

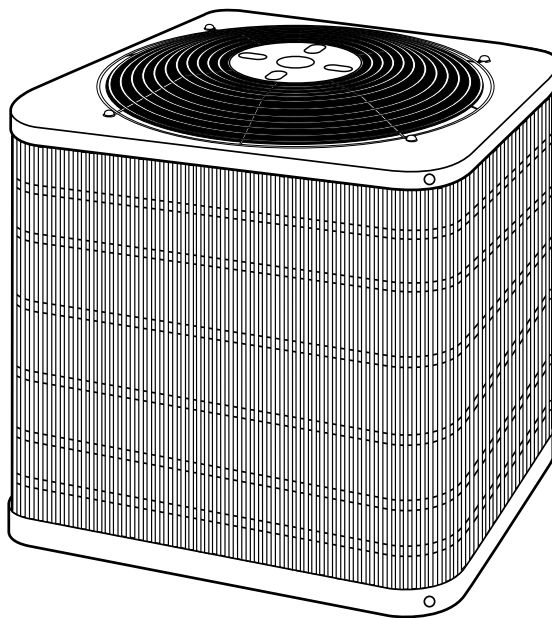


HEATING & COOLING

## Product Data

## 38EYX 50 Hz Heat Pump

Sizes 024, 036, 048, and 060



The 38EYX 50 Hertz Outdoor Sections of Split-System Heat Pumps are designed for quiet, reliable heating during the winter and cooling during the summer with Puron® refrigerant. These heat pump systems provide economy of operation through energy conservation when used with components designated by the manufacturer. The 38EYX recovers heat for indoor comfort from outdoor air during the heating season and, by automatically reversing the refrigerant system, remove indoor heat and excess humidity during the cooling season.

### AVAILABLE OPTIONS

**Electrical Range** — The 024 size unit is available in 230V, single phase. The 036, 048, and 060 sizes are 400V, three phase.

**Size Range** — The 38EYX is available in nominal sizes 024, 036, 048, and 060 to meet the needs of residential and light commercial applications.

**Puron®, the environmentally sound refrigerant** — The 38EYX uses Puron, the environmentally sound refrigerant that provides homeowners with additional peace of mind because Puron has zero ozone-depletion potential.

In addition, thanks to the performance advantage of Puron, the 38EYX is extremely efficient. Maximum performance and efficiency are made possible through the use of the FX4C fan coils, which are custom made for Puron applications.

Puron refrigerant also protects homeowners against the future cost of service from the potentially increased cost of servicing units using R-22 as it is phased out.

**Compressor** — The 38EYX features a scroll compressor. These compressors are specially designed for Puron applications, with it's thicker shell and an anti-reverse rotation device in scroll compressors for superior reliability and quiet operation. In addition, each compressor is mounted on rubber isolators for additional sound reduction. For improved serviceability, all models are equipped with a compressor terminal plug. Continuous operation is approved down to 34°C in the heating mode and down to 13°C in the cooling mode.

**Built-in-Reliability Components** — Includes a suction-tube accumulator that reduces the amount of liquid refrigerant that reaches the compressor; high pressure switch to prevent excessive pressure build-up; low-pressure switch to stop the compressor if refrigerant charge is lost; crankcase heater on 036-060 units to keep compressor oil warm and free of refrigerant for maximum lubricity; internal compressor relief valve for high-pressure protection.

**3-Phase Monitor Board** — Control board that monitors the electrical

phase and prevents compressor operation if wired incorrectly.

**Discharge Silencer** — Minimizes low frequency sound and pressure pulsation generated by compressor discharge gas.

**Defrost Control Board** — Incorporates a defrost relay, defrost timer, and low-voltage terminations. The defrost control is a time and temperature initiation/termination control which includes 4 field-selectable (DIP switch) time periods of 30, 60, 90, and 120 minutes. The control includes built-in 5-minute compressor delay for short cycle protection. This control also includes a field-selectable (DIP switch) Quiet Shift mode, which if selected, maintains quiet operation during defrost.

**Weather-Protective Cabinet** — The cabinet is constructed with galvanized, prepainted steel, providing each unit with a finish that will last for many years.

All screws on cabinet exterior are coated for a long-lasting rust-resistant, quality appearance.

**Unit Design** — All units are equipped with totally enclosed fan motors for greater reliability under adverse weather conditions. The large, wraparound coil uses copper tube and epoxy coated, enhanced aluminum fin

and is designed for optimum heat transfer and corrosion protection. The vertical air discharge carries the sound and air up and away from adjacent patio areas and foliage. Coils can be cleaned with a common garden hose.

**External Service Valves** — Both service valves are brass, front seating type. Valves are externally located so refrigerant tube connections can be made quickly and easily. Each valve has a service port for ease of checking operating refrigerant pressures. The 38EYX has sweat field connections.

**Sound Hood** — All sizes have a compressor sound hood for noise attenuation.

**Safety** — The design and construction are in compliance with European standards to bear the CE Mark.

**Operating Range**— Minimum outdoor operating ambient in cooling mode is 13°C, maximum is 52°C. Minimum outdoor operating range for heating mode is -34°C, maximum is 19°C.

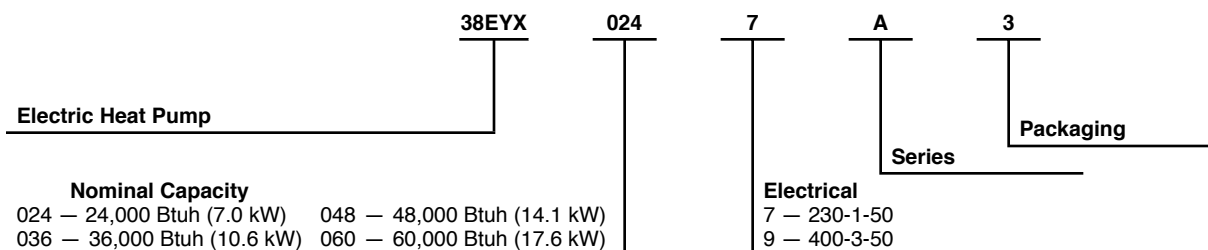
## Quality Assurance



REGISTERED QUALITY SYSTEM



## Model number nomenclature



# Physical data

| UNIT SIZE/SERIES                           | 024-7A                                | 036-9A    | 048-9A    | 060-9A      |
|--------------------------------------------|---------------------------------------|-----------|-----------|-------------|
| OPERATING WT (Kg)                          | 65.8                                  | 83.9      | 99.3      | 111.6       |
| COMPRESSOR                                 | Scroll                                |           |           |             |
| REFRIGERANT Control Charge (Kg) @ 7.6m     | Puron (R410A) Piston                  |           |           |             |
|                                            | 2.61                                  | 3.69      | 4.82      | 6.35        |
| CONDENSER FAN                              | Propeller Type, Direct Drive Vertical |           |           |             |
| Air Discharge                              | 708                                   | 1274      | 1416      | 1180        |
| Air Qty (L/S)                              | 900                                   | 900       | 900       | 900         |
| Nominal Motor RPM (50 Hz)                  |                                       |           |           |             |
| CONDENSER COIL Face Area (m <sup>2</sup> ) | 1.00                                  | 1.49      | 2.06      | 1.72        |
| CONNECTION (In./mm ID)                     | Sweat                                 |           |           |             |
| Vapor                                      | 5/8/15.88                             | 3/4/19.05 | 7/8/22.23 |             |
| Liquid                                     |                                       |           | 3/8       |             |
| REFRIGERANT TUBES* (In./mm OD)             |                                       |           |           |             |
| Vapor                                      | 5/8/15.88                             | 3/4/19.05 | 7/8/22.23 | 1-1/8/28.58 |
| Liquid                                     |                                       |           | 3/8       |             |

\* Tube sizes are for lengths up to 15.2m and/or 6.1m vertical differential.

