AW-HT 0404 - 0604

High efficiency heat pump, air source for outdoor installation, high water temperature 135-205 kW



Version

CA-E Premium efficiency version: Class A enhanced

LN-CA-E Premium efficiency version, Class A enhanced, low-noise

Configurations

Basic function

D Partial condensing heat recovery function

Features

PREMIUM 'CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A. AW-HT/CA-E and AW-HT/LN-CA-E guaranty premium levels of efficiency and quietness, making this range the best solution for both residential and light commercial markets. WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

AW(R)-HT offer maximum operating reliability, thanks to their two main features:

- two independent circuits for all sizes:
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

RENEWABLE ENERGY FOR COMMERCIAL INSTALLATIONS

Best solution in centralised residential systems such as apartment buildings, where the cost of renovation needs to be limited by keeping the same distribution system with radiators, while offering a source of renewable energy.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 1000 kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

AW-HT represent the best solution for systems in which there is the need to combine both high temperature water for space heating and sanitary purposes, as well as air conditioning. With this solution the space heating can be easily provided by using radiators, so without any major changes on the already existing distribution system available on site. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Controls

W3000SE

The W3000SE controller is the new device designed especially for heat pump applications with incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. The controller provides temperature control for the heating and cooling systems in the air-conditioned rooms, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production, and fundamental for managing the Legionella prevention cycles. Defrosts use proprietary self-adaptive logic involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency. Supervision is available with different options, using proprietarydevices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.





APPLICATION HYDRONIC TERMINAL

| AW-HT / CA-E | | | 0404 | 0524 | 0604 |
|---|---------|---------|----------|----------|----------|
| Power supply | | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 |
| HEATING ONLY (GROSS VALUE) | | • | | | |
| Total heating capacity | (1) | kW | 135 | 171 | 205 |
| Total power input | (1) | kW | 39,6 | 48,1 | 58.9 |
| COP | (1) | kW/kW | 3,41 | 3,56 | 3,48 |
| HEATING ONLY (EN14511 VALUE) | | | | | |
| Total heating capacity | (1)(2) | kW | 135 | 172 | 206 |
| COP | (1)(2) | kW/kW | 3,38 | 3,52 | 3,45 |
| ENERGY EFFICIENCY | | | | | |
| SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013) | | | | | |
| PDesign | (3) | kW | 92,6 | 117 | 139 |
| SCOP | (3)(9) | | 3,15 | 3,32 | 3,22 |
| Performance ηs | (3)(10) | % | 123 | 130 | 126 |
| Seasonal efficiency class | (3) | | - | - | - |
| PDesign | (4) | kW | 98,9 | 126 | 148 |
| SCOP | (4)(9) | | 2,95 | 3,13 | 3,02 |
| Performance ηs | (4)(10) | % | 115 | 122 | 118 |
| Seasonal efficiency class | (4) | | - | - | - |
| EXCHANGERS | | | | | |
| HEAT EXCHANGER USER SIDE IN HEA | ATING | | | | |
| Water flow | (1) | I/s | 6,51 | 8,25 | 9,89 |
| Pressure drop | (1) | kPa | 25,4 | 28,6 | 31,3 |
| REFRIGERANT CIRCUIT | | | | | |
| Compressors nr. | | N° | 4 | 4 | 4 |
| No. Circuits | | N° | 2 | 2 | 2 |
| Refrigerant charge | | kg | 66,0 | 108 | 108 |
| NOISE LEVEL | | | | | |
| Sound power level in heating | (5)(6) | dB(A) | 92 | 93 | 94 |
| Sound Pressure | (7) | dB(A) | 73 | 73 | 74 |
| SIZE AND WEIGHT | | ` ' | | | |
| A | (8) | mm | 3110 | 4110 | 4110 |
| В | (8) | mm | 2220 | 2220 | 2220 |
| Н | (8) | mm | 2150 | 2150 | 2150 |
| Operating weight | (8) | kg | 1950 | 2400 | 2530 |
| Notes: | | | | | |

- Notes:

 1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C 87% R.H.

 2 Values in compliance with EN14511-3:2013.

 3 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 4 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 5 Sound power on the basis of measurements made in compliance with ISO 9614.

 6 Sound power level in heating, outdoors.

 7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

 8 Unit in standard configuration/execution, without optional accessories.

- 9 Seasonal performance coefficient
 10 Seasonal space heating energy efficiency
 The units highlighted in this publication contain HFC R407C [GWP₁₀₀ 1774] fluorinated greenhouse gases.



