MITSUBISHI ELECTRIC

FOCS-N

Air Source Heat Pump

Designed for medium to large capacity LTHW commercial applications, the Climaveneta FOCS-N heat pump features screw compressors and is suitable for a wide range of projects.

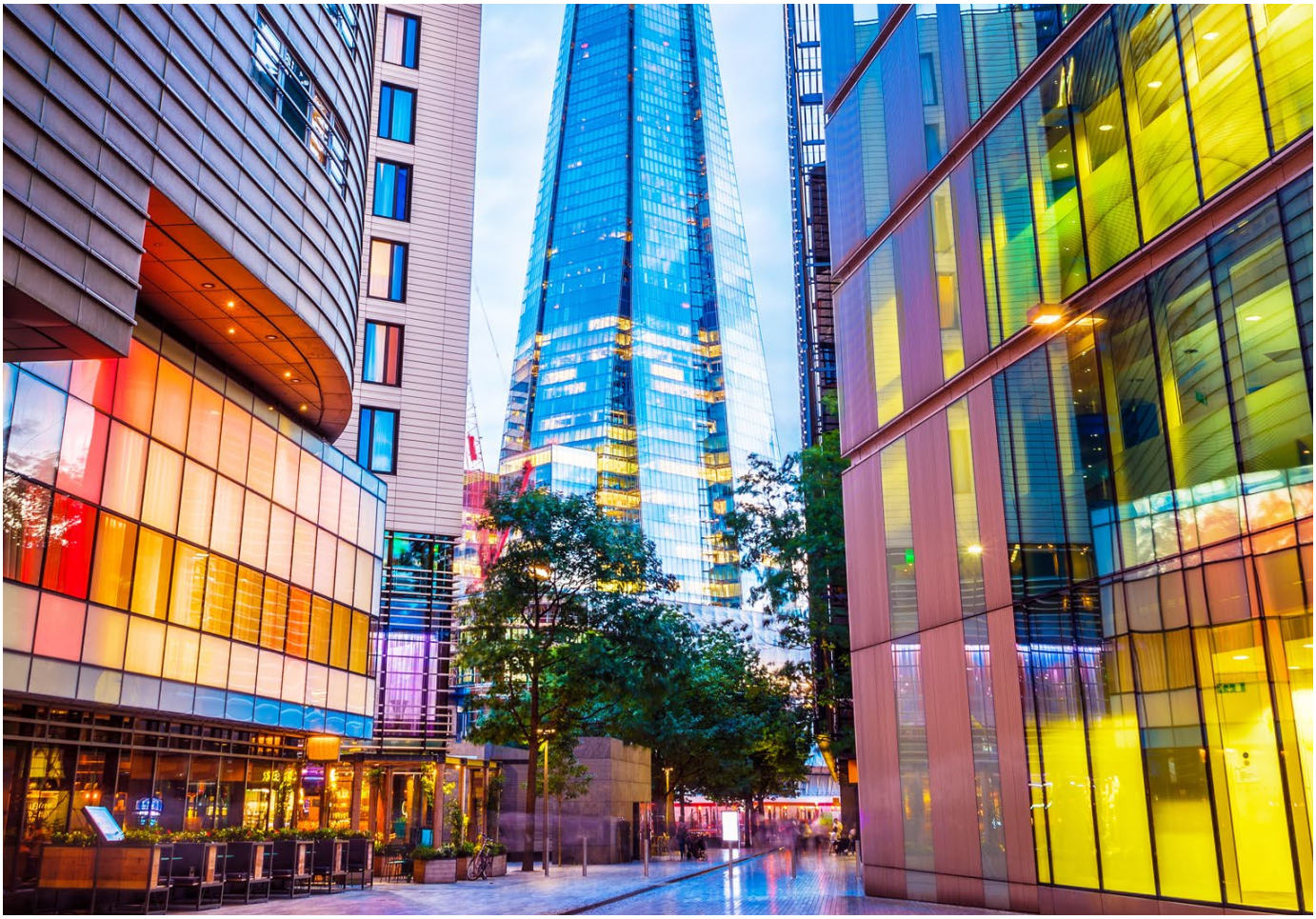
The new generation of air source heat pump has been perfectly designed for reducing operating costs while keeping an extremely compact design.