**NOTE:** See unit Installation Instructions for proper installation.

## METERING DEVICE

| UNIT SIZE | OUTDOOR PISTON | INDOOR PISTON |
|-----------|----------------|---------------|
| 024-7A    | 40             | 52            |
| 036-9A    | 49             | 65            |
| 048-9A    | 65             | 76            |
| 060-9A    | 73             | 88            |

# Accessories

| ORDERING NUMBER | DESCRIPTION                                          |
|-----------------|------------------------------------------------------|
| KAACH1201AAA    | Crankcase Heater — Size 024                          |
| KAFT0101AAA†    | Evaporator Freeze Thermostat — All Sizes             |
| KHAIR0101AAA†   | Isolation Relay — All Sizes                          |
| Standard        | Cycle Protector — All Sizes                          |
| KSAHS1501AAA    | Compressor Start Assist (Capacitor/Relay) — Size 024 |
| KAACS0101PTC    | Start Assist (PTC) — Size 024                        |
| KSATX0201PUR    | TXV — Size 024                                       |
| KSATX0301PUR    | TXV — Size 036                                       |
| KSATX0401PUR    | TXV — Size 048                                       |
| KSATX0501PUR    | TXV — Size 060                                       |
| KHALS0401LLS    | Liquid Solenoid Valve (LSV) — All Sizes              |
| Standard        | Filter Drier — Bi-flow All Sizes                     |
| KSALA0401AAA*   | MotorMaster® Control — Size 024                      |
| KSALA0501AAA*   | MotorMaster® Control — Sizes 036, 048, 060           |

\* Isolation relay required.

† Consult low-ambient controller Installation Instructions for application.

N/A — Not applicable in this application.

| THERMOSTAT     | DESCRIPTION                                                                        |
|----------------|------------------------------------------------------------------------------------|
| TSTATCCNHP01-C | Thermostat, Auto Changeover, Non-Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool   |
| TSTATCCPHP01-B | Thermostat, Auto Changeover, 7-Day Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool |
| TSTATXXSEN01-B | Outdoor Air Temperature Sensor                                                     |

## Accessory description and usage (Listed alphabetically)

### 1. Compressor Start Assist-Capacitor/Relay Type

Start capacitor and start relay gives “hard” boost to compressor motor at each start-up.

SUGGESTED USE: Installations where interconnecting tube length exceeds 15.2m.

Installations where outdoor design temperature exceeds 40.6°C.

Replacement installations with hard shutoff expansion valve or liquid line solenoid on indoor coil.

Units installed with low-ambient controller.

### 2. Compressor Start Assist—PC Type

Solid state electrical device which gives a “soft” boost to the compressor at each start-up.

SUGGESTED USE: Suggested in installations with marginal power supply.

Use only on single phase units.

### 3. Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes the chance of liquid slugging.

**NOTE:** Some heat pumps are factory supplied with a crankcase heater. See accessory list for units that come standard with a crankcase heater. For units that do not use the guideline below.

SUGGESTED USE: Required in low ambient cooling applications.

Required in long line applications.

Suggested in all commercial applications.

### 4. Evaporator Freeze Thermostat

An SPST temperature actuated switch which stops unit operation when evaporator reaches freeze-up conditions.

SUGGESTED USE: All heat pumps where low-ambient controller has been added.

### 5. Filter Drier—Bi-flow

A device for removing contaminants from refrigerant circulating in an air conditioner or heat pump system; bi-flow for heat pumps.

SUGGESTED USE: All field-connected split-system units.

### 6. Isolation Relay

An SPDT relay which switches the low-ambient controller out of the outdoor fan motor circuit when the heat pump switches to heating mode.

SUGGESTED USE: All heat pumps where low-ambient controller has been added.

### 7. Liquid-Line Solenoid Valve (LLS)

An electrically operated shutoff valve which stops and starts refrigerant liquid flow in response to compressor operation. It is to be installed at the outdoor unit to control refrigerant off cycle migration in the heating mode.

SUGGESTED USE: An LLS is required in all long line heat pump applications to control refrigerant off cycle migration in the heating mode.

Consult Equipment Distributor.

### 8. MotorMaster® Control

A fan speed control device activated by a temperature sensor. Designed to control condenser fan motor speed in response to the saturated, condensing temperature during operation in cooling mode only. For outdoor temperatures down to -28°C, it maintains condensing temperature at  $37.8 \pm 5.5^\circ\text{C}$ .

SUGGESTED USE: Cooling operation at outdoor temperatures below 13°C.

All commercial installations.

### 9. Outdoor Air Temperature Sensor

A thermistor type sensor that responds to changes in outdoor temperature and provides a signal to the room thermostat for display of outdoor temperature.

USAGE GUIDELINE: Required if outdoor temperature display is desired on the room thermostat. See Accessory list for compatible thermostats.

### 10. Room Thermostat

A 24 volt temperature control that cycles the heating and cooling equipment based on room demand. Both programmable and non-programmable versions are available.

USAGE GUIDELINE: Required for equipment control.

### 11. Thermostatic Expansion Valve (TXV) Bi-Flow

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator.

USAGE GUIDELINE: All installations where low ambient cooling is needed.

Installations with interconnecting tubing that exceeds 15m.

All commercial installations.

# Electrical data

| OUTDOOR UNIT | V/PH  | OPER VOLTS* |     | COMPRESSOR |      | FAN FLA | MRC  | MIN WIRE SIZE**<br>60°C/75°C | MAX LENGTH (m)‡<br>60°C/75°C | MAX FUSE† OR CKT BKR AMPS |
|--------------|-------|-------------|-----|------------|------|---------|------|------------------------------|------------------------------|---------------------------|
|              |       | Max         | Min | LRA        | RLA  |         |      |                              |                              |                           |
| 024-7A       | 230-1 | 253         | 187 | 61.0       | 12.5 | 0.60    | 16.2 | 14/14                        | 14.9/14.3                    | 25                        |
| 036-9A       | 400-3 | 440         | 360 | 48.0       | 6.4  | 0.70    | 8.7  | 14/14                        | 26.8/25.3                    | 15                        |
| 048-9A       |       |             |     | 64.0       | 9.0  | 0.70    | 12.0 | 14/14                        | 20.1/18.9                    | 20                        |
| 060-9A       |       |             |     | 74.0       | 10.6 | 0.70    | 14.0 | 14/14                        | 17.1/16.5                    | 20                        |

\* Permissible limits of the voltage range at which unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† Time-delay fuse.

‡ Length shown is as measured 1 way along the wire path between the unit and the service panel for voltage drop not to exceed 2%.

\*\* If wire is applied at ambient greater than 30°C (86°F), consult Table 310-16 of the NEC (ANSI/NFPA 70). The ampacity of nonmetallic-sheathed-cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336-26.

If other than uncoated (non-plated), 60° or 75°C (140° or 167°F) insulation, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (ANSI/NFPA 70).

**FLA** – Full Load Amps

**LRA** – Locked Rotor Amps

**MRC** – Maximum Running Current

**RLA** – Rated Load Amps

**NOTE:** Control circuit is 24v on all units and requires external power source. Copper wire must be used from disconnect to unit. All motors/compressors contain internal overload protection.

# A-weighted sound power

| UNIT SIZE | SOUND LEVEL (dBA) | TYPICAL OCTAVE BAND (without tone adjustment) |      |      |      |      |      |      |
|-----------|-------------------|-----------------------------------------------|------|------|------|------|------|------|
|           |                   | 125                                           | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 024-7A    | 72                | 76.0                                          | 69.0 | 66.0 | 65.5 | 61.5 | 58.0 | 56.0 |
| 036-9A    | 72                | 71.5                                          | 68.0 | 68.5 | 67.5 | 65.5 | 61.5 | 53.5 |
| 048-9A    | 72                | 67.5                                          | 66.0 | 69.5 | 67.5 | 63.0 | 60.5 | 57.0 |
| 060-9A    | 74                | 70.0                                          | 68.5 | 68.5 | 69.0 | 65.5 | 61.5 | 55.5 |

Note: Tested in accordance with ARI Standard 270-95.