APPLICATION FLOOR HEATING

| Stating Only (GROSS VALUE) 1 | AW-HT / CA-E | | | 0404 | 0524 | 0604 |
|--|---------------------------------------|-------------|---------|----------|----------|----------|
| otal heating capacity (1) kW 133 169 202 otal power input (1) kW 33,5 40,7 49,7 iOP (1) kW/kW 3,97 4,14 4,07 EATING ONLY (EN14511 VALUE) otal heating capacity (1)(2) kW 133 169 203 OP (1)(2) kW/kW 3,93 4,10 4,03 NERGY EFFICIENCY EASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013) Design (3) kW 92,6 117 139 COP (3)(9) 3,15 3,32 3,22 erformance rps (3)(10) % 123 130 126 easonal efficiency class (3) - - - - COP (4)(9) 2,95 3,13 3,02 erformance rps (4)(10) % 115 122 118 easonal efficiency class (4) - - - | Power supply | | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 |
| otal heating capacity (1) kW 133 169 202 otal power input (1) kW 33,5 40,7 49,7 iOP (1) kW/kW 3,97 4,14 4,07 EATING ONLY (EN14511 VALUE) otal heating capacity (1)(2) kW 133 169 203 OP (1)(2) kW/kW 3,93 4,10 4,03 NERGY EFFICIENCY EASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013) Design (3) kW 92,6 117 139 COP (3)(9) 3,15 3,32 3,22 erformance rps (3)(10) % 123 130 126 easonal efficiency class (3) - - - - COP (4)(9) 2,95 3,13 3,02 erformance rps (4)(10) % 115 122 118 easonal efficiency class (4) - - - | HEATING ONLY (GROSS VALUE) | | | | | |
| COP | Total heating capacity | (1) | kW | 133 | 169 | 202 |
| EATING ONLY (EN14511 VALUE) Otal heating capacity (1)(2) kW 133 169 203 209 (1)(2) kW/kW 3,93 4,10 4,03 209 209 (1)(2) kW/kW 3,93 4,10 4,03 209 | Total power input | (1) | kW | 33,5 | 40,7 | 49,7 |
| Color | COP | (1) | kW/kW | 3,97 | 4,14 | 4,07 |
| Column C | HEATING ONLY (EN14511 VALUE) | | | | | |
| NERGY EFFICIENCY SASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013) SASONAL EFFICIENCY CLASS (RAG. CARNAGE (| Total heating capacity | (1)(2) | kW | 133 | 169 | 203 |
| Design | COP | | | 3,93 | 4,10 | 4,03 |
| Design | ENERGY EFFICIENCY | | | | | |
| Design | SEASONAL EFFICIENCY IN HEATING | (Reg. EU 81 | 3/2013) | | | |
| COP (3)(9) 3,15 3,32 3,22 erformance ηs (3)(10) % 123 130 126 eeasonal efficiency class (3) | PDesign | | | 92,6 | 117 | 139 |
| Peasonal efficiency class (3) | SCOP | (3)(9) | | 3,15 | 3,32 | 3,22 |
| Design | Performance ηs | (3)(10) | % | 123 | 130 | 126 |
| COP (4)(9) 2,95 3,13 3,02 erformance ηs (4)(10) % 115 122 118 easonal efficiency class (4) | Seasonal efficiency class | (3) | | - | - | - |
| reformance ηs (4)(10) % 115 122 118 reasonal efficiency class (4) XCHANGERS IEAT EXCHANGER USER SIDE IN HEATING Water flow (1) I/s 6,39 8,12 9,73 ressure drop (1) kPa 24,5 27,7 30,3 IEFRIGERANT CIRCUIT Tompressors nr. N° 4 4 4 4 10. Circuits N° 2 2 2 2 refrigerant charge kg 66,0 108 108 OISE LEVEL ound power level in heating (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 LEVEL (8) mm 2250 2220 2220 LEVEL (8) mm 2150 2150 | PDesign | (4) | kW | 98,9 | 126 | 148 |
| easonal efficiency class (4) | SCOP | (4)(9) | | 2,95 | 3,13 | 3,02 |
| XCHANGERS IEAT EXCHANGER USER SIDE IN HEATING Vater flow (1) I/s 6,39 8,12 9,73 ressure drop (1) kPa 24,5 27,7 30,3 IEFRIGERANT CIRCUIT Compressors nr. N° 4 4 4 4 4 4 6 6.0 circuits N° 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | Performance ηs | | % | 115 | 122 | 118 |
| Compressors nr. N° 4 4 4 4 4 4 4 4 4 | Seasonal efficiency class | (4) | | - | - | - |
| Vater flow (1) I/s 6,39 8,12 9,73 ressure drop (1) kPa 24,5 27,7 30,3 IEFRIGERANT CIRCUIT Compressors nr. N° 4 4 4 4 Lo. Circuits N° 2 2 2 Lefrigerant charge kg 66,0 108 108 IOISE LEVEL COUNTY C | EXCHANGERS | | | | | |
| ressure drop (1) kPa 24,5 27,7 30,3 EFRIGERANT CIRCUIT Compressors nr. N° 4 4 4 Io. Circuits N° 2 2 2 Efrigerant charge kg 66,0 108 108 OISE LEVEL ound power level in heating (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 EVEN CONTRACTOR OF THE PROPERTY OF THE PR | HEAT EXCHANGER USER SIDE IN HE | ATING | | | | |
| September Sept | Water flow | | | | 8,12 | 9,73 |
| compressors nr. N° 4 4 4 4 4 4 4 4 4 4 4 4 6 60 108 10 | Pressure drop | (1) | kPa | 24,5 | 27,7 | 30,3 |
| N° 2 2 2 defrigerant charge kg 66,0 108 108 OISE LEVEL ound power level in heating (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | REFRIGERANT CIRCUIT | | | | | |
| kg 66,0 108 108 IOISE LEVEL ound power level in heating ound pressure (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | Compressors nr. | | | | | |
| OISE LEVEL ound power level in heating ound pressure (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | No. Circuits | | N° | | | |
| ound power level in heating ound pressure (5)(6) dB(A) 92 93 94 ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 (8) mm 2150 2150 | Refrigerant charge | | kg | 66,0 | 108 | 108 |
| ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | NOISE LEVEL | | | | | |
| ound Pressure (7) dB(A) 73 73 74 IZE AND WEIGHT (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | Sound power level in heating | (5)(6) | dB(A) | 92 | 93 | 94 |
| (8) mm 3110 4110 4110 (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | Sound Pressure | (7) | dB(A) | 73 | 73 | 74 |
| (8) mm 2220 2220 2220 (8) mm 2150 2150 2150 | SIZE AND WEIGHT | | | | | |
| (8) mm 2150 2150 2150 | A | (8) | mm | 3110 | 4110 | 4110 |
| | В | (8) | mm | 2220 | 2220 | 2220 |
| perating weight (8) kg 1950 2400 2530 | Н | | mm | 2150 | 2150 | |
| | Operating weight | (8) | kg | 1950 | 2400 | 2530 |

