# Daikin Altherma low temperature split Technical Data

# ERLA11-16DV3

# TABLE OF CONTENTS

# ERLA11-16DV3

# 1 Features

## 1 - 1 ERLA11-16DV3



› Outdoor unit extracts heat from the outdoor air, even at -25°C
› Combining with R-32 Bluevolution technology, reduces environmental impact with 68% compared to R-410A, leads directly to lower energy consumption thanks to its high energy efficiency and has up to lower 16% refrigerant charge
› W-LAN Adapter and cartridge connection (optional)
› Black grille hiding the fan from view


-25°
Guaranteed operation down to -25°C

Daikin Residential Controller (optional)

Voice control

# 2 Specifications

## 1 - 1 ERLA11-16DV3

| Technical specifications | | | | EBVH16SU23D6V + ERLA11DV3 | EBVH16SU23D6V + ERLA14DV3 | EBVH16SU23D6V + ERLA16DV3 |
|---|---|---|---|---|---|---|
| Heating capacity | Nom. | | kW | 10.6 (1) / 9.82 (2) | 12.0 (1) / 12.5 (2) | 16.0 (1) / 16.0 (2) |
| Power input | Heating | Nom. | kW | 2.18 (1) / 2.68 (2) | 2.46 (1) / 3.42 (2) | 3.53 (1) / 4.56 (2) |
| | Domestic hot water from 10°C to 50°C | Nom. | kWh | 3.41 | | |
| Heat up time from 10°C to 50°C | | | hr | 1h07min at 7°C ambient temperature | | |
| COP | | | | 4.83 (1) / 3.66 (2) | 4.87 (1) / 3.64 (2) | 4.53 (1) / 3.51 (2) |
| Water side Heat exchanger | Water flow rate | Heating Nom. | l/min | 46.1 (3) / 46.1 (4) | | |
| General | Supplier/ Manufacturer details | Name and address | | Daikin Europe N.V. - Zandvoordestraat 300, 8400 Oostende, Belgium | | |
| | | Name or trademark | | Daikin Europe N.V. | | |
| | Product description | Air-to-water heat pump | | Yes | | |
| | | Brine-to-water heat pump | | No | | |
| | | Heat pump combination heater | | Yes | | |
| | | Low-temperature heat pump | | No | | |
| | | Supplementary heater integrated | | Yes | | |
| | | Water-to-water heat pump | | No | | |
| | LW(A) Sound power level (according to EN14825) | Indoor | dB(A) | 44.0 (5) | | |
| LW(A) Sound power level (according to EN14825) | Outdoor | | dB(A) | 62.0 | | |
| Sound condition Ecodesign and energy label | | | | Sound power in heating mode, measured according to the EN12102 under conditions of the EN14825 | | |
| Space heating general | Air to water unit | Rated airflow (outdoor) | $m^3/h$ | 3,350 | 4,220 | 5,100 |
| | Other | Capacity control | | Inverter | | |
| | | Pck (Crankcase heater mode) | kW | 0.000 | | |
| | | Poff (Off mode) | kW | 0.023 | | |
| | | Psb (Standby mode) | kW | 0.023 | | |
| | | Pto (Thermostat off) | kW | 0.023 | | |
| Domestic hot water heating | General | Declared load profile | | XL | | |
| | | Function to fix water heating during off peak hours | | No | | |
| Space heating general | Integrated supplementary heater | Psup | kW | 6.0 | | |
| | | Type of energy input | | Electrical | | |
| Domestic hot water heating | Average climate | AEC (Annual electricity consumption) | kWh | 1,542 | | |
| | | COPdhw | | 2.63 | | |
| | | Heat up time | | 1h 11min | | |
| | | Mixed water at 40°C | l | 295.0 | | |
| | | ηwh (water heating efficiency) | % | 109 | | |
| | | Qelec (Daily electricity consumption) | kWh | 7.260 | | |
| | | Reference hot water temperature | °C | 51.5 | | |
| | | Stand-by power input | W | 43.2 | | |
| | | Water heating energy efficiency class | | A | | |

# 2 Specifications

## 1 - 1 ERLA11-16DV3



| Technical specifications | | | | | EBVH16SU23D6V + ERLA11DV3 | EBVH16SU23D6V + ERLA14DV3 | EBVH16SU23D6V + ERLA16DV3 |
|---|---|---|---|---|---|---|---|
| Domestic hot water heating | Cold climate | AEC (Annual electricity consumption) | | kWh | | 1,963 | |
| | | COPdhw | | | | 2.08 | |
| | | ηwh (water heating efficiency) | | % | | 85 | |
| | | Qelec (Daily electricity consumption) | | kWh | | 9.180 | |
| | | Stand-by power input | | W | | 43.1 | |
| | Warm climate | AEC (Annual electricity consumption) | | kWh | | 1,349 | |
| | | COPdhw | | | | 3.00 | |
| | | Heat up time | | | | 1h 10min | |
| | | Mixed water at 40°C | | l | | 295.0 | |
| | | ηwh (water heating efficiency) | | % | | 124 | |
| | | Qelec (Daily electricity consumption) | | kWh | | 6.350 | |
| | | Reference hot water temperature | | °C | | 51.5 | |
| | | Stand-by power input | | W | | 37.6 | |
| Space heating | Average climate water outlet 55°C | General | Annual energy consumption | kWh | 6,405 | 7,047 | 7,477 |
| | | | ηs (Seasonal space heating efficiency) | % | 131 | 126 | 130 |
| | | | Prated at -10°C | kW | 10 | 11 | 12 |
| | | | Qhe Annual energy consumption (GCV) | Gj | 23 | 25 | 27 |
| | | | SCOP | | 3.23 | 3.22 | 3.32 |
| | | | Seasonal space heating eff. class | | | A++ | |
| | | A Condition (-7°CDB/-8°CWB) | Cdh (Degradation heating) | | | 1.0 | |
| | | | COPd | | 1.89 | 1.80 | 1.95 |
| | | | Pdh | kW | 7.9 | 8.5 | 9.4 |
| | | | PERd | % | 75.6 | 72.0 | 78.0 |
| | | B Condition (2°CDB/1°CWB) | Cdh (Degradation heating) | | | 1.0 | |
| | | | COPd | | 3.25 | 3.28 | 3.27 |
| | | | Pdh | kW | 5.4 | 6.2 | 6.9 |
| | | | PERd | % | 130.0 | 131.2 | 130.8 |
| | | C Condition (7°CDB/6°CWB) | Cdh (Degradation heating) | | | 1.0 | |
| | | | COPd | | 4.79 | 4.88 | 4.93 |
| | | | Pdh | kW | | 4.4 | |
| | | | PERd | % | 191.6 | 195.2 | 197.2 |
| | | D Condition (12°CDB/11°CWB) | Cdh (Degradation heating) | | | 1.0 | |
| | | | COPd | | 6.38 | 6.58 | 6.60 |
| | | | Pdh | kW | | 5.3 | |
| | | | PERd | % | 255.2 | 263.2 | 264.0 |
| | | Tol (temperature operating limit) | COPd | | 1.68 | 1.76 | 1.50 |
| | | | Pdh | kW | 6.9 | 7.0 | 6.0 |

# 2 Specifications

## 1 - 1 ERLA11-16DV3

| Technical specifications | | | | | EBVH16SU23D6V + ERLA11DV3 | EBVH16SU23D6V + ERLA14DV3 | EBVH16SU23D6V + ERLA16DV3 |
|---|---|---|---|---|---|---|---|
| Space heating | Average climate water outlet 55°C | Tol (temperature operating limit) | PERd | % | 67.2 | 70.4 | 60.0 |
| | | | TOL | °C | -10 | | |
| | | | WTOL | °C | 55 | | |
| | | Rated heat output supplementary capacity | Psup (at Tdesign -10°C) | kW | 3.2 | 4.0 | 6.1 |
| | | Tbiv (bivalent temperature) | COPd | | 1.96 | 1.87 | 2.13 |
| | | | Pdh | kW | 8.2 | 8.9 | 10.1 |
| | | | PERd | % | 78.4 | 74.8 | 85.2 |
| | | | Tbiv | °C | -5 | | |
| | Cold climate water outlet 55°C | General | Annual energy consumption | kWh | 8,440 | 9,024 | 9,650 |
| | | | ηs (Seasonal space heating efficiency) | % | 114 | 117 | 120 |
| | | | Prated at -22°C | kW | 10 | 11 | 12 |
| | | | Qhe Annual energy consumption (GCV) | Gj | 30 | 32 | 35 |
| | Warm climate water outlet 55°C | General | Annual energy consumption | kWh | 3,262 | 3,818 | 3,792 |
| | | | ηs (Seasonal space heating efficiency) | % | 161 | 166 | 168 |
| | | | Prated at 2°C | kW | 10 | 12.1 | |
| | | | Qhe Annual energy consumption (GCV) | Gj | 12 | 14 | |
| | | B Condition (2°CDB/1°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 2.23 | 2.20 | 2.17 |
| | | | Pdh | kW | 9.0 | 10.1 | 9.8 |
| | | | PERd | % | 89.2 | 88.0 | 86.8 |
| | | C Condition (7°CDB/6°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 3.74 | 3.83 | |
| | | | Pdh | kW | 6.2 | 7.6 | |
| | | | PERd | % | 149.6 | 153.2 | |
| | | D Condition (12°CDB/11°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 5.67 | 5.69 | |
| | | | Pdh | kW | 5.0 | | |
| | | | PERd | % | 226.8 | 227.6 | |
| | | Tbiv (bivalent temperature) | COPd | | 2.40 | 2.65 | 2.40 |
| | | | Pdh | kW | 8.5 | 11.1 | 11.0 |
| | | | PERd | % | 96.0 | 106.0 | 96.0 |
| | | | Tbiv | °C | 4 | | 3 |
| | Average climate water outlet 35°C | General | Annual energy consumption | kWh | 4,479 | 4,935 | 5,377 |
| | | | ηs (Seasonal space heating efficiency) | % | 182 | 181 | |
| | | | Prated at -10°C | kW | 10 | 11 | 12 |
| | | | Qhe Annual energy consumption (GCV) | Gj | 16 | 18 | 19 |
| | | | SCOP | | 4.61 | 4.60 | 4.61 |