# Detailed cooling capacities\* (S.I.)

| COIL AIR                                                        |       | CONDENSER ENTERING AIR TEMPERATURES °C |         |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |
|-----------------------------------------------------------------|-------|----------------------------------------|---------|--------------|-------|-----------------|--------------|-------|-----------------|--------------|-------|-----------------|--------------|-------|-----------------|--------------|-------|-----------------|--------------|-------|-----------------|------|
|                                                                 |       | 28                                     |         |              | 32    |                 |              | 36    |                 |              | 40    |                 |              | 44    |                 |              | 48    |                 |              | 52    |                 |      |
|                                                                 |       | L/S                                    | (C) EWB | Capacity kW† |       | Sys. Power kW** | Capacity kW† |       | Sys. Power kW** | Capacity kW† |       | Sys. Power kW** | Capacity kW† |       | Sys. Power kW** | Capacity kW† |       | Sys. Power kW** | Capacity kW† |       | Sys. Power kW** |      |
| Total                                                           | Sens‡ |                                        |         | Total        | Sens‡ |                 | Total        | Sens‡ |                 | Total        | Sens‡ |                 | Total        | Sens‡ |                 | Total        | Sens‡ |                 | Total        | Sens‡ |                 |      |
| <b>38EYX0247A Outdoor Section With FX4CSX024 Indoor Section</b> |       |                                        |         |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |
| 330                                                             | 22    | 7.35                                   | 3.86    | 1.78         | 7.18  | 3.81            | 1.99         | 6.99  | 3.74            | 2.18         | 6.85  | 3.72            | 2.38         | 6.58  | 3.62            | 2.59         | 6.28  | 3.51            | 2.81         | 5.94  | 3.39            | 3.04 |
|                                                                 | 20    | 7.17                                   | 4.64    | 1.77         | 7.00  | 4.62            | 1.98         | 6.84  | 4.60            | 2.16         | 6.62  | 4.53            | 2.36         | 6.34  | 4.44            | 2.57         | 6.04  | 4.33            | 2.79         | 5.70  | 4.20            | 3.02 |
|                                                                 | 18    | 6.93                                   | 5.49    | 1.76         | 6.79  | 5.53            | 1.96         | 6.57  | 5.48            | 2.15         | 6.32  | 5.39            | 2.34         | 6.04  | 5.29            | 2.55         | 5.73  | 5.16            | 2.77         | 5.39  | 5.02            | 3.00 |
|                                                                 | 16    | 6.71                                   | 6.45    | 1.74         | 6.49  | 6.36            | 1.94         | 6.26  | 6.26            | 2.13         | 6.03  | 6.03            | 2.33         | 5.80  | 5.80            | 2.54         | 5.54  | 5.54            | 2.77         | 5.26  | 5.26            | 2.99 |
|                                                                 | 14    | 6.63                                   | 6.63    | 1.74         | 6.45  | 6.45            | 1.94         | 6.25  | 6.25            | 2.13         | 6.03  | 6.03            | 2.33         | 5.80  | 5.80            | 2.54         | 5.54  | 5.54            | 2.76         | 5.27  | 5.27            | 2.99 |
| 380                                                             | 22    | 7.39                                   | 3.93    | 1.80         | 7.20  | 3.88            | 2.01         | 7.01  | 3.82            | 2.21         | 6.87  | 3.81            | 2.41         | 6.61  | 3.73            | 2.61         | 6.31  | 3.62            | 2.84         | 5.96  | 3.49            | 3.07 |
|                                                                 | 20    | 7.20                                   | 4.77    | 1.80         | 7.01  | 4.73            | 2.00         | 6.89  | 4.77            | 2.19         | 6.66  | 4.70            | 2.39         | 6.39  | 4.62            | 2.59         | 6.08  | 4.52            | 2.82         | 5.74  | 4.40            | 3.05 |
|                                                                 | 18    | 6.99                                   | 5.70    | 1.78         | 6.85  | 5.78            | 1.98         | 6.64  | 5.75            | 2.17         | 6.39  | 5.68            | 2.37         | 6.11  | 5.58            | 2.58         | 5.80  | 5.46            | 2.80         | 5.46  | 5.30            | 3.03 |
|                                                                 | 16    | 6.79                                   | 6.79    | 1.77         | 6.61  | 6.61            | 1.97         | 6.42  | 6.42            | 2.16         | 6.21  | 6.21            | 2.36         | 5.97  | 5.97            | 2.57         | 5.70  | 5.70            | 2.79         | 5.42  | 5.42            | 3.02 |
|                                                                 | 14    | 6.77                                   | 6.77    | 1.77         | 6.61  | 6.61            | 1.97         | 6.42  | 6.42            | 2.16         | 6.21  | 6.21            | 2.36         | 5.97  | 5.97            | 2.57         | 5.71  | 5.71            | 2.79         | 5.42  | 5.42            | 3.02 |
| 425                                                             | 22    | 7.40                                   | 4.00    | 1.83         | 7.22  | 3.95            | 2.03         | 7.03  | 3.89            | 2.23         | 6.84  | 3.83            | 2.43         | 6.63  | 3.81            | 2.64         | 6.32  | 3.71            | 2.86         | 5.97  | 3.58            | 3.09 |
|                                                                 | 20    | 7.23                                   | 4.88    | 1.82         | 7.04  | 4.85            | 2.02         | 6.90  | 4.88            | 2.21         | 6.69  | 4.86            | 2.41         | 6.42  | 4.79            | 2.62         | 6.10  | 4.69            | 2.84         | 5.76  | 4.57            | 3.07 |
|                                                                 | 18    | 7.02                                   | 5.88    | 1.81         | 6.87  | 5.98            | 2.01         | 6.68  | 5.98            | 2.19         | 6.44  | 5.93            | 2.39         | 6.16  | 5.81            | 2.60         | 5.85  | 5.69            | 2.82         | 5.52  | 5.52            | 3.05 |
|                                                                 | 16    | 6.85                                   | 6.85    | 1.79         | 6.71  | 6.71            | 2.00         | 6.53  | 6.53            | 2.19         | 6.32  | 6.32            | 2.39         | 6.08  | 6.08            | 2.60         | 5.81  | 5.81            | 2.82         | 5.51  | 5.51            | 3.05 |
|                                                                 | 14    | 6.84                                   | 6.84    | 1.79         | 6.71  | 6.71            | 2.00         | 6.53  | 6.53            | 2.19         | 6.32  | 6.32            | 2.39         | 6.08  | 6.08            | 2.60         | 5.81  | 5.81            | 2.82         | 5.51  | 5.51            | 3.05 |
| <b>38EYX0369A Outdoor Section With FX4CSX036 Indoor Section</b> |       |                                        |         |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |
| 500                                                             | 22    | 11.22                                  | 5.99    | 2.69         | 10.93 | 5.91            | 2.95         | 10.70 | 5.87            | 3.20         | 10.31 | 5.76            | 3.46         | 9.88  | 5.60            | 3.74         | 9.40  | 5.43            | 4.04         | 8.87  | 5.24            | 4.35 |
|                                                                 | 20    | 10.76                                  | 7.22    | 2.66         | 10.46 | 7.19            | 2.92         | 10.08 | 7.07            | 3.17         | 9.66  | 6.91            | 3.43         | 9.20  | 6.74            | 3.71         | 8.70  | 6.55            | 4.01         | 8.17  | 6.34            | 4.32 |
|                                                                 | 18    | 10.21                                  | 8.52    | 2.63         | 9.77  | 8.37            | 2.90         | 9.37  | 8.20            | 3.15         | 8.93  | 8.02            | 3.41         | 8.46  | 7.80            | 3.69         | 7.95  | 7.56            | 3.99         | 7.44  | 7.30            | 4.30 |
|                                                                 | 16    | 9.58                                   | 9.58    | 2.62         | 9.23  | 9.23            | 2.89         | 8.90  | 8.90            | 3.14         | 8.56  | 8.56            | 3.40         | 8.19  | 8.19            | 3.68         | 7.80  | 7.80            | 3.98         | 7.39  | 7.39            | 4.29 |
|                                                                 | 14    | 9.55                                   | 9.55    | 2.62         | 9.22  | 9.22            | 2.89         | 8.90  | 8.90            | 3.14         | 8.56  | 8.56            | 3.40         | 8.20  | 8.20            | 3.68         | 7.80  | 7.80            | 3.98         | 7.39  | 7.39            | 4.29 |
| 560                                                             | 22    | 11.29                                  | 6.16    | 2.74         | 11.01 | 6.10            | 3.00         | 10.73 | 6.03            | 3.25         | 10.42 | 5.99            | 3.51         | 9.98  | 5.85            | 3.79         | 9.49  | 5.69            | 4.09         | 8.97  | 5.50            | 4.40 |
|                                                                 | 20    | 10.86                                  | 7.54    | 2.71         | 10.59 | 7.56            | 2.97         | 10.22 | 7.46            | 3.22         | 9.79  | 7.32            | 3.48         | 9.33  | 7.16            | 3.76         | 8.84  | 6.99            | 4.06         | 8.29  | 6.77            | 4.37 |
|                                                                 | 18    | 10.36                                  | 9.04    | 2.68         | 9.94  | 8.91            | 2.95         | 9.54  | 8.76            | 3.20         | 9.10  | 8.56            | 3.46         | 8.63  | 8.34            | 3.74         | 8.17  | 8.10            | 4.03         | 7.70  | 7.70            | 4.35 |