- Notes:

 1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C 87% R.H.

 2 Values in compliance with EN14511-3:2013.

 3 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 4 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 5 Sound power on the basis of measurements made in compliance with ISO 9614.

 6 Sound power level in heating, outdoors.

 7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

 8 Unit in standard configuration/execution, without optional accessories.

- 9 Seasonal performance coefficient
 10 Seasonal space heating energy efficiency
 The units highlighted in this publication contain HFC R407C [GWP₁₀₀ 1774] fluorinated greenhouse gases.

APPLICATION HYDRONIC TERMINAL

| AW-HT / LN-CA-E | | | 0404 | 0524 | 0604 |
|---|---------|---------|----------|----------|----------|
| Power supply | | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 |
| HEATING ONLY (GROSS VALUE) | | | | | |
| Total heating capacity | (1) | kW | 135 | 171 | 205 |
| Total power input | (1) | kW | 39.6 | 48,1 | 58.9 |
| COP | (1) | kW/kW | 3,41 | 3,56 | 3,48 |
| HEATING ONLY (EN14511 VALUE) | | | , | , | , |
| Total heating capacity | (1)(2) | kW | 135 | 172 | 206 |
| COP | (1)(2) | kW/kW | 3,38 | 3,52 | 3,45 |
| ENERGY EFFICIENCY | | | | | |
| SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013) | | | | | |
| PDesign | (3) | kW | 92,6 | 117 | 139 |
| SCOP | (3)(9) | | 3,15 | 3,32 | 3,22 |
| Performance ηs | (3)(10) | % | 123 | 130 | 126 |
| Seasonal efficiency class | (3) | | - | - | - |
| PDesign | (4) | kW | 98,9 | 126 | 148 |
| SCOP | (4)(9) | | 2,95 | 3,13 | 3,02 |
| Performance ηs | (4)(10) | % | 115 | 122 | 118 |
| Seasonal efficiency class | (4) | | - | - | - |
| EXCHANGERS | | | | | |
| HEAT EXCHANGER USER SIDE IN HEAT | ATING | | | | |
| Water flow | (1) | l/s | 6,51 | 8,25 | 9,89 |
| Pressure drop | (1) | kPa | 25,4 | 28,6 | 31,3 |
| REFRIGERANT CIRCUIT | | | | | |
| Compressors nr. | | N° | 4 | 4 | 4 |
| No. Circuits | | N° | 2 | 2 | 2 |
| Refrigerant charge | | kg | 66,0 | 108 | 108 |
| NOISE LEVEL | | | | | |
| Sound power level in heating | (5)(6) | dB(A) | 90 | 90 | 91 |
| Sound Pressure | (7) | dB(A) | 71 | 70 | 71 |
| SIZE AND WEIGHT | | , . | | | |
| A | (8) | mm | 3110 | 4110 | 4110 |
| В | (8) | mm | 2220 | 2220 | 2220 |
| Н | (8) | mm | 2150 | 2150 | 2150 |
| Operating weight | (8) | kg | 1960 | 2410 | 2540 |
| Nistan | | | | | |