# 2 Specifications

## 1 - 1 ERLA11-16DV3

| Technical specifications | | | | | EBVH16SU23D6V + ERLA11DV3 | EBVH16SU23D6V + ERLA14DV3 | EBVH16SU23D6V + ERLA16DV3 |
|---|---|---|---|---|---|---|---|
| Space heating | Average climate water outlet 35°C | General | Seasonal space heating eff. class | | A+++ | | |
| | | A Condition (-7°CDB/-8°CWB) | COPd | | 3.03 | 2.99 | 2.87 |
| | | | Pdh | kW | 9.2 | 9.8 | 11.2 |
| | | | PERd | % | 121.2 | 119.6 | 114.8 |
| | | B Condition (2°CDB/1°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 4.35 | | 4.33 |
| | | | Pdh | kW | 5.5 | 6.1 | 6.7 |
| | | | PERd | % | 174.0 | | 173.2 |
| | | C Condition (7°CDB/6°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 6.69 | 6.70 | 6.83 |
| | | | Pdh | kW | 4.6 | | 4.7 |
| | | | PERd | % | 267.6 | 268.0 | 273.2 |
| | | D Condition (12°CDB/11°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 8.47 | 8.65 | 8.82 |
| | | | Pdh | kW | 5.4 | | 5.5 |
| | | | PERd | % | 338.8 | 346.0 | 352.8 |
| | | Tol (temperature operating limit) | COPd | | 2.72 | 2.71 | 2.52 |
| | | | Pdh | kW | 8.4 | 9.1 | 10.6 |
| | | | PERd | % | 108.8 | 108.4 | 100.8 |
| | | | TOL | °C | -10 | | |
| | | | WTOL | °C | 35 | | |
| | | Tbiv (bivalent temperature) | COPd | | 3.01 | 2.99 | 2.72 |
| | | | Pdh | kW | 9.2 | 9.8 | 11.4 |
| | | | PERd | % | 120.4 | 119.6 | 108.8 |
| | | | Tbiv | °C | -8 | -7 | -8 |
| | | Rated heat output supplementary capacity | Psup (at Tdesign -10°C) | kW | 1.6 | 1.9 | 1.4 |
| | Cold climate water outlet 35°C | General | Annual energy consumption | kWh | 5,964 | 6,439 | 7,257 |
| | | | ηs (Seasonal space heating efficiency) | % | 162 | 165 | 160 |
| | | | Prated at -22°C | kW | 12 | 11 | 12 |
| | | | Qhe Annual energy consumption (GCV) | Gj | 21 | 23 | 26 |
| | Warm climate water outlet 35°C | General | Annual energy consumption | kWh | 2,228 | 2,431 | 2,675 |
| | | | ηs (Seasonal space heating efficiency) | % | 237 | 239 | 237 |
| | | | Prated at 2°C | kW | 12 | 11 | 12 |
| | | | Qhe Annual energy consumption (GCV) | Gj | 8 | 9 | 10 |
| | | B Condition (2°CDB/1°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 3.80 | 3.51 | 3.30 |
| | | | Pdh | kW | 9.2 | 11.0 | 11.9 |
| | | | PERd | % | 152.0 | 140.4 | 132.0 |
| Space heating | Warm climate water outlet 35°C | C Condition (7°CDB/6°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 5.70 | 5.77 | 5.64 |
| | | | Pdh | kW | 6.7 | 7.4 | 8.1 |
| | | | PERd | % | 228.0 | 230.8 | 225.6 |
| | | Tbiv (bivalent temperature) | COPd | | 3.80 | 3.51 | 3.30 |
| | | | Pdh | kW | 9.2 | 11.0 | 11.9 |
| | | | PERd | % | 152.0 | 140.4 | 132.0 |
| | | | Tbiv | °C | 3 | 2 | |
| | | D Condition (12°CDB/11°CWB) | Cdh (Degradation heating) | | 1.0 | | |
| | | | COPd | | 7.87 | 7.73 | |
| | | | Pdh | kW | 5.2 | | |
| | | | PERd | % | 314.8 | 309.2 | |

(1)Condition: Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) |
(2)Condition: Ta DB/WB 7°C/6°C - LWC 45°C (Dt=5°C) |
(3)Condition 1: cooling Ta 35°C - LWE 18°C (DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 35°C (DT = 5°C) |
(4)Condition 2: cooling Ta 35°C - LWE 7°C ( DT = 5°C); heating Ta DB/WB 7°C/6°C - LWC 45°C ( DT = 5°C ) |

# 2 Specifications

## 1 - 1 ERLA11-16DV3

(5)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°. |
Cooling: EW 12°C; LW 7°C; ambient conditions: 35°CDB |
Cooling: EW 23°C; LW 18°C; ambient conditions: 35°CDB |
According to EN14825

| Technical Specifications | | | | | ERLA11DV3 | ERLA14DV3 | ERLA16DV3 |
|---|---|---|---|---|---|---|---|
| Casing | Colour | | | | Ivory white | | |
| | Material | | | | Polyester painted galvanised steel plate | | |
| Dimensions | Unit | Height | | mm | 870 | | |
| | | Width | | mm | 1,100 | | |
| | | Depth | | mm | 460 | | |
| | Packed unit | Height | | mm | 1,118 | | |
| | | Width | | mm | 1,207 | | |
| | | Depth | | mm | 682 | | |
| Weight | Unit | | | kg | 101 | | |
| | Packed unit | | | kg | 120 | | |
| Packing | Material | | | | Carton + Wood + EPS | | |
| | Weight | | | kg | 18 | | |
| Heat exchanger | Length | | | mm | 1,195 | | |
| | Rows | Quantity | | | 3 | | |
| | Fin pitch | | | mm | 1.40 | | |
| | Passes | Quantity | | | 14 | | |
| | Face area | | | $m^2$ | 0.950 /0.970 /1.00 | | |
| | Stages | Quantity | | | 38 | | |
| | Tube type | | | | ø7 Hi-XSL | | |
| | Fin | Type | | | WF fin | | |
| | | Treatment | | | Anti-corrosion treatment (PE) | | |
| Fan | Type | | | | Propeller fan | | |
| | Quantity | | | | 1 | | |
| | Air flow rate | Heating | High | $m^3$/min | 55.8 | 70.4 | 85.0 |
| | | Cooling | High | $m^3$/min | 70.4 | 85.0 | |
| | Discharge direction | | | | Horizontal | | |
| Fan motor | Quantity | | | | 1 | | |
| | Model | | | | Brushless DC motor | | |
| | Output | | | W | 183 | | |
| | Drive | | | | Direct drive | | |
| | Speed | Steps | | | 8 | | |
| | | Heating | Nom. | rpm | 450 | 550 | 650 |
| | | Cooling | Nom. | rpm | 650 | | |
| Compressor | Quantity | | | | 1 | | |
| | Model | | | | 2Y350BPAX1P#C | | |
| | Type | | | | Hermetically sealed swing inverter compressor | | |
| Compressor | Starting method | | | | Inverter driven | | |
| PED | Category | | | | Category II | | |
| Operation range | Heating | Min. | | °CDB | -25.0 | | |
| | | Max. | | °CDB | 25 (1) / 35 (1) | | |
| | Cooling | Min. | | °CDB | 10 | | |
| | | Max. | | °CDB | 43 | | |
| | Domestic hot water | Max. | | °CDB | 25 (1) / 35 (1) | | |
| | | Min. | | °CDB | -25 | | |
| PED | Most critical part | Name | | | Accumulator | | |
| | | Ps*V | | Bar*l | 159 | | |
| Sound power level | Heating | Nom. | | dBA | 62.0 (2) | | |
| Sound pressure level | Heating | Nom. | | dBA | 48.0 (2) | | |
| Refrigerant | Type | | | | R-32 | | |
| | GWP | | | | 675.0 | | |
| | Charge | | | TCO2Eq | 2.57 | | |
| | Charge | | | kg | 3.80 | | |
| | Control | | | | Electronic expansion valve | | |
| | Circuits | Quantity | | | 1 | | |
| Refrigerant oil | Type | | | | FW68DA | | |
| | Charged volume | | | l | 1.4 | | |