|                                                                 | 16    | 9.92                                   | 9.92    | 2.67         | 9.58  | 9.58            | 2.94         | 9.25  | 9.25            | 3.19         | 8.90  | 8.90            | 3.45         | 8.53  | 8.53            | 3.74         | 8.14  | 8.14            | 4.03         | 7.70  | 7.70            | 4.35 |
|                                                                 | 14    | 9.93                                   | 9.93    | 2.67         | 9.58  | 9.58            | 2.94         | 9.25  | 9.25            | 3.19         | 8.90  | 8.90            | 3.45         | 8.53  | 8.53            | 3.74         | 8.14  | 8.14            | 4.03         | 7.71  | 7.71            | 4.35 |
| 640                                                             | 22    | 11.33                                  | 6.31    | 2.78         | 11.06 | 6.28            | 3.05         | 10.77 | 6.21            | 3.30         | 10.49 | 6.21            | 3.56         | 10.04 | 6.07            | 3.84         | 9.55  | 5.92            | 4.14         | 9.02  | 5.74            | 4.45 |
|                                                                 | 20    | 10.52                                  | 7.13    | 2.77         | 10.66 | 7.88            | 3.02         | 10.31 | 7.83            | 3.27         | 9.89  | 7.71            | 3.53         | 9.43  | 7.56            | 3.81         | 8.92  | 7.38            | 4.11         | 8.38  | 7.18            | 4.42 |
|                                                                 | 18    | 10.47                                  | 9.49    | 2.73         | 10.08 | 9.40            | 2.99         | 9.67  | 9.24            | 3.24         | 9.25  | 9.03            | 3.51         | 8.79  | 8.79            | 3.79         | 8.38  | 8.38            | 4.09         | 7.95  | 7.95            | 4.40 |
|                                                                 | 16    | 10.18                                  | 10.18   | 2.72         | 9.85  | 9.85            | 2.99         | 9.52  | 9.52            | 3.24         | 9.17  | 9.17            | 3.50         | 8.80  | 8.80            | 3.79         | 8.39  | 8.39            | 4.08         | 7.95  | 7.95            | 4.40 |
|                                                                 | 14    | 10.18                                  | 10.18   | 2.72         | 9.85  | 9.85            | 2.99         | 9.53  | 9.53            | 3.24         | 9.17  | 9.17            | 3.50         | 8.80  | 8.80            | 3.79         | 8.39  | 8.39            | 4.08         | 7.95  | 7.95            | 4.40 |
| <b>38EYX0489A Outdoor Section With FX4CSX048 Indoor Section</b> |       |                                        |         |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |
| 650                                                             | 22    | 14.88                                  | 7.76    | 3.61         | 14.46 | 7.59            | 4.07         | 14.19 | 7.53            | 4.48         | 13.63 | 7.30            | 4.92         | 13.06 | 7.08            | 5.38         | 12.41 | 6.82            | 5.86         | 11.69 | 6.53            | 6.34 |
|                                                                 | 20    | 14.47                                  | 9.30    | 3.59         | 14.16 | 9.26            | 4.03         | 13.69 | 9.09            | 4.45         | 13.17 | 8.87            | 4.89         | 12.61 | 8.65            | 5.35         | 11.98 | 6.39            | 5.82         | 11.28 | 8.10            | 6.31 |
|                                                                 | 18    | 14.05                                  | 11.07   | 3.56         | 13.59 | 10.94           | 4.01         | 13.11 | 10.73           | 4.43         | 12.59 | 10.52           | 4.87         | 12.03 | 10.29           | 5.32         | 11.41 | 10.03           | 5.79         | 10.72 | 9.72            | 6.27 |
|                                                                 | 16    | 13.42                                  | 12.72   | 3.55         | 12.93 | 12.50           | 4.00         | 12.46 | 12.24           | 4.42         | 11.96 | 11.96           | 4.85         | 11.48 | 11.48           | 5.31         | 10.96 | 10.96           | 5.78         | 10.40 | 10.40           | 6.25 |
|                                                                 | 14    | 13.19                                  | 13.19   | 3.55         | 12.78 | 12.78           | 4.00         | 12.38 | 12.38           | 4.42         | 11.95 | 11.95           | 4.85         | 11.48 | 11.48           | 5.31         | 10.96 | 10.96           | 5.78         | 10.40 | 10.40           | 6.25 |
| 730                                                             | 22    | 14.94                                  | 7.87    | 3.66         | 14.50 | 7.71            | 4.12         | 14.21 | 7.64            | 4.53         | 13.67 | 7.45            | 4.97         | 13.09 | 7.22            | 5.43         | 12.44 | 6.95            | 5.91         | 11.71 | 6.67            | 6.39 |
|                                                                 | 20    | 14.54                                  | 9.51    | 3.64         | 14.21 | 9.48            | 4.09         | 13.77 | 9.34            | 4.50         | 13.23 | 9.12            | 4.94         | 12.67 | 8.90            | 5.40         | 12.03 | 8.65            | 5.88         | 11.32 | 8.36            | 6.36 |
|                                                                 | 18    | 14.13                                  | 11.41   | 3.62         | 13.71 | 11.36           | 4.06         | 13.22 | 11.14           | 4.48         | 12.69 | 10.93           | 4.92         | 12.13 | 10.71           | 5.37         | 11.51 | 10.45           | 5.84         | 10.81 | 10.13           | 6.32 |
|                                                                 | 16    | 13.59                                  | 13.23   | 3.60         | 13.11 | 13.01           | 4.05         | 12.66 | 12.66           | 4.46         | 12.22 | 12.22           | 4.90         | 11.74 | 11.74           | 5.36         | 11.21 | 11.21           | 5.83         | 10.62 | 10.62           | 6.31 |
|                                                                 | 14    | 13.48                                  | 13.48   | 3.59         | 13.06 | 13.06           | 4.04         | 12.66 | 12.66           | 4.46         | 12.22 | 12.22           | 4.90         | 11.74 | 11.74           | 5.36         | 11.21 | 11.21           | 5.83         | 10.62 | 10.62           | 6.31 |
| 800                                                             | 22    | 14.99                                  | 8.04    | 3.74         | 14.54 | 7.89            | 4.20         | 14.17 | 7.76            | 4.61         | 13.72 | 7.66            | 5.05         | 13.11 | 7.41            | 5.51         | 12.46 | 7.15            | 5.99         | 11.74 | 6.87            | 6.48 |
|                                                                 | 20    | 14.61                                  | 9.82    | 3.72         | 14.23 | 9.78            | 4.17         | 13.86 | 9.73            | 4.58         | 13.30 | 9.50            | 5.02         | 12.72 | 9.29            | 5.49         | 12.08 | 9.04            | 5.96         | 11.36 | 8.75            | 6.44 |
|                                                                 | 18    | 14.17                                  | 11.84   | 3.70         | 13.83 | 11.99           | 4.15         | 13.33 | 11.76           | 4.56         | 12.80 | 11.55           | 5.00         | 12.24 | 11.32           | 5.45         | 11.61 | 11.03           | 5.92         | 10.91 | 10.67           | 6.40 |
|                                                                 | 16    | 13.80                                  | 13.80   | 3.67         | 13.38 | 13.38           | 4.13         | 12.97 | 12.97           | 4.55         | 12.51 | 12.51           | 4.98         | 12.02 | 12.02           | 5.44         | 11.47 | 11.47           | 5.92         | 10.85 | 10.85           | 6.40 |
|                                                                 | 14    | 13.79                                  | 13.79   | 3.68         | 13.38 | 13.38           | 4.13         | 12.97 | 12.97           | 4.55         | 12.51 | 12.51           | 4.98         | 12.02 | 12.02           | 5.44         | 11.47 | 11.47           | 5.92         | 10.85 | 10.85           | 6.40 |
| <b>38EYX0609A Outdoor Section With FX4CSX060 Indoor Section</b> |       |                                        |         |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |
| 850                                                             | 22    | 19.59                                  | 10.37   | 5.21         | 18.78 | 10.03           | 5.65         | 18.04 | 9.76            | 6.05         | 17.22 | 9.43            | 6.46         | 16.37 | 9.08            | 6.90         | 15.41 | 8.68            | 7.34         | 14.27 | 8.17            | 7.78 |
|                                                                 | 20    | 18.56                                  | 12.34   | 5.15         | 17.75 | 12.03           | 5.59         | 17.06 | 11.73           | 5.98         | 16.31 | 11.42           | 6.40         | 15.49 | 11.07           | 6.83         | 14.62 | 10.70           | 7.27         | 13.64 | 10.25           | 7.71 |
|                                                                 | 18    | 17.25                                  | 14.22   | 5.11         | 16.58 | 13.92           | 5.53         | 15.89 | 13.61           | 5.93         | 15.19 | 13.29           | 6.34         | 14.40 | 12.94           | 6.77         | 13.58 | 12.56           | 7.21         | 12.73 | 12.13           | 7.64 |
|                                                                 | 16    | 16.14                                  | 15.94   | 5.08         | 15.51 | 15.51           | 5.51         | 14.98 | 14.98           | 5.91         | 14.43 | 14.43           | 6.32         | 13.82 | 13.82           | 6.75         | 13.18 | 13.18           | 7.19         | 12.48 | 12.48           | 7.64 |
|                                                                 | 14    | 16.05                                  | 16.05   | 5.08         | 15.51 | 15.51           | 5.50         | 14.98 | 14.98           | 5.91         | 14.43 | 14.43           | 6.32         | 13.82 | 13.82           | 6.75         | 13.18 | 13.18           | 7.19         | 12.49 | 12.49           | 7.64 |
| 875                                                             | 22    | 19.64                                  | 10.44   | 5.24         | 18.82 |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |              |       |                 |      |

