

Subtype MAB 8-10 v10 190

Certificate Holder	Salvador Escoda S.A.
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Country	ES
Certification Body	BRE Global Limited
Subtype title	MAB 8-10 v10 190
Registration number	041-K012-05
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.65 kg
Certification Date	21.05.2021
Testing basis	Heat Pump Keymark Scheme Rules Rev 09
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

Model MAB-8-V10M + HR-8-10-190L-V10M

Model name	MAB-8-V10M + HR-8-10-190L-V10M
Application	Heating + DHW + low temp
Units	Indoor, 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	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	125 %
COP	3.02
Heating up time	1:38 h:min
Standby power input	23.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	41 %
COP	2.61
Heating up time	1:32 h:min
Standby power input	25.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	151 %
COP	3.66
Heating up time	1:30 h:min
Standby power input	21.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 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	8.30 kW	7.50 kW
El input	1.60 kW	2.36 kW
COP	5.20	3.18

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	205 %	132 %
Prated	8.12 kW	6.60 kW
SCOP	5.21	3.36
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.19 kW	5.84 kW
COP Tj = -7°C	3.35	2.16
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.65 kW	3.76 kW
COP Tj = +2°C	5.09	3.30
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.90 kW	2.43 kW
COP Tj = +7°C	6.82	4.34
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.63 kW	1.40 kW
COP Tj = 12°C	8.35	5.33
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	7.19 kW	5.84 kW
COP Tj = Tbiv	3.35	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.45 kW	4.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.04	1.84
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.68 kW	1.69 kW
Annual energy consumption Q _{he}	3223 kWh	4056 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η _s	170 %	112 %
Prated	6.98 kW	5.78 kW
SCOP	4.32	2.88
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.46 kW	3.86 kW
COP T _j = -7°C	3.66	2.48
C _{dh} T _j = -7 °C	0.90	0.90
P _{dh} T _j = +2°C	2.70 kW	2.21 kW
COP T _j = +2°C	5.20	3.35
C _{dh} T _j = +2 °C	0.90	0.90
P _{dh} T _j = +7°C	1.66 kW	1.44 kW
COP T _j = +7°C	6.53	4.11
C _{dh} T _j = +7 °C	0.90	0.90
P _{dh} T _j = 12°C	1.66 kW	1.47 kW
COP T _j = 12°C	7.96	5.92
C _{dh} T _j = +12 °C	0.90	0.90
P _{dh} T _j = T _{biv}	5.69 kW	4.71 kW
COP T _j = T _{biv}	2.83	1.90
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4.06 kW	2.80 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.95	1.22
WTOL	65 °C	65 °C
P _{off}	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.91 kW	2.99 kW
Annual energy consumption Q _{he}	3978 kWh	4950 kWh
P _{dh} T _j = -15°C (if TOL	5.69	4.71
COP T _j = -15°C (if TOL	2.83	1.90
C _{dh} T _j = -15 °C	0.90	0.90

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	273 %	176 %
Prated	8.12 kW	7.56 kW
SCOP	6.99	4.47
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.57 kW	7.55 kW
COP Tj = +2°C	3.98	2.59
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.22 kW	4.86 kW
COP Tj = +7°C	6.26	3.92
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.45 kW	2.32 kW
COP Tj = 12°C	9.02	5.55
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	5.22 kW	4.86 kW
COP Tj = Tbiv	6.26	3.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.57 kW	7.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.98	2.59
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.55 kW	0.02 kW
Annual energy consumption Qhe	1569 kWh	2259 kWh

Model MAB-10-V10M + HR-8-10-190L-V10M

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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	n/a

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	L
Efficiency η_{DHW}	125 %
COP	3.02
Heating up time	1:38 h:min
Standby power input	23.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	107 %
COP	2.61
Heating up time	1:31 h:min
Standby power input	25.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	151 %
COP	3.66
Heating up time	1:30 h:min
Standby power input	21.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 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	10.00 kW	9.50 kW
El input	2.00 kW	3.06 kW
COP	5.00	3.10

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	205 %	137 %
Prated	9.17 kW	7.67 kW
SCOP	5.19	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.11 kW	6.78 kW
COP Tj = -7°C	3.23	2.24
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.18 kW	4.29 kW
COP Tj = +2°C	5.01	3.42
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.32 kW	2.77 kW
COP Tj = +7°C	7.08	4.52
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.65 kW	1.58 kW
COP Tj = 12°C	8.58	5.68
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	8.11 kW	6.78 kW
COP Tj = Tbiv	3.23	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.40 kW	5.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.96	1.83
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.76 kW	2.28 kW
Annual energy consumption Q _{he}	3647 kWh	4539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	170 %	116 %
Prated	7.75 kW	6.71 kW
SCOP	4.32	2.99
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.83 kW	4.27 kW
COP T _j = -7°C	3.60	2.54
C _{dh} T _j = -7 °C	0.90	0.90
P _{dh} T _j = +2°C	2.94 kW	2.57 kW
COP T _j = +2°C	5.26	3.51
C _{dh} T _j = +2 °C	0.90	0.90
P _{dh} T _j = +7°C	1.92 kW	1.66 kW
COP T _j = +7°C	7.08	4.37
C _{dh} T _j = +7 °C	0.90	0.90
P _{dh} T _j = 12°C	1.66 kW	1.48 kW
COP T _j = 12°C	7.96	5.96
C _{dh} T _j = +12 °C	0.90	0.90
P _{dh} T _j = T _{biv}	6.32 kW	5.48 kW
COP T _j = T _{biv}	2.64	2.00
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4.63 kW	2.80 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.97	1.22
WTOL	65 °C	65 °C
P _{off}	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.13 kW	3.91 kW
Annual energy consumption Q _{he}	4424 kWh	5540 kWh
P _{dh} T _j = -15°C (if TOL	6.32	5.48
COP T _j = -15°C (if TOL	2.64	2.00
C _{dh} T _j = -15 °C	0.90	0.90

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	279 %	180 %
Prated	8.58 kW	8.63 kW
SCOP	7.12	4.58
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.44 kW	8.06 kW
COP Tj = +2°C	3.84	2.59
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.52 kW	5.55 kW
COP Tj = +7°C	6.18	4.10
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.62 kW	2.53 kW
COP Tj = 12°C	9.04	5.82
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	5.52 kW	5.55 kW
COP Tj = Tbiv	6.18	4.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.44 kW	8.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.84	2.61
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.14 kW	0.48 kW
Annual energy consumption Qhe	1628 kWh	2516 kWh