# 2 Specifications

## 1 - 1 ERLA11-16DV3



| Technical Specifications | | | | | ERLA11DV3 | ERLA14DV3 | ERLA16DV3 |
|---|---|---|---|---|---|---|---|
| Piping connections | Liquid | Quantity | | | 1 | | |
| | | Type | | | Flare connection | | |
| | | OD | | mm | 9.50 | | |
| | Gas | Quantity | | | 1 | | |
| | | Type | | | Flare connection | | |
| | | OD | | mm | 15.9 | | |
| | Drain | Quantity | | | 8 | | |
| | | Type | | | Hole | | |
| | | OD | | mm | 26 | | |
| | Piping length | OU - IU | Min. | m | 3 | | |
| | | | Max. | m | 50 | | |
| | | System | Chargeless | m | 10 | | |
| | High pressure side | Design pressure | | bar | 42 | | |
| | Additional refrigerant charge | | | kg/m | 0.05 (for piping length exceeding 10m) | | |
| | Level difference | IU - OU | Max. | m | 30.0 | | |
| | Heat insulation | | | | Both liquid and gas pipes | | |
| Defrost control | | | | | Sensor for outdoor heat exchanger temperature | | |
| Capacity control | Method | | | | Variable (inverter) | | |
| Safety devices | Item | 01 | | | High pressure switch | | |
| | | 02 | | | Low pressure switch | | |
| | | 03 | | | Fan driver overload protector | | |
| | | 04 | | | Fuse | | |
| | | 05 | | | Compressor motor thermal protector | | |
| Defrost method | | | | | Reversed cycle | | |

| Electrical Specifications | | | | ERLA11DV3 | ERLA14DV3 | ERLA16DV3 |
|---|---|---|---|---|---|---|
| Power supply | Name | | | V3 | | |
| | Phase | | | 1~ | | |
| | Frequency | | Hz | 50 | | |
| | Voltage | | V | 230 | | |
| | Voltage range | Min. | % | -10 | | |
| | | Max. | % | 10 | | |
| Current | Maximum running current | Heating | A | 30.8 | | |
| | | Cooling | A | 30.8 | | |
| | Recommended fuses | | A | 32 | | |
| Wiring connections | For power supply | Quantity | | 3 | | |
| | | Remark | | Select diameter and type according to national and local regulations | | |
| | For connection with indoor | Quantity | | 4 | | |
| | | Remark | | 1,5mm² | | |
| IP class | IP | | | IPX4 | | |

(1)For more details, see operation range drawing |
(2)Measured with a pressure drop of 10 kPa in the heating system at an operating condition of leaving water 47-55°C in a room with an ambient of 20°C. DB/WB 7°C/6°.

# 3 Combination table

## 3 - 1 Combination Table

**ERLA11-16DV3**
**ERLA11-16DW1**



**Combination table**

| Description | | ERLA11DAV3 | ERLA14DAV3 | ERLA16DAV3 | ERLA11DAW1 | ERLA14DAW1 | ERLA16DAW1 |
|---|---|---|---|---|---|---|---|
| EBBH11DF* | Heating only indoor unit | o | --- | --- | o | --- | --- |
| EBBX11DF* | Reversible indoor unit | o | --- | --- | o | --- | --- |
| EBBH16DF* | Heating only indoor unit | --- | o | o | --- | o | o |
| EBBX16DF* | Reversible indoor unit | --- | o | o | --- | o | o |

| Description | | ERLA11DAV3/W1 | ERLA14DAV3/W1 | ERLA16DAV3/W1 |
|---|---|---|---|---|
| EBVH11S(18/23)DJ* | Heating only indoor unit | o | - | - |
| EBVX11S(18/23)DJ* | Reversible indoor unit | o | - | - |
| EBVH16S(18/23)DJ* | Heating only indoor unit | - | o | o |
| EBVX16S(18/23)DJ* | Reversible indoor unit | - | o | o |
| EBVZ16S(18/23)DJ* | (Integrated Bizone) | o | o | o |
| EBVH16SU(18/23)DJ6V | Heating only indoor unit for the UK | o | o | o |

**Remark** Other combinations than mentioned in this combination table are prohibited.

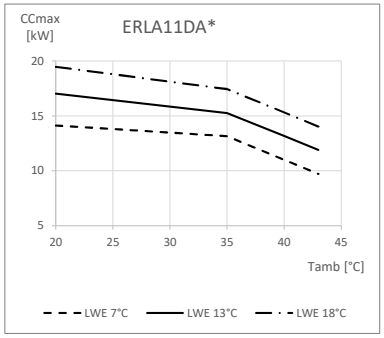
**3D136861**

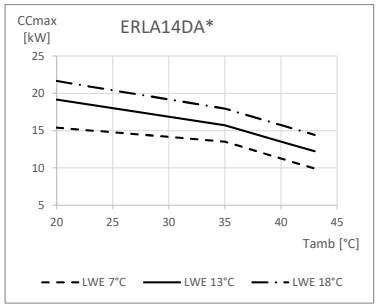
# 4 Capacity graphs

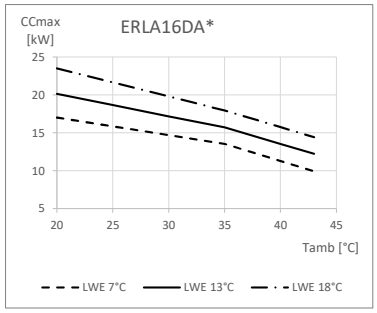
## 4 - 1 Cooling Capacity Graphs

**ERLA11-16DV3**
**ERLA11-16DW1** Maximum cooling capacity






**Symbols**

$CC_{max}$ Cooling capacity at maximum operating frequency, measured according to EN 14511.

LWE Leaving water evaporator temperature [°C]
Tamb Ambient temperature [°C DB]

**Conditions**

Cooling capacity

Capacity according to standard EN 14511 and valid for chilled water range ΔT = 3~8°C.

**Notes**

The capacity and power input is valid for ·V3· models at ·230·V and for for ·W1· models at ·400·V.

The capacity and the power input are at maximum operation.

**4D137188**

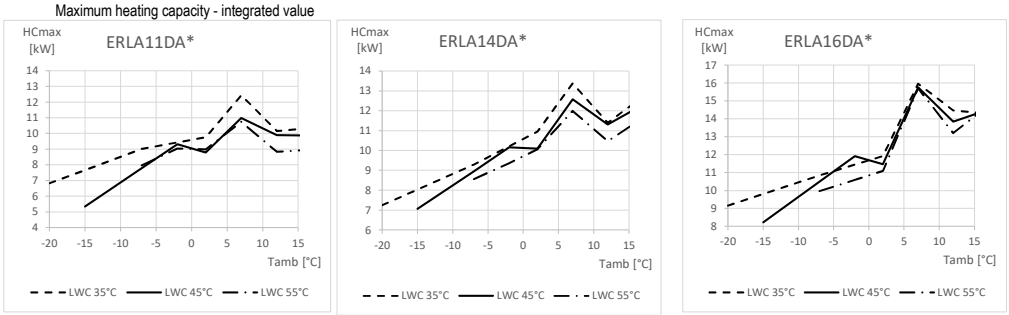
# 4 Capacity graphs

## 4 - 2 Heating Capacity Graphs

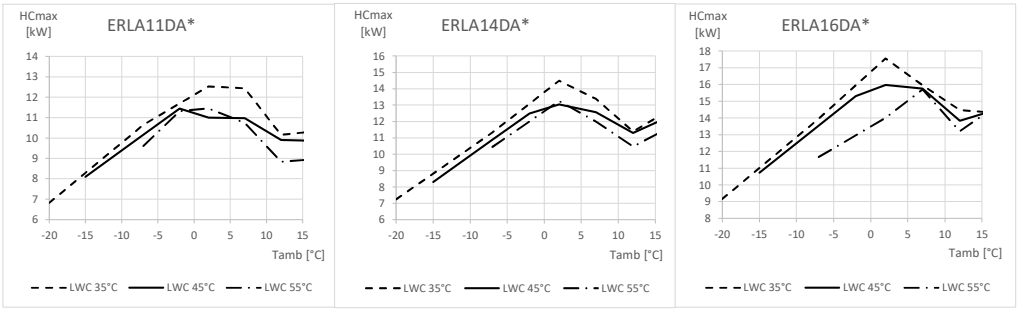
**ERLA11-16DV3**

**ERLA11-16DW1**

Maximum heating capacity - integrated value




Maximum heating capacity - peak values




**Symbols**

| | |
|---|---|
| $HC_{max}$ | Heating capacity for maximum load, measured according to EN 14511 |
| LWC | Leaving water condensor temperature [°C] |
| Tamb | Ambient temperature [°C DB] |

**Conditions**

Heating capacity

Capacity according to standard EN 14511 and valid for heated water range ΔT = 3~8°C.

**Notes**

The capacity and power input is valid for ·V3· models at ·230·V and for for ·W1· models at ·400·V.
The capacity and the power input are at maximum operation.

**4D137448**

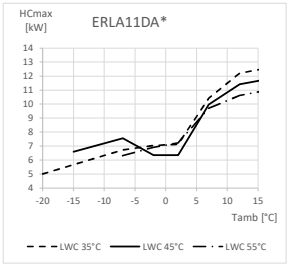
# 4 Capacity graphs

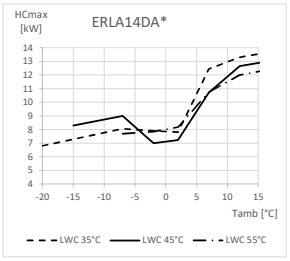
## 4 - 3 Heating Capacity Graphs - quiet mode

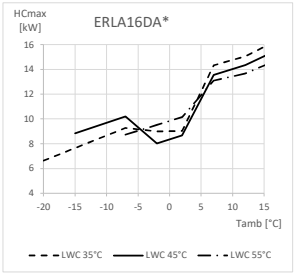
**ERLA11-16DV3**
**ERLA11-16DW1**



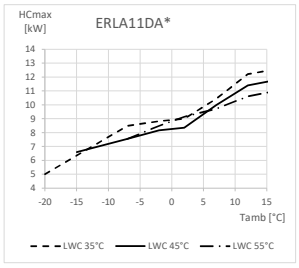
Maximum heating capacity - integrated value

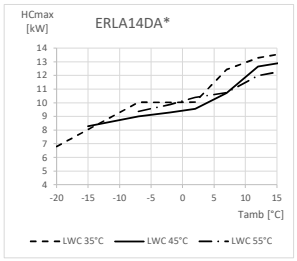


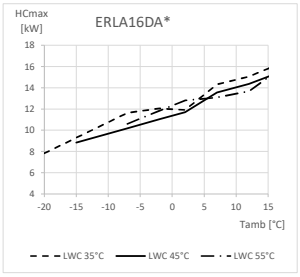




Maximum heating capacity - peak values




**Symbols**

$HC_{max}$ Heating capacity for maximum load, measured according to EN 14511

LWC Leaving water condensor temperature [°C]

Tamb Ambient temperature [°C DB]

**Conditions**

Heating capacity

Capacity according to standard EN 14511 and valid for heated water range ΔT = 3~8°C.