# Heat pump heating performance (S.I.)

| INDOOR AIR                                                      |     | OUTDOOR COIL ENTERING AIR TEMPERATURES °C |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |
|-----------------------------------------------------------------|-----|-------------------------------------------|-------------|------|-------------|-------------|------|-------------|-------------|------|-------------|-------------|------|-------------|-------------|------|-------------|-------------|------|-------------|-------------|------|-------------|-------------|------|
|                                                                 |     | -16                                       |             |      | -8          |             |      | 0           |             |      | 4           |             |      | 8           |             |      | 12          |             |      | 16          |             |      | 20          |             |      |
|                                                                 |     | Capacity kW                               | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  | Capacity kW | Total Power | kW*  |
| (C) EDB                                                         | L/S | Total                                     | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  | Total       | Integ†      | kW*  |
| <b>38EYX027A Outdoor Section With FX4CSX024 Indoor Section</b>  |     |                                           |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |
| 12                                                              | 330 | 3.61                                      | 3.32        | 1.28 | 4.71        | 4.29        | 1.37 | 5.90        | 5.12        | 1.48 | 6.31        | 6.16        | 1.52 | 6.66        | 6.66        | 1.57 | 6.78        | 6.78        | 1.58 | 6.85        | 6.85        | 1.58 | 6.91        | 6.91        | 1.58 |
|                                                                 | 380 | 3.65                                      | 3.36        | 1.27 | 4.76        | 4.33        | 1.36 | 5.79        | 5.02        | 1.44 | 6.13        | 5.98        | 1.48 | 6.23        | 6.23        | 1.49 | 6.27        | 6.27        | 1.49 | 6.30        | 6.30        | 1.49 | 6.30        | 6.30        | 1.49 |
|                                                                 | 425 | 3.69                                      | 3.39        | 1.27 | 4.80        | 4.37        | 1.35 | 5.69        | 4.93        | 1.43 | 5.89        | 5.75        | 1.45 | 5.89        | 5.89        | 1.45 | 5.90        | 5.90        | 1.45 | 5.89        | 5.89        | 1.45 | 5.56        | 5.56        | 1.43 |
| 15                                                              | 330 | 3.54                                      | 3.26        | 1.37 | 4.64        | 4.23        | 1.46 | 5.92        | 5.13        | 1.59 | 6.38        | 6.22        | 1.64 | 6.77        | 6.77        | 1.69 | 7.08        | 7.08        | 1.73 | 7.19        | 7.19        | 1.73 | 7.29        | 7.29        | 1.74 |
|                                                                 | 380 | 3.58                                      | 3.30        | 1.36 | 4.69        | 4.27        | 1.45 | 5.85        | 5.07        | 1.55 | 6.23        | 6.08        | 1.60 | 6.52        | 6.52        | 1.63 | 6.60        | 6.60        | 1.64 | 6.65        | 6.65        | 1.64 | 6.70        | 6.70        | 1.64 |
|                                                                 | 425 | 3.62                                      | 3.33        | 1.36 | 4.73        | 4.31        | 1.44 | 5.77        | 5.00        | 1.53 | 6.10        | 5.95        | 1.57 | 6.19        | 6.19        | 1.58 | 6.23        | 6.23        | 1.58 | 6.26        | 6.26        | 1.58 | 6.25        | 6.25        | 1.58 |
| 18                                                              | 330 | 3.47                                      | 3.20        | 1.47 | 4.58        | 4.17        | 1.57 | 5.87        | 5.09        | 1.70 | 6.42        | 6.26        | 1.76 | 6.85        | 6.85        | 1.82 | 7.27        | 7.27        | 1.87 | 7.49        | 7.49        | 1.90 | 7.62        | 7.62        | 1.91 |
|                                                                 | 380 | 3.52                                      | 3.23        | 1.45 | 4.62        | 4.21        | 1.55 | 5.88        | 5.10        | 1.66 | 6.31        | 6.15        | 1.71 | 6.67        | 6.67        | 1.76 | 6.88        | 6.88        | 1.78 | 6.97        | 6.97        | 1.79 | 7.06        | 7.06        | 1.80 |
|                                                                 | 425 | 3.55                                      | 3.27        | 1.45 | 4.66        | 4.25        | 1.54 | 5.83        | 5.05        | 1.64 | 6.19        | 6.04        | 1.69 | 6.45        | 6.45        | 1.72 | 6.53        | 6.53        | 1.72 | 6.58        | 6.58        | 1.73 | 6.62        | 6.62        | 1.73 |
| 21                                                              | 330 | 3.41                                      | 3.14        | 1.56 | 4.51        | 4.11        | 1.67 | 5.80        | 5.03        | 1.83 | 6.43        | 6.28        | 1.88 | 6.90        | 6.90        | 1.95 | 7.36        | 7.36        | 2.01 | 7.74        | 7.74        | 2.06 | 7.90        | 7.90        | 2.08 |
|                                                                 | 380 | 3.45                                      | 3.17        | 1.55 | 4.56        | 4.15        | 1.65 | 5.84        | 5.06        | 1.78 | 6.35        | 6.20        | 1.84 | 6.76        | 6.76        | 1.89 | 7.13        | 7.13        | 1.94 | 7.25        | 7.25        | 1.95 | 7.42        | 7.42        | 1.97 |
|                                                                 | 425 | 3.48                                      | 3.20        | 1.55 | 4.59        | 4.18        | 1.64 | 5.85        | 5.07        | 1.76 | 6.26        | 6.10        | 1.81 | 6.62        | 6.62        | 1.85 | 6.79        | 6.79        | 1.87 | 6.87        | 6.87        | 1.88 | 6.94        | 6.94        | 1.88 |
| 24                                                              | 330 | 3.35                                      | 3.08        | 1.66 | 4.44        | 4.05        | 1.78 | 5.72        | 4.95        | 1.94 | 6.40        | 6.25        | 2.01 | 6.92        | 6.92        | 2.08 | 7.42        | 7.42        | 2.15 | 7.86        | 7.86        | 2.22 | 8.11        | 8.11        | 2.25 |
|                                                                 | 380 | 3.38                                      | 3.11        | 1.66 | 4.49        | 4.09        | 1.76 | 5.77        | 5.00        | 1.91 | 6.38        | 6.22        | 2.02 | 6.82        | 6.82        | 2.02 | 7.24        | 7.24        | 2.08 | 7.49        | 7.49        | 2.11 | 7.63        | 7.63        | 2.12 |
|                                                                 | 425 | 3.41                                      | 3.14        | 1.65 | 4.53        | 4.13        | 1.75 | 5.80        | 5.03        | 1.88 | 6.31        | 6.16        | 1.93 | 6.70        | 6.70        | 1.98 | 7.02        | 7.02        | 2.02 | 7.13        | 7.13        | 2.03 | 7.24        | 7.24        | 2.04 |
| <b>38EYX0369A Outdoor Section With FX4CSX036 Indoor Section</b> |     |                                           |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |
| 12                                                              | 500 | 5.29                                      | 4.87        | 1.96 | 6.91        | 6.30        | 2.15 | 8.83        | 7.65        | 2.40 | 9.84        | 9.60        | 2.51 | 10.71       | 10.71       | 2.63 | 11.58       | 11.58       | 2.76 | 12.43       | 12.43       | 2.89 | 13.25       | 13.25       | 3.01 |
|                                                                 | 560 | 5.35                                      | 4.92        | 1.98 | 6.99        | 6.37        | 2.15 | 8.90        | 7.71        | 2.38 | 9.76        | 9.53        | 2.48 | 10.53       | 10.53       | 2.58 | 11.30       | 11.30       | 2.70 | 12.05       | 12.05       | 2.80 | 12.77       | 12.77       | 2.91 |
|                                                                 | 640 | 5.42                                      | 4.98        | 2.00 | 7.06        | 6.43        | 2.16 | 8.90        | 7.71        | 2.37 | 9.65        | 9.42        | 2.47 | 10.35       | 10.35       | 2.56 | 11.06       | 11.06       | 2.66 | 11.73       | 11.73       | 2.75 | 12.24       | 12.24       | 2.82 |
| 15                                                              | 500 | 5.19                                      | 4.77        | 2.08 | 6.81        | 6.20        | 2.27 | 8.71        | 7.54        | 2.53 | 9.77        | 9.53        | 2.67 | 10.73       | 10.73       | 2.79 | 11.64       | 11.64       | 2.93 | 12.54       | 12.54       | 3.08 | 13.41       | 13.41       | 3.21 |
|                                                                 | 560 | 5.27                                      | 4.85        | 2.08 | 6.89        | 6.27        | 2.27 | 8.79        | 7.62        | 2.52 | 9.77        | 9.53        | 2.63 | 10.59       | 10.59       | 2.74 | 11.41       | 11.41       | 2.86 | 12.21       | 12.21       | 2.98 | 12.97       | 12.97       | 3.09 |
