	5.09 kW
COP Tj = +7°C	5.40	4.48
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.11 kW	6.06 kW
COP Tj = 12°C	6.75	5.60
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.49 kW	10.26 kW
COP Tj = Tbiv	2.56	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.49 kW	9.04 kW

This information was generated by the HP KEYMARK database on 23 Jun 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.54	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1	1
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	2.96 kW
Annual energy consumption Qhe	5475 kWh	7031 kWh

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