**Notes**

The capacity and power input is valid for ·V3· models at ·230·V and for for ·W1· models at ·400·V.

The capacity and the power input are at maximum operation.

**4D137449**

# 5 Capacity tables

## 5 - 1 Certification Programs

**ERLA11-16DV3**
**ERLA11-16DW1**

Rated data for certification programmes - heating mode

| Tamb [°C] | EWC [°C] | LWC [°C] | ERLA11DAV3 HC [kW] | ERLA11DAV3 COP [-] | ERLA14DAV3 HC [kW] | ERLA14DAV3 COP [-] | ERLA16DAV3 HC [kW] | ERLA16DAV3 COP [-] | ERLA11DAW1 HC [kW] | ERLA11DAW1 COP [-] | ERLA14DAW1 HC [kW] | ERLA14DAW1 COP [-] | ERLA16DAW1 HC [kW] | ERLA16DAW1 COP [-] | Used for: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/9 | 30 | 35 | 9,20 | 5,32 | 9,20 | 5,32 | 9,20 | 5,32 | 9,20 | 5,32 | 9,20 | 5,32 | 9,20 | 5,32 | BAFA |
| 7/6 | 30 | 35 | 10,56 | 4,83 | 12,00 | 4,87 | 16,00 | 4,53 | 10,56 | 4,83 | 12,00 | 4,87 | 16,00 | 4,53 | Keymark, EHPA, BAFA, GET |
| 2/1 | (30) | 35 | 9,00 | 3,65 | 10,80 | 3,50 | 12,00 | 3,30 | 9,00 | 3,65 | 10,80 | 3,50 | 12,00 | 3,30 | EHPA, GET |
| 2/1 | (30) | 35 | 6,29 | 4,01 | 6,29 | 4,01 | 6,29 | 4,01 | 6,29 | 4,01 | 6,29 | 4,01 | 6,29 | 4,01 | BAFA |
| -7/-8 | (30) | 35 | 8,75 | 2,92 | 9,30 | 2,86 | 10,60 | 2,70 | 8,75 | 2,92 | 10,50 | 3,00 | 12,30 | 2,87 | EHPA, BAFA, GET |
| 7/6 | 40 | 45 | 9,82 | 3,66 | 12,45 | 3,64 | 16,00 | 3,51 | 9,82 | 3,66 | 12,45 | 3,64 | 16,00 | 3,51 | EHPA |
| -2/-3 | (40) | 45 | 9,32 | 2,57 | 10,15 | 2,58 | 11,91 | 2,42 | 9,32 | 2,57 | 10,15 | 2,58 | 11,91 | 2,42 | MCS |
| -7/-8 | (40) | 45 | 8,72 | 2,35 | 8,98 | 2,29 | 10,49 | 2,10 | 8,72 | 2,35 | 8,98 | 2,29 | 10,49 | 2,10 | EHPA |
| 7/6 | 47 | 55 | 10,64 | 2,94 | 11,87 | 2,89 | 15,63 | 2,75 | 10,64 | 2,94 | 11,87 | 2,89 | 15,63 | 2,75 | Keymark, EHPA, GET |
| -7/-8 | 47 | 55 | 7,89 | 1,82 | 8,47 | 1,82 | 8,87 | 1,78 | 7,89 | 1,82 | 8,47 | 1,82 | 8,87 | 1,78 | GET, EHPA |

Rated data for certification programmes - cooling mode

Nominal cooling capacity

| Tamb [°C] | EWE [°C] | LWE [°C] | ERLA11DA(V3/W1) CC [kW] | ERLA11DA(V3/W1) EER [-] | ERLA14DA(V3/W1) CC [kW] | ERLA14DA(V3/W1) EER [-] | ERLA16DA(V3/W1) CC [kW] | ERLA16DA(V3/W1) EER [-] | Used for: | |
|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 23 | 18 | 11,85 | 4,7 | 13,18 | 4,61 | 15,72 | 4,11 | General | DACI |
| 35 | 12 | 7 | 11,18 | 3,22 | 12,92 | 2,98 | 13,63 | 2,91 | Keymark | DAPT |

Seasonal data - cooling — LWE 7°C — Low temperature Application

| | | ERLA11DA(V3/W1) | ERLA14DA(V3/W1) | ERLA16DA(V3/W1) |
|---|---|---|---|---|
| Pdes | [kW] | 11 | 12,9 | 13,600 |
| SEER | [-] | 5,92 | 5,89 | 5,76 |
| $\eta_{s,c}$ | [-] | 234 | 233 | 227 |
| $Q_{CE}$ | [kWh/annum] | 1116 | 1314 | 1417 |

Symbols

| | |
|---|---|
| HC | Heating capacity measured according to EN 14511 |
| CC | Cooling capacity, measured according to ·EN 14511·. |
| COP/EEF | Coefficient of Performance/Energy efficiency ratio according to EN 14511. |
| EWC | Entering water condenser temperature [°C] |
| LWC | Leaving water condensor temperature [°C] |
| EWE | Entering water evaporator temperature [°C] |
| LWE | Leaving water evaporator temperature [°C] |
| Tamb | Ambient temperature [°C DB/WB] |
| Pdes | Nominal capacity value at design temperature [kW] |
| SEER | Seasonal energy efficiency ratio according to ·EN14825· |
| $\eta_{s,c}$ | Seasonal space cooling energy efficiency according to ·EN14825· |
| $Q_{CE}$ | Annual energy consumption for cooling according to ·EN14825· |

Rated data for certification programmes - standby power consumption

| | | ERLA(11/14/16)DA(V3/W1) | Used for: |
|---|---|---|---|
| Standby power input | [W] | 23 | Taux |

**3D136699A**

**ERLA11-16DV3**
**ERLA11-16DW1**

Rated data for certification programmes - domestic hot water performance

| Outdoor unit | | ERLA(11/14/16)DAV3 | | ERLA(11/14/16)DAW1 | |
|---|---|---|---|---|---|
| Domestic hot water tar | | EBV(H/X/Z)(11/16)S18DJ(6V/9W) | EBV(H/X/Z)(11/16)S(U)23DJ(6V/9W) | EBV(H/X/Z)(11/16)S18DJ(6V/9W) | EBV(H/X/Z)(11/16)S(U)23DJ(6V/9W) |
| Tapping pattern | | L | XL | L | XL |
| Application | | Average climate (design temperature: -7-°C ) | | | |
| $COP_{DHW}$ | [] | 2,73 | 2,63 | 2,77 | 2,64 |
| $\eta_{wh}$ | [%] | 115,6% | 108,7% | 116,4% | 109,0% |
| AEC | [kWh] | 886 | 1542 | 879 | 1537 |
| Application | | Colder climate (design temperature: -2-°C ) | | | |
| $COP_{DHW}$ | [] | 2,24 | 2,08 | 2,26 | 2,09 |
| $\eta_{wh}$ | [%] | 94,2% | 85,3% | 94,6% | 85,5% |
| AEC | [kWh] | 1087 | 1963 | 1082 | 1959 |
| Application | | Warmer climate (design temperature: -14-°C ) | | | |
| $COP_{DHW}$ | [] | 3,26 | 3,00 | 3,32 | 3,02 |
| $\eta_{wh}$ | [%] | 138,8% | 124,1% | 139,8% | 124,5% |
| AEC | [kWh] | 737 | 1349 | 732 | 1345 |

| Indoor Unit | | EBS(X/H)(B/-)(11/16)P30DF | | EBS(X/H)(B/-)(11/16)P50DF | |
|---|---|---|---|---|---|
| Outdoor Unit | | ERLA(11/14/16)DAV3 | ERLA(11/14/16)DAW1 | ERLA(11/14/16)DAV3 | ERLA(11/14/16)DAW1 |
| Tapping pattern | | L | | XL | |
| Application | | Average climate (design temperature: -7-°C ) | | | |
| $COP_{DHW}$ | [] | 2,73 | 2,75 | 3,05 | 3,1 |
| $\eta_{wh}$ | [%] | 115% | 116% | 126% | 128% |
| AEC | [kWh] | 890 | 887 | 1329 | 1313 |
| Application | | Colder climate (design temperature: -2-°C ) | | | |
| $COP_{DHW}$ | [] | 2,32 | 2,33 | 2,63 | 2,67 |
| $\eta_{wh}$ | [%] | 97% | 98% | 109% | 110% |
| AEC | [kWh] | 1053 | 1051 | 1542 | 1526 |
| Application | | Warmer climate (design temperature: -14-°C ) | | | |
| $COP_{DHW}$ | [] | 3,2 | 3,24 | 3,68 | 3,76 |
| $\eta_{wh}$ | [%] | 136% | 137% | 153% | 155% |
| AEC | [kWh] | 753 | 750 | 1094 | 1078 |