|                                                                 | 640 | 5.33                                      | 4.90        | 2.11 | 6.96        | 6.34        | 2.28 | 8.85        | 7.67        | 2.51 | 9.70        | 9.47        | 2.61 | 10.44       | 10.44       | 2.71 | 11.20       | 11.20       | 2.82 | 11.92       | 11.92       | 2.93 | 12.61       | 12.61       | 3.03 |
| 18                                                              | 500 | 5.10                                      | 4.69        | 2.21 | 6.71        | 6.11        | 2.40 | 8.58        | 7.43        | 2.66 | 9.65        | 9.41        | 2.83 | 10.70       | 10.70       | 2.96 | 11.68       | 11.68       | 3.11 | 12.62       | 12.62       | 3.26 | 13.52       | 13.52       | 3.41 |
|                                                                 | 560 | 5.17                                      | 4.75        | 2.21 | 6.79        | 6.18        | 2.40 | 8.67        | 7.51        | 2.65 | 9.71        | 9.48        | 2.78 | 10.62       | 10.62       | 2.90 | 11.49       | 11.49       | 3.04 | 12.34       | 12.34       | 3.17 | 13.13       | 13.13       | 3.28 |
|                                                                 | 640 | 5.24                                      | 4.81        | 2.22 | 6.86        | 6.24        | 2.40 | 8.74        | 7.58        | 2.66 | 9.70        | 9.47        | 2.76 | 10.51       | 10.51       | 2.87 | 11.31       | 11.31       | 3.00 | 12.08       | 12.08       | 3.11 | 12.81       | 12.81       | 3.21 |
| 21                                                              | 500 | 5.02                                      | 4.61        | 2.33 | 6.61        | 6.02        | 2.54 | 8.45        | 7.33        | 2.80 | 9.51        | 9.28        | 2.98 | 10.63       | 10.63       | 3.13 | 11.68       | 11.68       | 3.29 | 12.66       | 12.66       | 3.46 | 13.61       | 13.61       | 3.61 |
|                                                                 | 560 | 5.08                                      | 4.67        | 2.34 | 6.69        | 6.09        | 2.53 | 8.54        | 7.40        | 2.79 | 9.60        | 9.37        | 2.96 | 10.62       | 10.62       | 3.07 | 11.55       | 11.55       | 3.22 | 12.43       | 12.43       | 3.36 | 13.28       | 13.28       | 3.49 |
|                                                                 | 640 | 5.15                                      | 4.73        | 2.35 | 6.76        | 6.15        | 2.53 | 8.62        | 7.47        | 2.79 | 9.65        | 9.42        | 2.92 | 10.54       | 10.54       | 3.04 | 11.39       | 11.39       | 3.17 | 12.21       | 12.21       | 3.30 | 12.98       | 12.98       | 3.41 |
| 24                                                              | 500 | 4.93                                      | 4.54        | 2.47 | 6.50        | 5.92        | 2.68 | 8.33        | 7.22        | 2.96 | 9.37        | 9.15        | 3.13 | 10.50       | 10.50       | 3.32 | 11.64       | 11.64       | 3.48 | 12.66       | 12.66       | 3.65 | 13.64       | 13.64       | 3.82 |
|                                                                 | 560 | 5.00                                      | 4.59        | 2.47 | 6.57        | 5.99        | 2.67 | 8.42        | 7.30        | 2.93 | 9.47        | 9.24        | 3.11 | 10.57       | 10.57       | 3.25 | 11.56       | 11.56       | 3.40 | 12.48       | 12.48       | 3.55 | 13.37       | 13.37       | 3.69 |
|                                                                 | 640 | 5.06                                      | 4.65        | 2.49 | 6.65        | 6.05        | 2.67 | 8.50        | 7.37        | 2.93 | 9.55        | 9.31        | 3.10 | 10.55       | 10.55       | 3.21 | 11.44       | 11.44       | 3.35 | 12.30       | 12.30       | 3.49 | 13.11       | 13.11       | 3.61 |
| <b>38EYX0489A Outdoor Section With FX4CSX048 Indoor Section</b> |     |                                           |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |             |             |      |
| 12                                                              | 650 | 7.82                                      | 7.19        | 2.66 | 9.81        | 8.93        | 2.77 | 12.30       | 10.66       | 2.96 | 13.69       | 13.36       | 3.09 | 15.22       | 15.22       | 3.25 | 16.94       | 16.94       | 3.41 | 18.56       | 18.56       | 3.57 | 20.13       | 20.13       | 3.76 |
|                                                                 | 730 | 7.88                                      | 7.24        | 2.64 | 9.88        | 9.00        | 2.74 | 12.39       | 10.74       | 2.90 | 13.80       | 13.47       | 3.02 | 15.35       | 15.35       | 3.17 | 16.99       | 16.99       | 3.28 | 18.49       | 18.49       | 3.43 | 19.96       | 19.96       | 3.59 |
|                                                                 | 800 | 7.96                                      | 7.33        | 2.64 | 9.98        | 9.09        | 2.71 | 12.53       | 10.86       | 2.85 | 13.96       | 13.62       | 2.96 | 15.48       | 15.48       | 3.06 | 16.94       | 16.94       | 3.16 | 18.28       | 18.28       | 3.28 | 19.62       | 19.62       | 3.42 |
| 15                                                              | 650 | 7.74                                      | 7.12        | 2.88 | 9.72        | 8.86        | 3.01 | 12.19       | 10.56       | 3.21 | 13.55       | 13.22       | 3.34 | 15.04       | 15.04       | 3.51 | 16.76       | 16.76       | 3.71 | 18.45       | 18.45       | 3.85 | 20.05       | 20.05       | 4.05 |
|                                                                 | 730 | 7.80                                      | 7.18        | 2.87 | 9.79        | 8.92        | 2.97 | 12.27       | 10.64       | 3.15 | 13.65       | 13.33       | 3.27 | 15.17       | 15.17       | 3.42 | 16.86       | 16.86       | 3.56 | 18.45       | 18.45       | 3.71 | 19.95       | 19.95       | 3.88 |
|                                                                 | 800 | 7.90                                      | 7.26        | 2.86 | 9.90        | 9.02        | 2.94 | 12.41       | 10.75       | 3.09 | 13.81       | 13.48       | 3.20 | 15.34       | 15.34       | 3.34 | 16.89       | 16.89       | 3.42 | 18.31       | 18.31       | 3.55 | 19.70       | 19.70       | 3.69 |
| 18                                                              | 650 | 7.64                                      | 7.03        | 3.10 | 9.65        | 8.79        | 3.26 | 12.07       | 10.46       | 3.47 | 13.40       | 13.08       | 3.61 | 14.86       | 14.86       | 3.77 | 16.55       | 16.55       | 3.99 | 18.30       | 18.30       | 4.15 | 19.94       | 19.94       | 4.35 |
|                                                                 | 730 | 7.71                                      | 7.09        | 3.09 | 9.72        | 8.85        | 3.22 | 12.16       | 10.54       | 3.41 | 13.51       | 13.19       | 3.53 | 14.99       | 14.99       | 3.68 | 16.69       | 16.69       | 3.86 | 18.35       | 18.35       | 4.00 | 19.90       | 19.90       | 4.18 |
|                                                                 | 800 | 7.81                                      | 7.18        | 3.09 | 9.82        | 8.95        | 3.18 | 12.29       | 10.65       | 3.34 | 13.66       | 13.33       | 3.45 | 15.17       | 15.17       | 3.59 | 16.80       | 16.80       | 3.70 | 18.30       | 18.30       | 3.83 | 19.72       | 19.72       | 3.98 |
| 21                                                              | 650 | 7.51                                      | 6.91        | 3.32 | 9.56        | 8.71        | 3.48 | 11.91       | 10.32       | 3.72 | 13.26       | 12.94       | 3.88 | 14.69       | 14.69       | 4.05 | 16.34       | 16.34       | 4.27 | 18.12       | 18.12       | 4.46 | 19.79       | 19.79       | 4.66 |
|                                                                 | 730 | 7.58                                      | 6.98        | 3.31 | 9.64        | 8.78        | 3.47 | 12.00       | 10.40       | 3.66 | 13.36       | 13.04       | 3.80 | 14.82       | 14.82       | 3.95 | 16.49       | 16.49       | 4.16 | 18.21       | 18.21       | 4.29 | 19.81       | 19.81       | 4.48 |
|                                                                 | 800 | 7.70                                      | 7.08        | 3.31 | 9.74        | 8.87        | 3.43 | 12.17       | 10.55       | 3.61 | 13.52       | 13.19       | 3.72 | 14.99       | 14.99       | 3.86 | 16.66       | 16.66       | 3.99 | 18.24       | 18.24       | 4.12 | 19.71       | 19.71       | 4.28 |
| 24                                                              | 650 | 7.34                                      | 6.75        | 3.52 | 9.47        | 8.63        | 3.76 | 11.77       | 10.20       | 3.99 | 13.11       | 12.80       | 4.16 | 14.52       | 14.52       | 4.33 | 16.12       | 16.12       | 4.56 | 17.88       | 17.88       | 4.77 | 19.62       | 19.62       | 4.97 |
|                                                                 | 730 | 7.42                                      | 6.83        | 3.52 | 9.54        | 8.69        | 3.70 | 11.87       | 10.28       | 3.93 | 13.22       | 12.90       | 4.08 | 14.64       | 14.64       | 4.24 | 16.28       | 16.28       | 4    |             |             |      |             |             |      |