- Notes:

 1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C 87% R.H.

 2 Values in compliance with EN14511-3:2013.

 3 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 4 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 5 Sound power on the basis of measurements made in compliance with ISO 9614.

 6 Sound power level in heating, outdoors.

 7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

 8 Unit in standard configuration/execution, without optional accessories.

- 9 Seasonal performance coefficient
 10 Seasonal space heating energy efficiency
 The units highlighted in this publication contain HFC R407C [GWP₁₀₀ 1774] fluorinated greenhouse gases.

APPLICATION FLOOR HEATING

| AW-HT / LN-CA-E | | | 0404 | 0524 | 0604 |
|----------------------------------|--------------|---------|----------|----------|----------|
| Power supply | | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 |
| HEATING ONLY (GROSS VALUE) | | | | | |
| Total heating capacity | (1) | kW | 133 | 169 | 202 |
| Total power input | (1) | kW | 33,5 | 40,7 | 49,7 |
| COP | (1) | kW/kW | 3,97 | 4,14 | 4,07 |
| HEATING ONLY (EN14511 VALUE) | | | | | |
| Total heating capacity | (1)(2) | kW | 133 | 169 | 203 |
| COP | (1)(2) | kW/kW | 3,93 | 4,10 | 4,03 |
| ENERGY EFFICIENCY | | | | | |
| SEASONAL EFFICIENCY IN HEATING (| (Reg. EU 81: | 3/2013) | | | |
| PDesign | (3) | kW | 92,6 | 117 | 139 |
| SCOP | (3)(9) | | 3,15 | 3,32 | 3,22 |
| Performance ηs | (3)(10) | % | 123 | 130 | 126 |
| Seasonal efficiency class | (3) | | - | - | - |
| PDesign | (4) | kW | 98,9 | 126 | 148 |
| SCOP | (4)(9) | | 2,95 | 3,13 | 3,02 |
| Performance ηs | (4)(10) | % | 115 | 122 | 118 |
| Seasonal efficiency class | (4) | | - | - | - |
| EXCHANGERS | | | | | |
| HEAT EXCHANGER USER SIDE IN HEA | ATING | | | | |
| Water flow | (1) | I/s | 6,39 | 8,12 | 9,73 |
| Pressure drop | (1) | kPa | 24,5 | 27,7 | 30,3 |
| REFRIGERANT CIRCUIT | | | | | |
| Compressors nr. | | N° | 4 | 4 | 4 |
| No. Circuits | | N° | 2 | 2 | 2 |
| Refrigerant charge | | kg | 66,0 | 108 | 108 |
| NOISE LEVEL | | | | | |
| Sound power level in heating | (5)(6) | dB(A) | 90 | 90 | 91 |
| Sound Pressure | (7) | dB(A) | 71 | 70 | 71 |
| SIZE AND WEIGHT | | | | | |
| A | (8) | mm | 3110 | 4110 | 4110 |
| В | (8) | mm | 2220 | 2220 | 2220 |
| Н | (8) | mm | 2150 | 2150 | 2150 |
| Operating weight | (8) | kg | 1960 | 2410 | 2540 |
| Notes: | | | | | |

- Notes:

 1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C 87% R.H.

 2 Values in compliance with EN14511-3:2013.

 3 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 4 Seasonal space heating energy efficiency class MEDIA TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 5 Sound power on the basis of measurements made in compliance with ISO 9614.

 6 Sound power level in heating, outdoors.

 7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

 8 Unit in standard configuration/execution, without optional accessories.

- 9 Seasonal performance coefficient
 10 Seasonal space heating energy efficiency
 The units highlighted in this publication contain HFC R407C [GWP₁₀₀ 1774] fluorinated greenhouse gases.