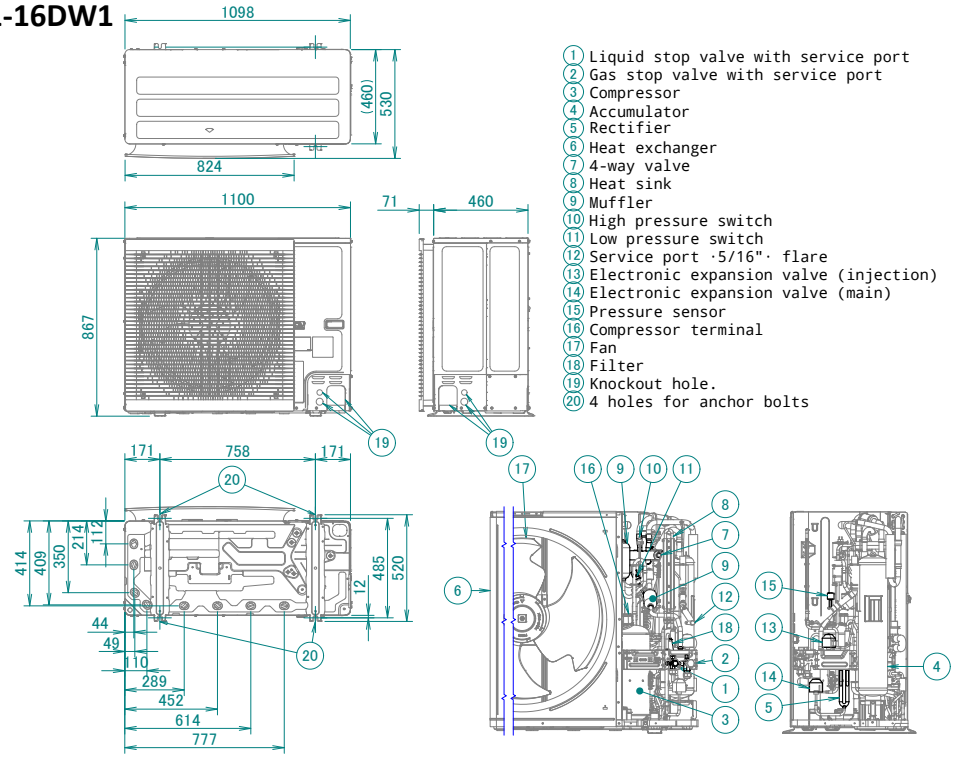
**3D136699A**

# 6 Dimensional drawings

## 6 - 1 Dimensional Drawings



**ERLA11-16DV3**
**ERLA11-16DW1**




① Liquid stop valve with service port
② Gas stop valve with service port
③ Compressor
④ Accumulator
⑤ Rectifier
⑥ Heat exchanger
⑦ 4-way valve
⑧ Heat sink
⑨ Muffler
⑩ High pressure switch
⑪ Low pressure switch
⑫ Service port ·5/16"· flare
⑬ Electronic expansion valve (injection)
⑭ Electronic expansion valve (main)
⑮ Pressure sensor
⑯ Compressor terminal
⑰ Fan
⑱ Filter
⑲ Knockout hole.
⑳ 4 holes for anchor bolts

**3D136425**

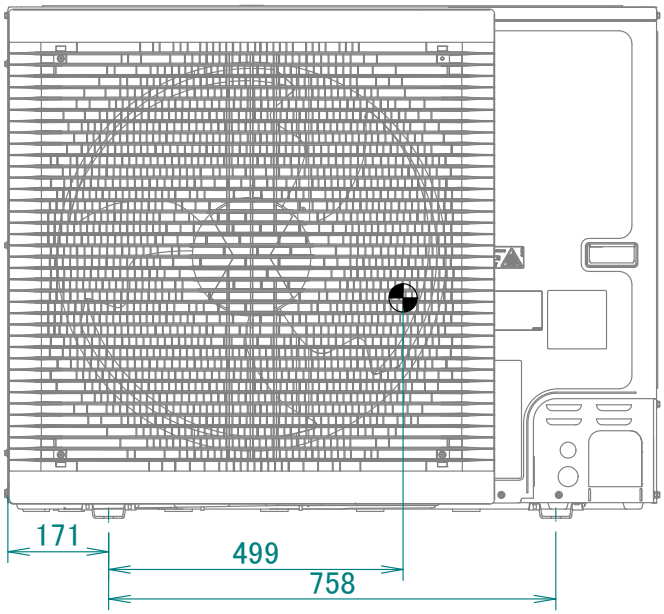
# 7 Centre of gravity

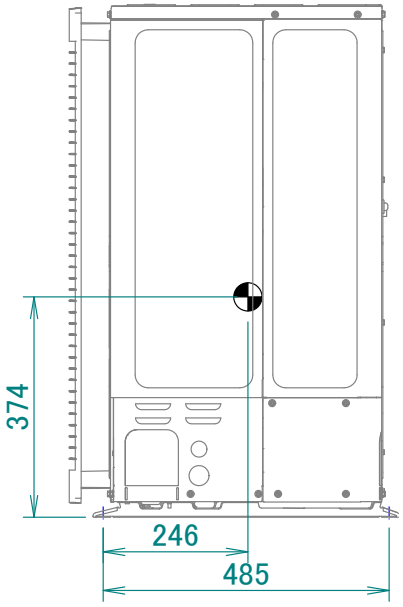
## 7 - 1 Centre of Gravity

**ERLA11-16DV3**
**ERLA11-16DW1**

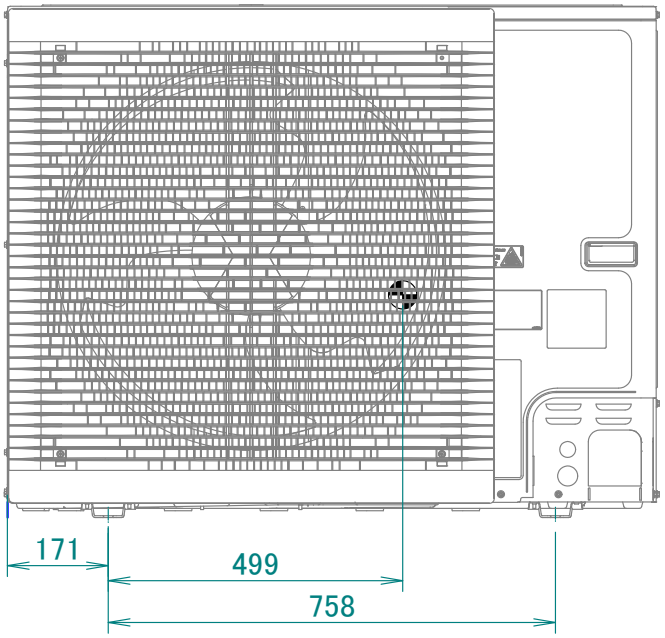


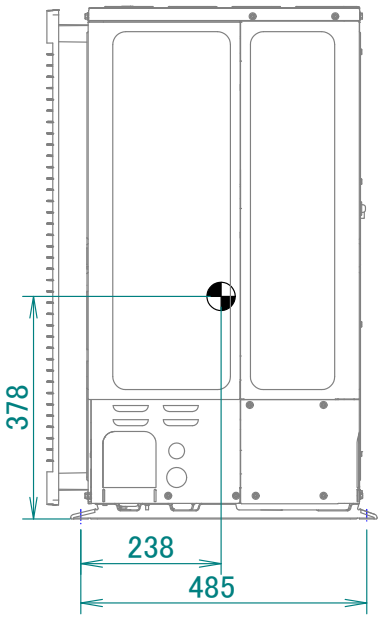
3~




1~



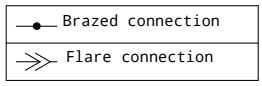

**4D136430**

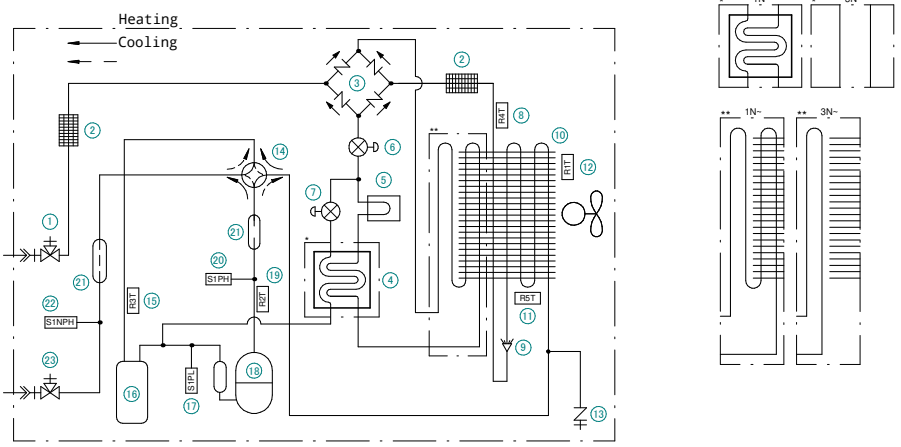
# 8 Piping diagrams

## 8 - 1 Piping Diagrams

8

**ERLA11-16DV3**
**ERLA11-16DW1**




(1) Liquid stop valve with service port
(2) Filter
(3) Rectifier
(4) Economiser
(5) Heat sink
(6) Electronic expansion valve (main)
(7) Electronic expansion valve (injection)
(8) R4T - Thermistor (heat exchanger)
(9) Distributor
(10) Heat exchanger
(11) R5T - Thermistor (heat exchanger middle)
(12) R1T - Outdoor air
(13) Service port ·5/16"· flare
(14) 4-way valve
(15) R3T - Thermistor (suction)
(16) Accumulator
(17) Low pressure switch
(18) Compressor
(19) R2T - Thermistor (discharge)
(20) High pressure switch
(21) Muffler
(22) Pressure sensor
(23) Gas stop valve with service port