# Combination ratings

| OUTDOOR<br>UNIT SIZE-<br>SERIES | INDOOR UNIT | NOMINAL AIRFLOW |     | COOLING CAP @ 35°C |       |                    | HEATING CAPACITY |       |              |
|---------------------------------|-------------|-----------------|-----|--------------------|-------|--------------------|------------------|-------|--------------|
|                                 |             |                 |     | Rated Capacity     |       | Rated<br>EER (W/W) | Hi Temp 7°C      |       | COP<br>(W/W) |
|                                 |             |                 |     | BTUH               | kW    |                    | BTUH             | kW    |              |
|                                 |             | CFM             | L/S |                    |       |                    |                  |       |              |
| 024-7A                          | FX4CSX024   | 800             | 380 | 23,300             | 6.83  | 3.22               | 22,660           | 6.64  | 3.63         |
| 036-9A                          | FX4CSX036   | 1200            | 560 | 34,070             | 9.98  | 3.18               | 35,450           | 10.39 | 3.49         |
| 048-9A                          | FX4CSX048   | 1550            | 730 | 46,620             | 13.66 | 3.13               | 49,430           | 14.48 | 3.79         |
| 060-9A                          | FX4CSX060   | 1850            | 875 | 57,100             | 16.73 | 2.85               | 58,270           | 17.07 | 3.39         |

\* Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:

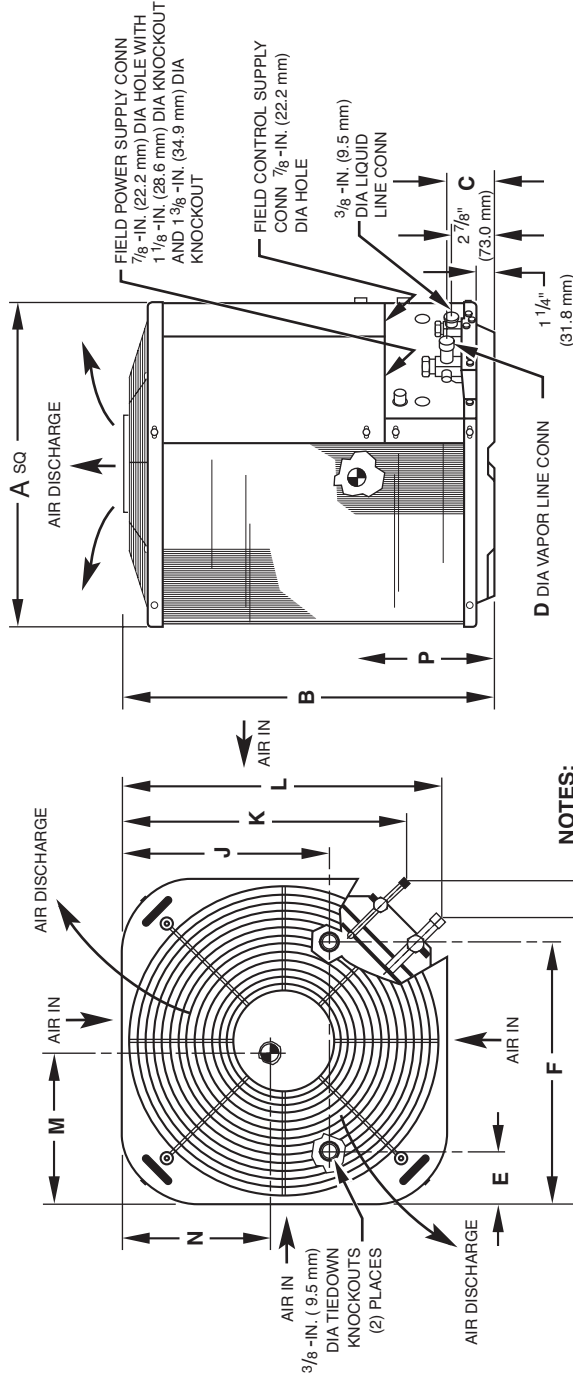
**Cooling Standard:** 27°C db 19°C wb indoor entering air temperature and 35°C db air entering outdoor unit.

**High-Temperature Heating Standard:** 20° db indoor entering air temperature and 7°C db 6°C wb air entering outdoor unit.

## System Design

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wg.
2. Minimum outdoor operating air temperature for cooling mode without low-ambient operation accessory is 13°C.
3. Maximum outdoor operating air temperature for cooling mode is 52°C.
4. Minimum outdoor operating air temperature for heating mode is -34°C.
5. Maximum outdoor operating air temperature for heating mode is 19°C.
6. For reliable operation, unit should be level in all horizontal planes.
7. Maximum elevation of indoor coil above or below base of outdoor unit is: indoor coil above = 15m, indoor coil below = 45m. (See items 8 and 9 following.)
8. For interconnecting refrigerant tube lengths greater than 15.2m, consult Long-Line Application Guideline available from equipment distributor.
9. Not more than 91cm of refrigerant tube should be buried in the ground. If necessary to bury tubes under a sidewalk, provide a minimum 15cm) vertical rise to the valve connections at the unit.
10. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.

