

Subtype CHA-Monoblock 16

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 16
Registration number	011-1W0514
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	3.8 kg
Certification Date	30.11.2021
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 9 (as of 2021-03)

Model CHA-16/20-400V-M2 CS-e9-C2

Model name	CHA-16/20-400V-M2 CS-e9-C2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	20.54 kW	20.60 kW
El input	4.44 kW	7.04 kW
COP	4.63	2.93

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.27 kW	1.68 kW
Cooling capacity	8.35	9.75
EER	3.68	5.82

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	215 %	154 %
Prated	13.52 kW	14.55 kW
SCOP	5.46	3.92
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C

Pdh Tj = -7°C	12.17 kW	12.64 kW
COP Tj = -7°C	3.40	2.31
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.30 kW	7.73 kW
COP Tj = +2°C	5.42	3.86
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.33 kW	5.87 kW
COP Tj = +7°C	7.09	5.21
Cdh Tj = +7 °C	0.973	0.979
Pdh Tj = 12°C	7.13 kW	6.80 kW
COP Tj = 12°C	8.53	6.56
Cdh Tj = +12 °C	0.972	0.977
Pdh Tj = Tbiv	13.52 kW	14.55 kW
COP Tj = Tbiv	2.61	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.52 kW	14.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5118 kWh	7675 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	183 %	137 %
Prated	15.64 kW	15.46 kW
SCOP	4.65	3.50
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.73 kW	9.84 kW
COP Tj = -7°C	3.95	2.88
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.95 kW	6.17 kW
COP Tj = +2°C	5.84	4.49

Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.38 kW	6.02 kW
COP Tj = +7°C	7.12	5.60
Cdh Tj = +7 °C	0.974	0.978
Pdh Tj = 12°C	6.69 kW	6.76 kW
COP Tj = 12°C	7.96	6.60
Cdh Tj = +12 °C	0.972	0.977
Pdh Tj = Tbiv	12.76 kW	12.61 kW
COP Tj = Tbiv	2.68	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.06 kW	10.27 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.58 kW	5.19 kW
Annual energy consumption Qhe	8292 kWh	10876 kWh
Pdh Tj = -15°C (if TOL	12.76	12.61
COP Tj = -15°C (if TOL	2.68	1.87
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	266 %	185 %
Prated	15.17 kW	15.98 kW
SCOP	6.72	4.71
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.17 kW	15.98 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	10.21 kW	9.98 kW
COP Tj = +7°C	6.26	4.12
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	7.12 kW	6.62 kW

COP Tj = 12°C	8.15	6.03
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	15.17 kW	15.98 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.17 kW	15.98 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3017 kWh	4538 kWh

EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	14.53 kW	15.80 kW
SEER	3.39	5.09
Pdc Tj = 35°C	14.53 kW	15.80 kW
EER Tj = 35°C	2.74	4.59
Cdc Tj = 35 °C	0.900	0.900
Pdc Tj = 30°C	10.45 kW	11.82 kW
EER Tj = 30°C	4.10	6.12
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	6.63 kW	7.01 kW
EER Tj = 25°C	3.97	5.49
Cdc Tj = 25 °C	0.250	0.250
Pdc Tj = 20°C	4.94 kW	6.42 kW
EER Tj = 20°C	3.49	4.87
Cdc Tj = 20 °C	0.983	0.982
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Annual energy consumption Qce	1499 kWh	1088 kWh

Model CHA-16/20-400V-M2 CS-C2

Model name	CHA-16/20-400V-M2 CS-C2
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer, Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
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	20.54 kW	20.60 kW
El input	4.44 kW	7.04 kW
COP	4.63	2.93

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.27 kW	1.68 kW
Cooling capacity	8.35	9.75
EER	3.68	5.82

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	215 %	154 %
Prated	13.52 kW	14.55 kW
SCOP	5.46	3.92
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C

Pdh Tj = -7°C	12.17 kW	12.64 kW
COP Tj = -7°C	3.40	2.31
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.30 kW	7.73 kW
COP Tj = +2°C	5.42	3.86
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.33 kW	5.87 kW
COP Tj = +7°C	7.09	5.21
Cdh Tj = +7 °C	0.973	0.979
Pdh Tj = 12°C	7.13 kW	6.80 kW
COP Tj = 12°C	8.53	6.56
Cdh Tj = +12 °C	0.972	0.977
Pdh Tj = Tbiv	13.52 kW	14.55 kW
COP Tj = Tbiv	2.61	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.52 kW	14.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	1.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	10876 W
PTO	24 W	20 W
PSB	23 W	24 W
PCK	0 W	23 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5118 kWh	7675 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	266 %	185 %
Prated	15.17 kW	15.98 kW
SCOP	6.72	4.71
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.17 kW	15.98 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	10.21 kW	9.98 kW
COP Tj = +7°C	6.26	4.12

Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	7.12 kW	6.62 kW
COP Tj = 12°C	8.15	6.03
Cdh Tj = +12 °C	0.973	0.978
Pdh Tj = Tbiv	15.17 kW	15.98 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.17 kW	15.98 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	10876 W
PTO	24 W	20 W
PSB	23 W	24 W
PCK	0 W	23 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3017 kWh	4538 kWh

EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	14.53 kW	15.80 kW
SEER	3.39	5.09
Pdc Tj = 35°C	14.53 kW	15.80 kW
EER Tj = 35°C	2.74	4.59
Cdc Tj = 35 °C	0.900	0.900
Pdc Tj = 30°C	10.45 kW	11.82 kW
EER Tj = 30°C	4.10	6.12
Cdc Tj = 30 °C	0.900	0.900
Pdc Tj = 25°C	6.63 kW	7.01 kW
EER Tj = 25°C	3.97	5.49
Cdc Tj = 25 °C	0.250	0.250
Pdc Tj = 20°C	4.94 kW	6.42 kW
EER Tj = 20°C	3.49	4.87
Cdc Tj = 20 °C	0.983	0.982
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Annual energy consumption Qce	1499 kWh	1088 kWh

Model CHA-16/20-400V-M2 CS-e9-C2 + SEW-2-300 (CHA-16/20-400V-M2 CC-300-S50-e9-C2)

Model name	CHA-16/20-400V-M2 CS-e9-C2 + SEW-2-300 (CHA-16/20-400V-M2 CC-300-S50-e9-C2)
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	XXL
Efficiency η_{DHW}	118 %
COP	2.94
Heating up time	1:58 h:min
Standby power input	62.5 W
Reference hot water temperature	49.5 °C
Mixed water at 40°C	313 l

EN 16147 | Colder Climate

Declared load profile	XXL
Efficiency η_{DHW}	102 %
COP	2.54
Heating up time	1:59 h:min
Standby power input	79.1 W
Reference hot water temperature	49.8 °C
Mixed water at 40°C	316 l

EN 16147 | Warmer Climate

Declared load profile	XXL
Efficiency η_{DHW}	138 %
COP	3.46
Heating up time	2:03 h:min
Standby power input	61.3 W
Reference hot water temperature	49.6 °C
Mixed water at 40°C	313 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	20.54 kW	20.60 kW
El input	4.44 kW	7.04 kW
COP	4.63	2.93

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	2.27 kW	1.68 kW
Cooling capacity	8.35	9.75
EER	3.68	5.82

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	215 %	154 %
Prated	13.52 kW	14.55 kW
SCOP	5.46	3.92
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.17 kW	12.64 kW
COP Tj = -7°C	3.40	2.31
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.30 kW	7.73 kW
COP Tj = +2°C	5.42	3.86
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.33 kW	5.87 kW
COP Tj = +7°C	7.09	5.21
Cdh Tj = +7 °C	0.973	0.979
Pdh Tj = 12°C	7.13 kW	6.80 kW
COP Tj = 12°C	8.53	6.56
Cdh Tj = +12 °C	0.972	0.977
Pdh Tj = Tbiv	13.52 kW	14.55 kW
COP Tj = Tbiv	2.61	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.52 kW	14.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	1.92

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5118 kWh	7675 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	183 %	137 %
Prated	15.64 kW	15.46 kW
SCOP	4.65	3.50
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.73 kW	9.84 kW
COP Tj = -7°C	3.95	2.88
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.95 kW	6.17 kW
COP Tj = +2°C	5.84	4.49
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.38 kW	6.02 kW
COP Tj = +7°C	7.12	5.60
Cdh Tj = +7 °C	0.974	0.978
Pdh Tj = 12°C	6.69 kW	6.76 kW
COP Tj = 12°C	7.96	6.60
Cdh Tj = +12 °C	0.972	0.977
Pdh Tj = Tbiv	12.76 kW	12.61 kW
COP Tj = Tbiv	2.68	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.06 kW	10.27 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	24 W	24 W

PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	6.58 kW	5.19 kW
Annual energy consumption Q _{he}	8292 kWh	10876 kWh
P _{dh} T _j = -15°C (if TOL	12.76	12.61
COP T _j = -15°C (if TOL	2.68	1.87
C _{dh} T _j = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)
Sound power level outdoor	52 dB(A)	52 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	266 %	185 %
Prated	15.17 kW	15.98 kW
SCOP	6.72	4.71
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	15.17 kW	15.98 kW
COP T _j = +2°C	3.35	2.30
C _{dh} T _j = +2 °C	0.900	0.900
P _{dh} T _j = +7°C	10.21 kW	9.98 kW
COP T _j = +7°C	6.26	4.12
C _{dh} T _j = +7 °C	0.900	0.900
P _{dh} T _j = 12°C	7.12 kW	6.62 kW
COP T _j = 12°C	8.15	6.03
C _{dh} T _j = +12 °C	0.973	0.978
P _{dh} T _j = T _{biv}	15.17 kW	15.98 kW
COP T _j = T _{biv}	3.35	2.30
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	15.17 kW	15.98 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.35	2.30
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.900	0.900
WTOL	65 °C	65 °C
P _{off}	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Q _{he}	3017 kWh	4538 kWh
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EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
P _{designc}	14.53 kW	15.80 kW
SEER	3.39	5.09
P _{dc} T _j = 35°C	14.53 kW	15.80 kW
EER T _j = 35°C	2.74	4.59
C _{dc} T _j = 35 °C	0.900	0.900
P _{dc} T _j = 30°C	10.45 kW	11.82 kW
EER T _j = 30°C	4.10	6.12
C _{dc} T _j = 30 °C	0.900	0.900
P _{dc} T _j = 25°C	6.63 kW	7.01 kW
EER T _j = 25°C	3.97	5.49
C _{dc} T _j = 25 °C	0.250	0.250
P _{dc} T _j = 20°C	4.94 kW	6.42 kW
EER T _j = 20°C	3.49	4.87
C _{dc} T _j = 20 °C	0.983	0.982
P _{off}	20 W	20 W
PTO	24 W	24 W
PSB	23 W	23 W
PCK	0 W	0 W
Annual energy consumption Q _{ce}	1499 kWh	1088 kWh