CLIMAVENETA
SUSTAINABLE COMFORT

R513A

Key Features & Benefits:

- Compact design
- Low GWP R513A refrigerant
- Screw compressors



FOCS-N Air Source Heat Pump

MODEL		2022	2222	2422	2622
Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling Capacity[*1]	kW	440.7	487.9	519.6	558.6
Total Power Input[*1]	kW	169.4	178.7	192.6	217.5
EER[*1]	kW/kW	2.6	2.73	2.7	2.57
ESEER[*1]	kW/kW	3.76	3.84	3.83	3.85
COOLING ONLY (EN14511 VALUE)					
Cooling Capacity[*1*2]	kW	439.6	486.6	518	557.4
EER[*1*2]	kW/kW	2.58	2.7	2.67	2.55
ESEER[*1*2]	kW/kW	3.67	3.74	3.71	3.77
Cooling Energy Class		D	C	D	D
HEATING ONLY (GROSS VALUE)					
Total Heating Capacity[*3]	kW	465.6	519.6	551.8	583.9
Total Power Input[*3]	kW	147.7	160.8	172.4	182.6
COP[*3]	kW/kW	3.15	3.23	3.2	3.2
HEATING ONLY (EN14511 VALUE)					
Total Heating Capacity[*3*2]	kW	466.9	521.2	553.7	585.2
COP[*3*2]	kW/kW	3.13	3.21	3.18	3.18
Cooling Energy Class		B	A	B	B
HEATING ONLY (EN14825 VALUE - AVERAGE CLIMATE)					
Rated Heating Capacity at Tdesign,h[*11*12]	kW	339	366	400	-
Bivalent Temperature[*11*12]	°C	-7	-7	-7	-
SCOP[*11*12]	kW/kW	3.19	3.2	3.19	-
Seasonal Space Heating Energy Efficiency[*11*12]	%	125	125	125	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN COOLING					
Water Flow[*1]	l/s	21.08	23.33	24.85	26.71
Pressure Drop[*1]	kPa	28.8	32.5	36.8	24.00
HEAT EXCHANGER USER SIDE IN HEATING					
Water Flow[*3]	l/s	22.47	25.08	26.64	28.18
Pressure Drop[*3]	kPa	32.7	37.5	42.3	26.8
REFRIGERANT CIRCUIT					
Compressors	No.	2	2	2	2
Number of Capacity Steps	No.	0	0	0	0
No. Circuits	No.	2	2	2	2
Regulation		STEPLESS	STEPLESS	STEPLESS	STEPLESS
Minimum Capacity Step	%	25	25	25	25
Refrigerant Type		R513A	R513A	R513A	R513A
Refrigerant Charge	kg	243	268	285	307
Oil Charge	kg	44	44	44	44
Rc (ASHRAE)[*5]	kg/kW	0.56	0.55	0.55	0.55
FANS					
Quantity	No.	10	12	12	12
Air Flow	m^3/s	35.07	46.62	42.44	42.44
Fans Power Input	kW	1.1	1.1	1.1	1.1
NOISE LEVEL					
Sound Pressure[*6]	dB(A)	69	70	70	70
Sound Power Level in Cooling[*7*8]	dB(A)	89	91	91	91
Sound Power Level in Heating[*7*9]	dB(A)	90	92	92	92
DIMENSIONS AND WEIGHT					
L[*10]	mm	4900	5800	5800	5800
W[*10]	mm	2260	2260	2260	2260
H[*10]	mm	2430	2430	2430	2430
Operating Weight[*10]	kg	6190	6680	6770	7010

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

- Not available

FOCS-N Air Source Heat Pump
High Efficiency Version

MODEL		2022	2222	2422	2622
Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling Capacity[*1]	kW	459.6	502.8	537.8	586
Total Power Input[*1]	kW	164	176.2	188.1	209.6
EER[*1]	kW/kW	2.8	2.85	2.86	2.8
ESEER[*1]	kW/kW	3.82	3.85	3.85	3.88
COOLING ONLY (EN14511 VALUE)					
Cooling Capacity[*1*2]	kW	458.4	501.4	536.1	584.7
EER[*1*2]	kW/kW	2.77	2.82	2.82	2.77
ESEER[*1*2]	kW/kW	3.72	3.75	3.73	3.80
Cooling Energy Class		C	C	C	C
HEATING ONLY (GROSS VALUE)					
Total Heating Capacity[*3]	kW	474.9	525.3	558.7	595.6
Total Power Input[*3]	kW	149.3	162.5	174.2	184.5
COP[*3]	kW/kW	3.18	3.23	3.21	3.23
HEATING ONLY (EN14511 VALUE)					
Total Heating Capacity[*3*2]	kW	476.3	526.9	560.6	597.00
COP[*3*2]	kW/kW	3.16	3.21	3.18	3.21
Cooling Energy Class		B	A	B	A
HEATING ONLY (EN14825 VALUE - AVERAGE CLIMATE)					
Rated Heating Capacity at Tdesign,h[*11*12]	kW	342	372	361	393
Bivalent Temperature[*11*12]	°C	-7	-7	-9	-9
SCOP[*11*12]	kW/kW	3.38	3.41	3.38	3.56
Seasonal Space Heating Energy Efficiency[*11*12]	%	132	133	132	139
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN COOLING					
Water Flow[*1]	l/s	21.98	24.05	25.72	28.02
Pressure Drop[*1]	kPa	31.3	34.5	39.4	26.5
HEAT EXCHANGER USER SIDE IN HEATING					
Water Flow[*3]	l/s	22.92	25.36	26.97	28.75
Pressure Drop[*3]	kPa	34.1	38.3	43.4	27.9
REFRIGERANT CIRCUIT					
Compressors	No.	2	2	2	2
Number of Capacity Steps	No.	0	0	0	0
No. Circuits	No.	2	2	2	2
Regulation		STEPLESS	STEPLESS	STEPLESS	STEPLESS
Minimum Capacity Step	%	25	25	25	25
Refrigerant Type		R513A	R513A	R513A	R513A
Refrigerant Charge	kg	233	256	253	276
Oil Charge	kg	44	44	44	44
Rc (ASHRAE)[*5]	kg/kW	0.51	0.51	0.48	0.48
FANS					
Quantity	No.	10	12	12	12
Air Flow	m^3/s	50.61	65.6	61.02	61.02
Fans Power Input	kW	2	2	2	2
NOISE LEVEL					
Sound Pressure[*6]	dB(A)	79	80	80	80
Sound Power Level in Cooling[*7*8]	dB(A)	99	101	101	101
Sound Power Level in Heating[*7*9]	dB(A)	99	101	101	101
DIMENSIONS AND WEIGHT					
L[*10]	mm	4900	5800	5800	5800
W[*10]	mm	2260	2260	2260	2260
H[*10]	mm	2430	2430	2430	2430
Operating Weight[*10]	kg	6050	6630	6710	6950