**3D131968**

# 9 Wiring diagrams

## 9 - 1 Notes & Legend

### ERLA11-16DV3 / ERLA11-16DW1

#### NOTES to go through before starting the unit

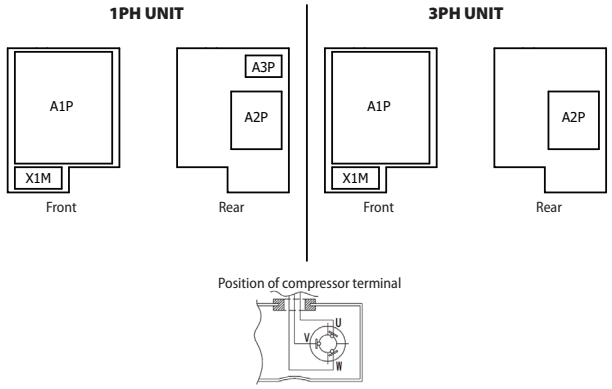
X1M : Main terminal
—— —— —— – : Earth wiring
– – – – – – : Field supply
① : Several wiring possibilities

: Option
: Wiring depending on model
: Not mounted in switch box
: PCB

#### NOTES

1. Refer to the wiring diagram sticker (on the back of the front plate) for how to use the BS1~BS4 and DS1 switches.
2. When operating, do not short-circuit protection device Q1, S1PH and S1PL.
3. Refer to the combination table and the option manual for how to connect the wiring to X6A, X41A and X77A.
4. Colours: BLK: black; RED: red; BLU: blue; WHT: white; GRN: green; BRN: brown; YLW: yellow; ORG: orange
5. Confirm the method of setting the selector switches (DS1) by service manual. Factory setting of all switches: OFF

#### POSITION IN SWITCH BOX




#### LEGEND

**1PH UNIT**

| Part n° | | Description |
|---|---|---|
| A1P | | Printed circuit board (main) |
| A2P | | Printed circuit board (noise filter) |
| A3P | | Printed circuit board (flash) |
| C* (A*P) | | Capacitor |
| BS* (A1P) | | Push button switch |
| DS1 (A1P) | | Dipswitch |
| F1U, F3U~F4U (A2P) | | Fuse T 6,3 A 250 V |
| F2U (A2P) | | Fuse T 56 A 250 V |
| F6U (A1P) | | Fuse T 5 A 250 V |
| H1~7P (A1P) | | Indication light emitting diode (service monitor is orange) |
| HAP (A1P) | | Light emitting diode (service monitor is green) |
| K1R (A1P) | | Magnetic relay (Y1S) |
| K10R (A1P) | | Magnetic relay |
| K11M (A1P) | | Magnetic relay (Main) |
| K14~15R (A2P) | | Magnetic relay |
| L*R (A1P) | | Reactor |
| M1C | | Compressor motor |
| M1F | | Fan motor |
| PS (A1P) | | Switching power supply |
| Q1 | | Thermal overcurrent protector |
| Q1DI | # | Earth leakage circuit breaker (30mA) |
| R1~5 (A*P) | | Resistor |
| R1T | | Thermistor (air) |
| R2T | | Thermistor (discharge) |
| R3T | | Thermistor (suction) |
| R4T | | Thermistor (distribution pipe) |
| R5T | | Thermistor (heat exchanger middle) |
| R11T (A1P) | | Thermistor (fin) |
| RC (A2P) | | Signal receiver circuit |
| S1NPH | | Pressure sensor |
| S1PH | | High pressure switch |
| S1PL | | Low pressure switch |
| TC (A2P) | | Signal transmission circuit |
| V*D (A1P) | | Diode |
| V1R (A1P) | | Power module |
| V2R (A1P) | | Diode module |
| V*T (A1P) | | IGBT |
| X1M | | Terminal strip |
| X*A, X*Y (A*P) | | Connector |
| Y1E, Y3E | | Electronic expansion valve |
| Y1S | | Solenoid valve (4-way valve) |
| Z*C | | Noise filter (ferrite core) |
| Z*F (A*P) | | Noise filter |

**3PH UNIT**

| Part n° | | Description |
|---|---|---|
| A1P | | Printed circuit board (main) |
| A2P | | Printed circuit board (noise filter) |
| C* (A1P) | | Capacitor |
| BS* (A1P) | | Push button switch |
| DS1 (A1P) | | Dipswitch |
| F1U, F3U (A2P) | | Fuse T 6,3 A 250 V |
| F4U, F5U (A2P) | | Fuse T 30 A 500 V |
| F7U (A1P) | | Fuse T 5 A 250 V |
| HAP (A1P) | | Light emitting diode (service monitor is green) |
| K1R (A1P) | | Magnetic relay (Y1S) |
| K5~8R (A1P) | | Magnetic relay |
| K*M (A1P) | | Magnetic relay (Main) |
| L*R (A*P) | | Reactor |
| M1C | | Compressor motor |
| M1F | | Fan motor |
| PS (A1P) | | Switching power supply |
| Q1 | | Thermal overcurrent protector |
| Q1DI | # | Earth leakage circuit breaker (30mA) |
| R1~9 (A1P) | | Resistor |
| R1T | | Thermistor (air) |
| R2T | | Thermistor (discharge) |
| R3T | | Thermistor (suction) |
| R4T | | Thermistor (distribution pipe) |
| R5T | | Thermistor (heat exchanger middle) |
| R11T (A1P) | | Thermistor (fin) |
| RC (A1P) | | Signal receiver circuit |
| S1NPH | | Pressure sensor |
| S1PH | | High pressure switch |
| S1PL | | Low pressure switch |
| SEG* (A1P) | | 7-segment display |
| TC (A1P) | | Signal transmission circuit |
| V*D (A1P) | | Diode |
| V1~2R (A1P) | | Diode module |
| V3~5R (A1P) | | Power module |
| X1M | | Terminal strip |
| X*A, X*Y (A*P) | | Connector |
| Y1E, Y3E | | Electronic expansion valve |
| Y1S | | Solenoid valve (4-way valve) |
| Z*C | | Noise filter (ferrite core) |
| Z*F (A*P) | | Noise filter |

