

Subtype CHA-Monoblock 20

Certificate Holder	WOLF GmbH
Address	Industriestr. 1
ZIP	84048
City	Mainburg
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	CHA-Monoblock 20
Registration number	011-1W0774
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	3.8 kg
Certification Date	28.02.2024
Testing basis	HP KEYMARK certification scheme rules V12

**Model CHA-20/24-400V-M2 CS-e9-D2**

Model name	CHA-20/24-400V-M2 CS-e9-D2
Application	Heating (medium 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	3x400V 50Hz
Off-peak product	n/a

**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	23.59 kW	23.90 kW
El input	5.51 kW	8.57 kW
COP	4.28	2.79

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	207 %	153 %
Prated	18.00 kW	18.00 kW
SCOP	5.25	3.90
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	15.22 kW	15.66 kW
COP Tj = -7°C	3.17	2.24
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	9.92 kW	9.53 kW
COP Tj = +2°C	5.16	3.81
Cdh Tj = +2 °C	0.900	0.900

Pdh Tj = +7°C	6.40 kW	5.97 kW
COP Tj = +7°C	7.18	5.33
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	7.22 kW	6.89 kW
COP Tj = 12°C	8.53	6.71
Cdh Tj = +12 °C	0.970	0.976
Pdh Tj = Tbiv	15.22 kW	17.64 kW
COP Tj = Tbiv	3.17	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.06 kW	17.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.42	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	70 °C	70 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.94 kW	0.00 kW
Annual energy consumption Qhe	7079 kWh	9543 kWh

**Model CHA-20/24-400V-M2 CS-D2**

Model name	CHA-20/24-400V-M2 CS-D2
Application	Heating (medium 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	3x400V 50Hz
Off-peak product	n/a

**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	23.59 kW	23.90 kW
El input	5.51 kW	8.57 kW
COP	4.28	2.79

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	204 %	153 %
Prated	16.50 kW	18.00 kW
SCOP	5.17	3.90
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.28 kW	15.66 kW
COP Tj = -7°C	3.22	2.24
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.77 kW	9.53 kW
COP Tj = +2°C	5.18	3.81
Cdh Tj = +2 °C	0.900	0.900

Pdh Tj = +7°C	6.00 kW	5.97 kW
COP Tj = +7°C	6.63	5.33
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.68 kW	6.89 kW
COP Tj = 12°C	7.83	6.71
Cdh Tj = +12 °C	0.971	0.976
Pdh Tj = Tbiv	16.17 kW	17.64 kW
COP Tj = Tbiv	2.43	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.17 kW	17.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	70 °C	70 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6577 kWh	9543 kWh