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

- Not available

FOCS-N Air Source Heat Pump
Low Noise & High Efficiency Version

MODEL		2022	2222	2422	2622
Power Supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling Capacity[*1]	kW	440.7	487.9	519.6	558.6
Total Power Input[*1]	kW	169.4	178.7	192.6	217.5
EER[*1]	kW/kW	2.6	2.73	2.7	2.57
ESEER[*1]	kW/kW	3.76	3.84	3.83	3.85
COOLING ONLY (EN14511 VALUE)					
Cooling Capacity[*1*2]	kW	439.6	486.6	518	557.4
EER[*1*2]	kW/kW	2.58	2.7	2.67	2.55
ESEER[*1*2]	kW/kW	3.67	3.74	3.71	3.77
Cooling Energy Class		D	C	D	D
HEATING ONLY (GROSS VALUE)					
Total Heating Capacity[*3]	kW	465.6	519.6	551.8	583.9
Total Power Input[*3]	kW	147.7	160.8	172.4	182.6
COP[*3]	kW/kW	3.15	3.23	3.2	3.2
HEATING ONLY (EN14511 VALUE)					
Total Heating Capacity[*3*2]	kW	466.9	521.2	553.7	585.2
COP[*3*2]	kW/kW	3.13	3.21	3.18	3.18
Cooling Energy Class		B	A	B	B
HEATING ONLY (EN14825 VALUE - AVERAGE CLIMATE)					
Rated Heating Capacity at Tdesign,h[*11*12]	kW	340	371	365	393
Bivalent Temperature[*11*12]	°C	-7	-7	-9	-9
SCOP[*11*12]	kW/kW	3.39	3.44	3.41	3.56
Seasonal Space Heating Energy Efficiency[*11*12]	%	132	135	134	139
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN COOLING					
Water Flow[*1]	l/s	21.08	23.33	24.85	26.71
Pressure Drop[*1]	kPa	28.8	32.5	36.8	24
HEAT EXCHANGER USER SIDE IN HEATING					
Water Flow[*3]	l/s	22.47	25.08	26.64	28.18
Pressure Drop[*3]	kPa	32.7	37.5	42.3	26.8
REFRIGERANT CIRCUIT					
Compressors	No.	2	2	2	2
Number of Capacity Steps	No.	0	0	0	0
No. Circuits	No.	2	2	2	2
Regulation		STEPLESS	STEPLESS	STEPLESS	STEPLESS
Minimum Capacity Step	%	25	25	25	25
Refrigerant Type		R513A	R513A	R513A	R513A
Refrigerant Charge	kg	243	268	285	307
Oil Charge	kg	44	44	44	44
Rc (ASHRAE)[*5]	kg/kW	0.56	0.55	0.55	0.55
FANS					
Quantity	No.	10	12	12	12
Air Flow	m^3/s	35.07	46.62	42.44	42.44
Fans Power Input	kW	1.1	1.1	1.1	1.1
NOISE LEVEL					
Sound Pressure[*6]	dB(A)	69	70	70	70
Sound Power Level in Cooling[*7*8]	dB(A)	89	91	91	91
Sound Power Level in Heating[*7*9]	dB(A)	90	92	92	92
DIMENSIONS AND WEIGHT					
L[*10]	mm	4900	5800	5800	5800
W[*10]	mm	2260	2260	2260	2260
H[*10]	mm	2430	2430	2430	2430
Operating Weight[*10]	kg	6190	6680	6770	7010

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12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

- Not available

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Changes for the Better

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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of June 2021

Green Gateway greengateway.mitsubishielectric.co.uk