* : optional #: field supply

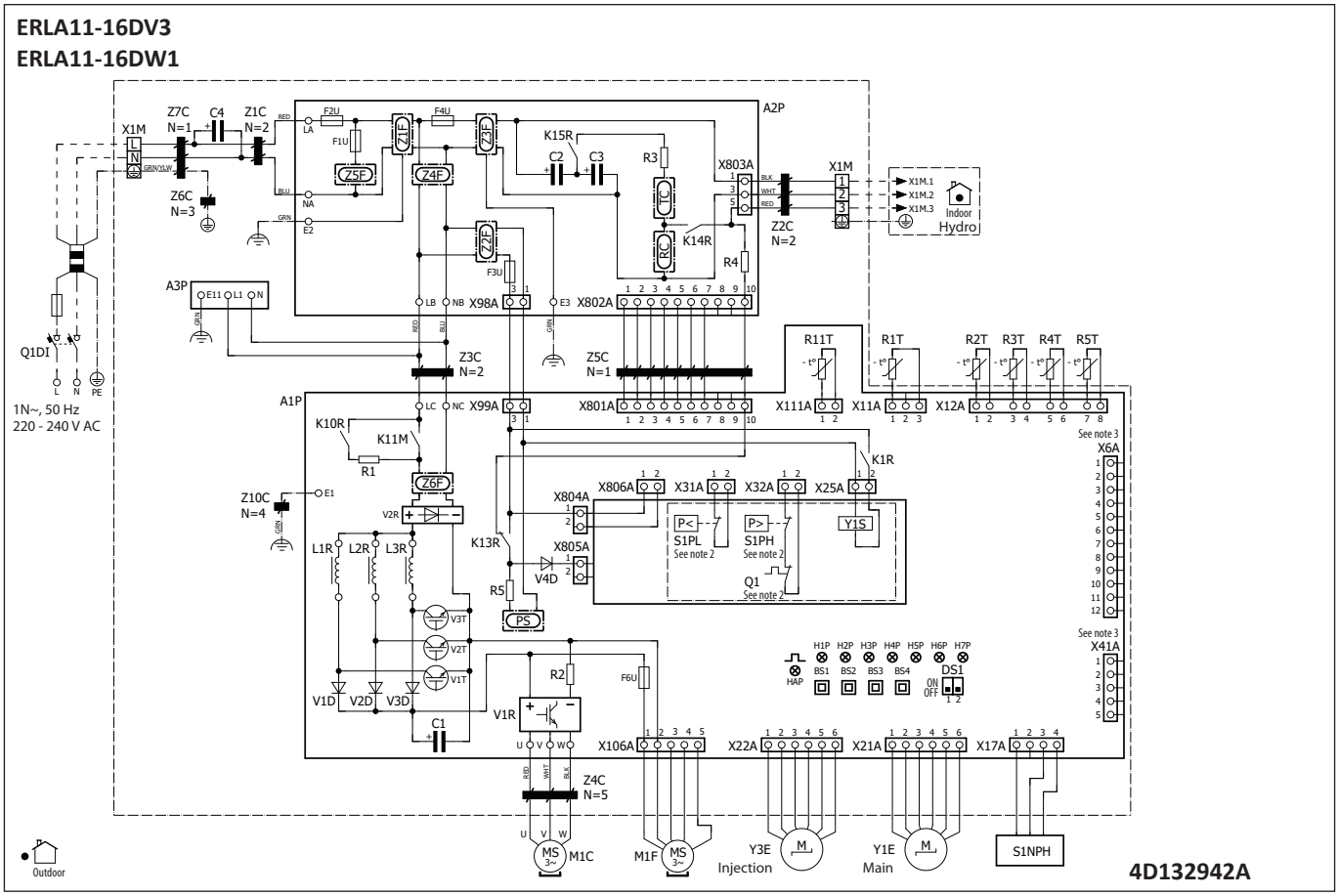
**4D132942A**

# 9 Wiring diagrams

## 9 - 2 Compressor - Single phase



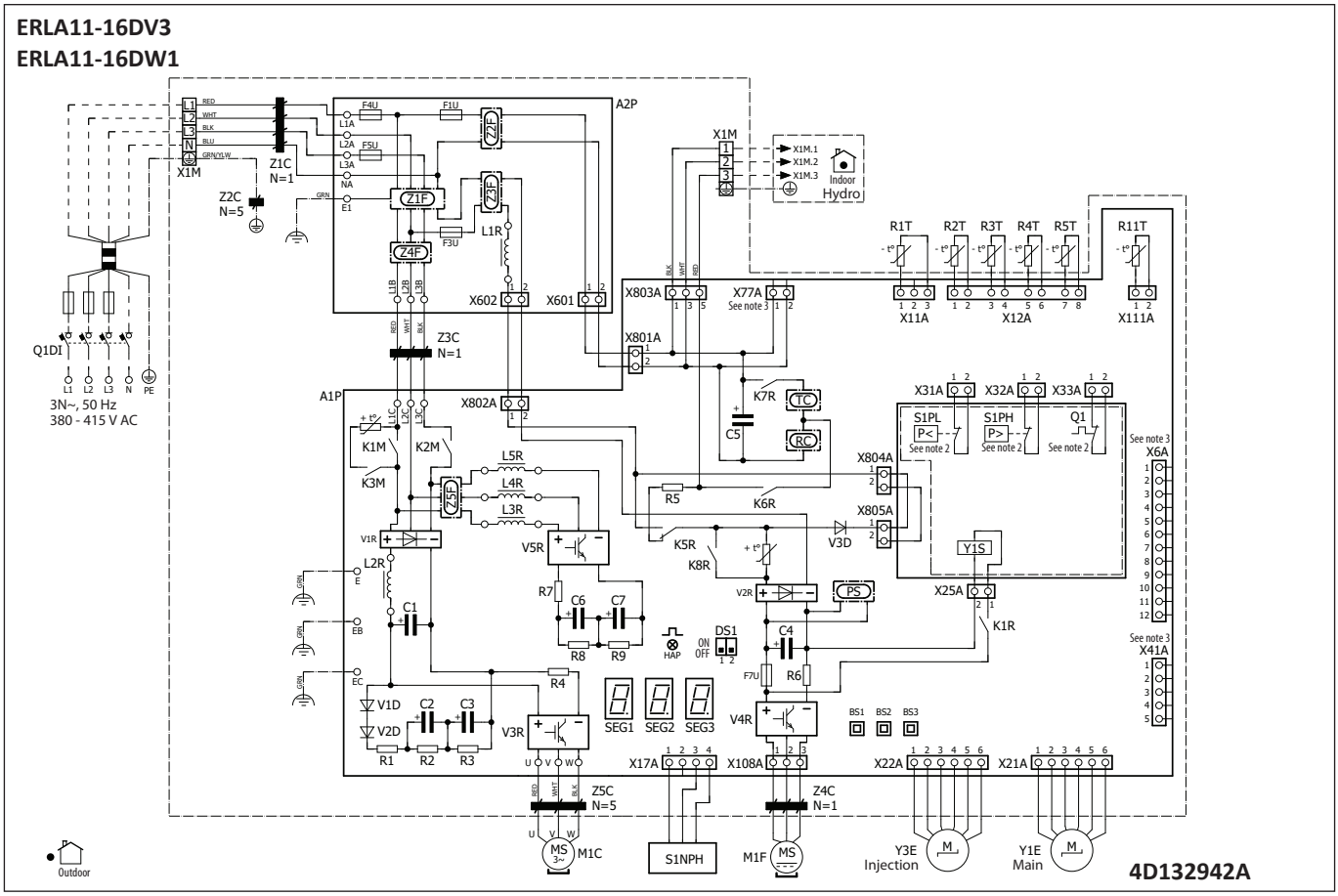
**ERLA11-16DV3**
**ERLA11-16DW1**



# 9 Wiring diagrams

## 9 - 3 Compressor - Three phase

**ERLA11-16DV3**
**ERLA11-16DW1**



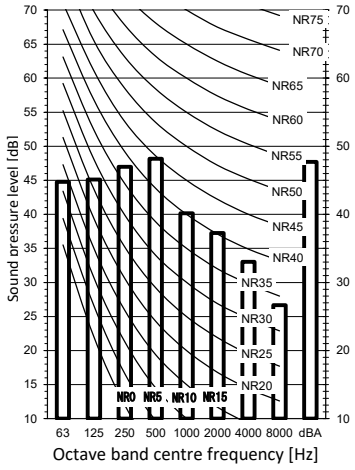
# 10 Sound data

## 10 - 1 Sound Pressure Spectrum - Cooling

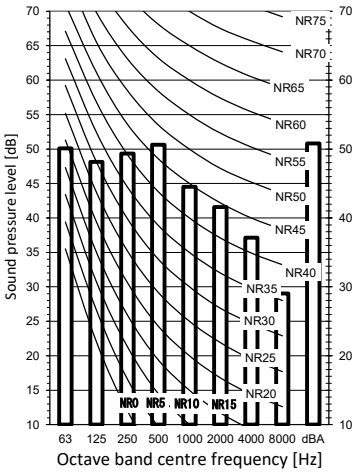
**ERLA11-16DV3**
**ERLA11-16DW1**

**Cooling Sound**

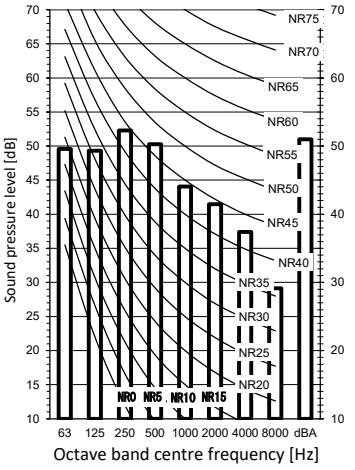
ERLA11*




ERLA14*

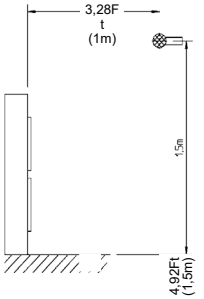



ERLA16*




Notes

1. Data is valid at free field condition.
   Measured in a semi-anechoic chamber
2. Data is valid at nominal operation condition.
3. dBA = A-weighted sound pressure level (A scale according to IEC).
4. Reference acoustic pressure 0 dB = 20 µPa
5. If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.




Measuring location
(discharge side)

**4D672154**

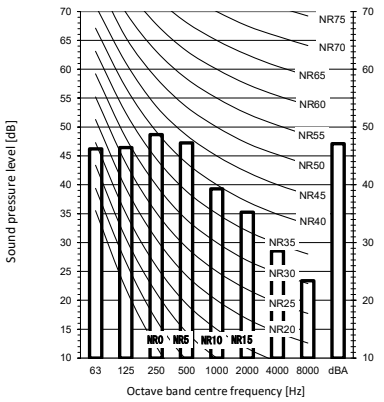
# 10 Sound data

## 10 - 2 Sound Pressure Spectrum - Heating

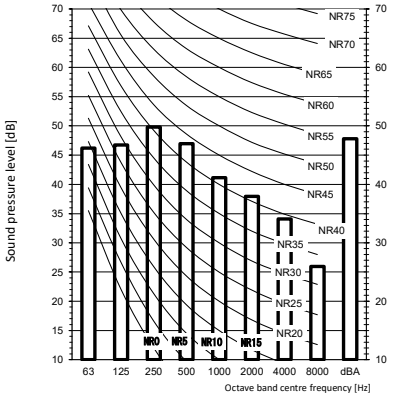
**ERLA11-16DV3**
**ERLA11-16DW1**

**Heating Sound**

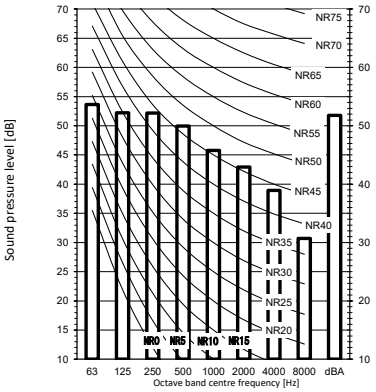
ERLA11*




ERLA14*

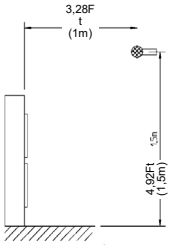



ERLA16*




Notes

1. Data is valid at free field condition.
2. Data is valid at nominal operation condition.
3. dBA = A-weighted sound pressure level (A scale according to IEC).
4. Reference acoustic pressure 0 dB = 20 µPa
5. If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.