# Dimensions



## NOTES:

1. Allow 76 cm clearance to service side of unit, 122 cm above unit, 15 cm on one side, 30 cm on remaining side, and 61 cm between units for proper airflow.
2. Minimum outdoor operating ambient in cooling mode is 13° C (unless low ambient control is used) max 52° C.
3. Maximum outdoor operating ambient in heating mode is 19° C.
4. Series designation is the 13th position of the unit model number.
5. Center of gravity

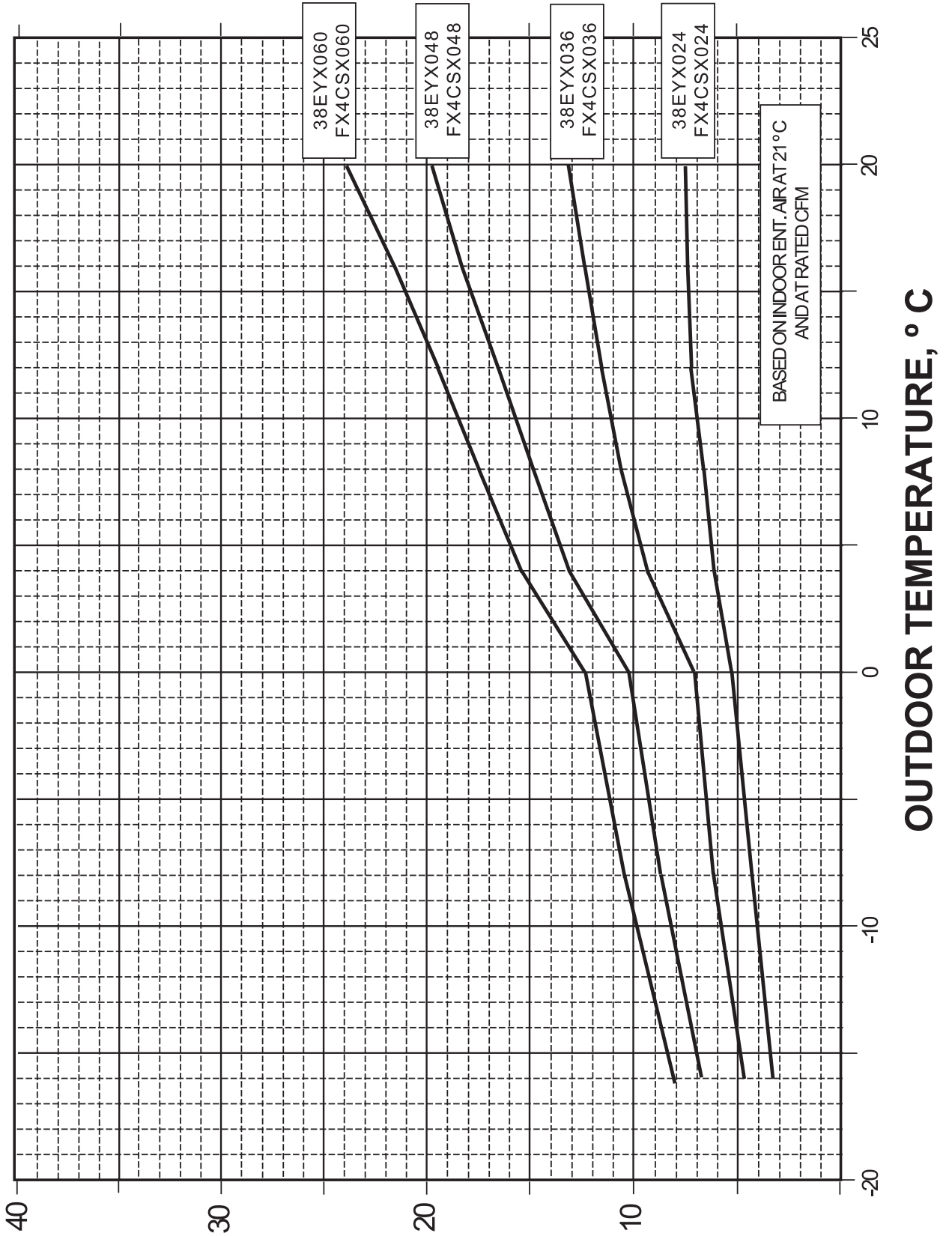
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## DIMENSIONS (MM)

| UNIT | SERIES | UNIT DIMENSIONS |        |      |         |       |       |       |       |       |       |       |       |       | MINIMUM MOUNTING PAD DIMENSIONS |               |
|------|--------|-----------------|--------|------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------------------|---------------|
|      |        | A               | B      | C    | D       | E     | F     | G     | H     | J     | K     | L     | M     | N     | P                               |               |
| 024  | 7A     | 571.5           | 760.4  | 81.0 | 5/8 in. | 93.7  | 460.4 | 501.7 | 549.3 | 365.1 | 479.4 | 560.4 | 279.4 | 127.0 | 355.6                           | 571.5 x 571.5 |
| 036  | 9A     | 762.0           | 760.4  | 81.0 | 3/4 in. | 165.1 | 596.9 | 692.2 | 739.8 | 508.0 | 669.9 | 750.9 | 406.4 | 355.6 | 317.5                           | 762.0 x 762.0 |
| 048  | 9A     | 762.0           | 1014.4 | 82.6 | 7/8 in. | 165.1 | 596.9 | 692.2 | 739.8 | 508.0 | 669.9 | 750.9 | 381.0 | 400.1 | 355.6                           | 762.0 x 762.0 |
| 060  | 9A     | 762.0           | 862.0  | 82.6 | 7/8 in. | 165.1 | 596.9 | 692.2 | 739.8 | 508.0 | 669.9 | 750.9 | 349.3 | 396.9 | 381.0                           | 762.0 x 762.0 |

# 38EYX BALANCE POINT WORKSHEET

## BUILDING HEAT LOSS KW UNIT INTEGRATED HEATING CAPACITY, KW



A04176

# Guide specifications

## Air-Cooled, Split-System Heat Pump 38EYX 2 To 5 Tons Nominal (7 To 17.5 kW)

### GENERAL

#### System Description

Outdoor-mounted, air-cooled, split-system heat pump unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a packaged fan coil or coil unit.

#### Quality Assurance

Unit shall be manufactured in a facility registered to ISO9001/BS5750 Part II, International Standard for Quality Systems. Unit design shall comply with European standard and bear the CE Mark.

Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC (U.S.A. Standard).

Unit will be constructed in accordance with European standards.

Unit cabinet will be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hr salt spray test (U.S.A. Standard).

Air-cooled condenser coils will be leak tested at 1724 KPa and pressure tested at 3103 KPa.

#### Delivery, Storage, and Handling

Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

### PRODUCTS

#### Equipment

Factory-assembled, single piece, air-cooled heat pump unit. Contained within the unit enclosure will be all factory wiring, piping, controls, compressor, refrigerant charge (R-410A), and special features required prior to field start-up.

#### Unit Cabinet

Unit cabinet will be constructed of galvanized, prepainted, steel.

#### Fans

Condenser fan will be direct-drive propeller type, discharging air upward.

Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings.

Shafts will be corrosion resistant.

Fan blades will be statically and dynamically balanced.

Condenser fan openings will be equipped with PVC-coated steel wire safety guards.

#### Compressor

Compressor will be hermetically sealed.

Compressor will be mounted on rubber vibration isolators.

#### Condenser Coil

Condenser coil will be air cooled.

Coil will be constructed of epoxy coated, aluminum fins mechanically bonded to copper tubes which are then cleaned, dehydrated, and sealed.

#### Refrigeration Components

Refrigeration circuit components will include liquid line shutoff valve with sweat connections, suction shutoff valves with sweat connections, system charge of refrigerant R-410A, compressor oil, accumulator, and reversing valve.

#### Operating Characteristics

The capacity of the unit will meet or exceed \_\_\_\_ Btuh (\_\_\_\_ kW) at a suction temperature of \_\_\_\_ °F (\_\_\_\_ °C). The power consumption at full load will not exceed \_\_\_\_ kW.

Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_ Btuh (\_\_\_\_ kW) or greater at conditions of \_\_\_\_ CFM (\_\_\_\_ L/S) entering air temperature at the evaporator at \_\_\_\_ °F (\_\_\_\_ °C) wet bulb and \_\_\_\_ °F (\_\_\_\_ °C) dry bulb, and air entering the unit at \_\_\_\_ °F (\_\_\_\_ °C).

#### Electrical Requirements

Nominal unit electrical characteristics will be \_\_\_\_ v, \_\_\_\_ phase, 50 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_ v to \_\_\_\_ v.

Unit electrical power will be single point connection.

Control circuit will be 24v.

#### Special Features

Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.