Measuring location
(discharge side)

| | | Maximum sound day | | | Maximum sound night | | |
|---|---|---|---|---|---|---|---|
| | | Sound Power Level [dBA] | | | Sound Power Level [dBA] | | |
| Maximum sound day | Maximum sound night | ERLA11* | ERLA14* | ERLA16* | ERLA11* | ERLA14* | ERLA16* |
| Default : Low noise level ·1· | Low noise level ·2· | 68 | 69 | 73 | 62 | 62 | 62 |
| Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode) | | | | | | | |

**4D672156A**

# 10 Sound data

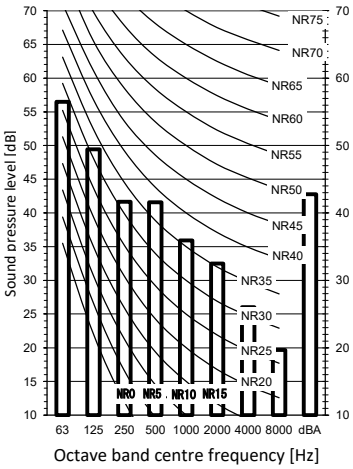
## 10 - 3 Sound Pressure Spectrum Quiet Mode



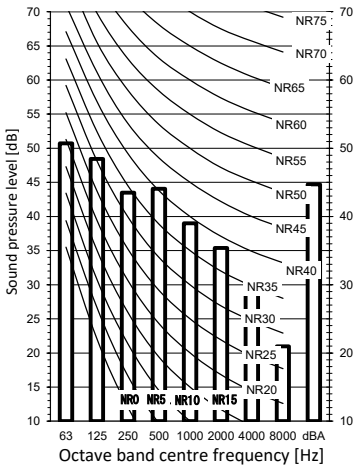
**ERLA11-16DV3**
**ERLA11-16DW1**

**Cooling : Quiet mode**

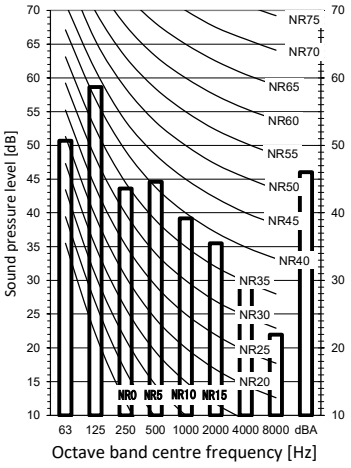
ERLA11*




ERLA14*

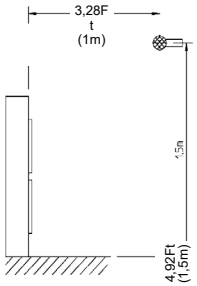



ERLA16*




Notes

1. Data is valid at free field condition.
   Measured in a semi-anechoic chamber
2. Data is valid at nominal operation condition.
3. dBA = A-weighted sound pressure level (A scale according to IEC).
4. Reference acoustic pressure 0 dB = 20 µPa
5. If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.



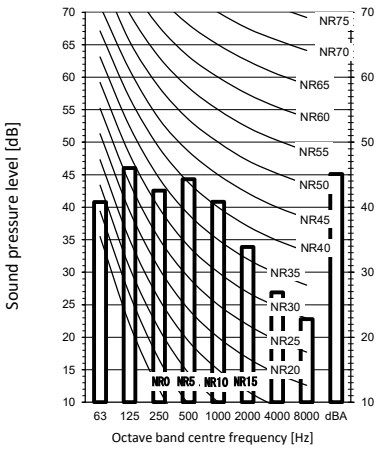

Measuring location
(discharge side)

**4D672153**

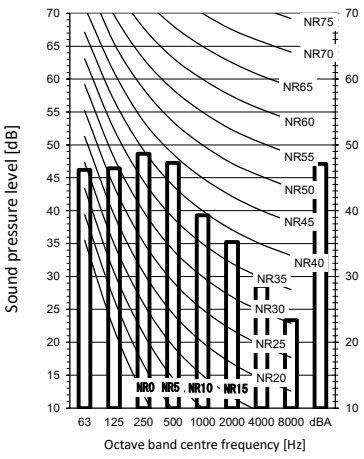
**ERLA11-16DV3**
**ERLA11-16DW1**

**Heating : Quiet mode**

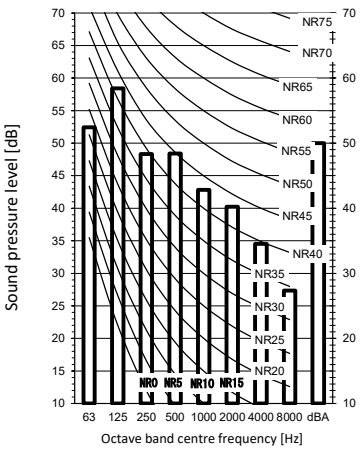
ERLA11*




ERLA14*



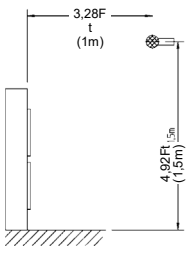

ERLA16*




Notes

1. Data is valid at free field condition.
2. Data is valid at nominal operation condition.
3. dBA = A-weighted sound pressure level (A scale according to IEC).
4. Reference acoustic pressure 0 dB = 20 µPa
5. If the sound is measured under actual installation conditions, the measured value will be higher due to environmental noise and sound reflections.

| | | Maximum sound day | | | Maximum sound night | | |
|---|---|---|---|---|---|---|---|
| | | Sound Power Level [dBA] | | | Sound Power Level [dBA] | | |
| Maximum sound day | Maximum sound night | ERLA11* | ERLA14* | ERLA16* | ERLA11* | ERLA14* | ERLA16* |
| Default : Low noise level ·1· | Low noise level ·2· | 65 | 66 | 68 | 62 | 62 | 62 |
| Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode) | | | | | | | |



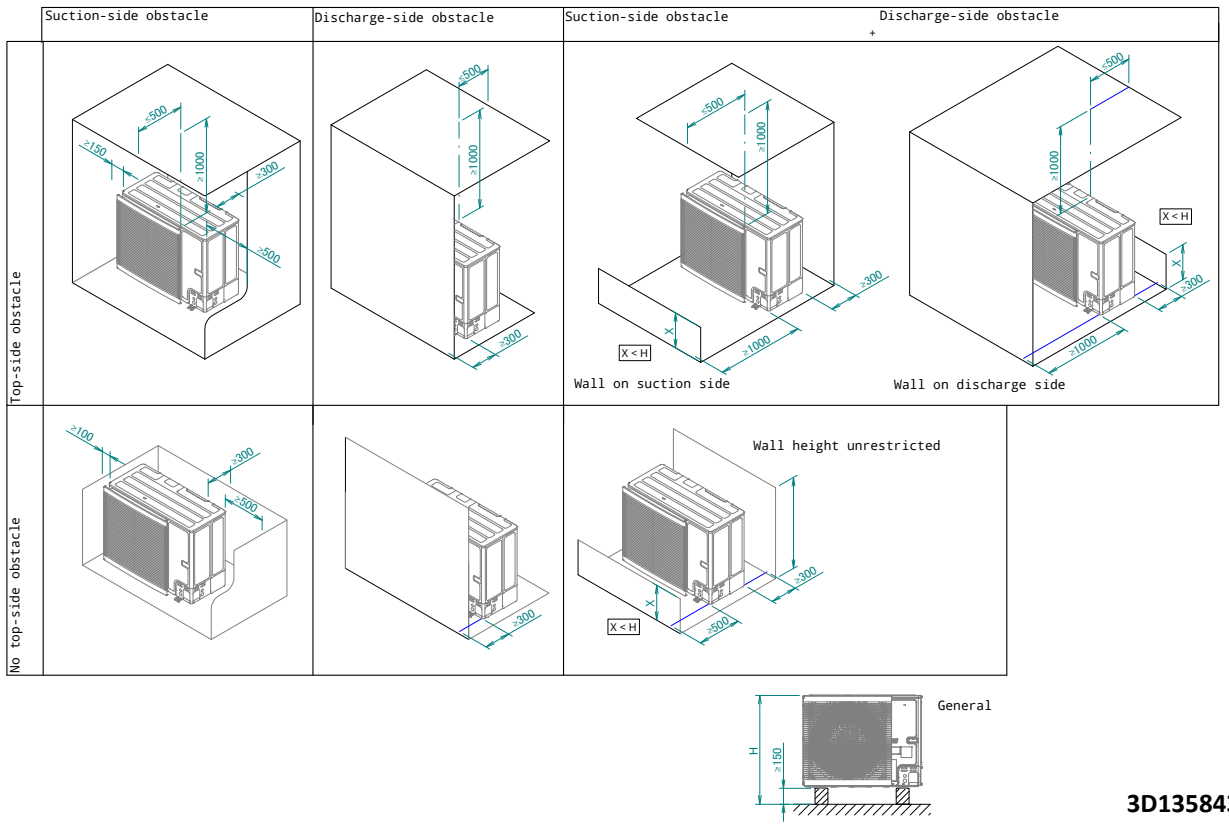

Measuring location
(discharge side)

**4D672155A**

# 11 Installation

## 11 - 1 Installation Method

**ERLA11-16DV3**
**ERLA11-16DW1**







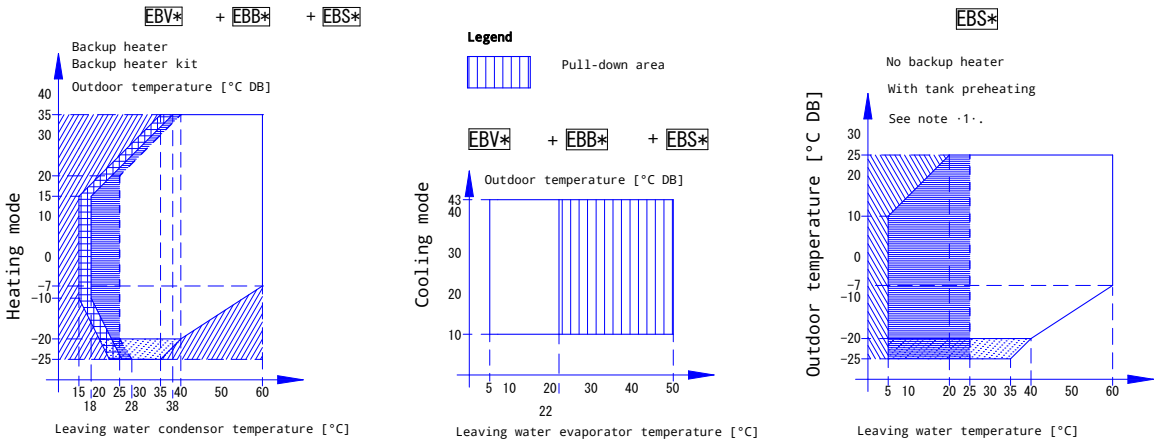
**3D135843**

# 12 Operation range

## 12 - 1 Operation Range



**ERLA11-16DV3**
**ERLA11-16DW1**




**Legend**

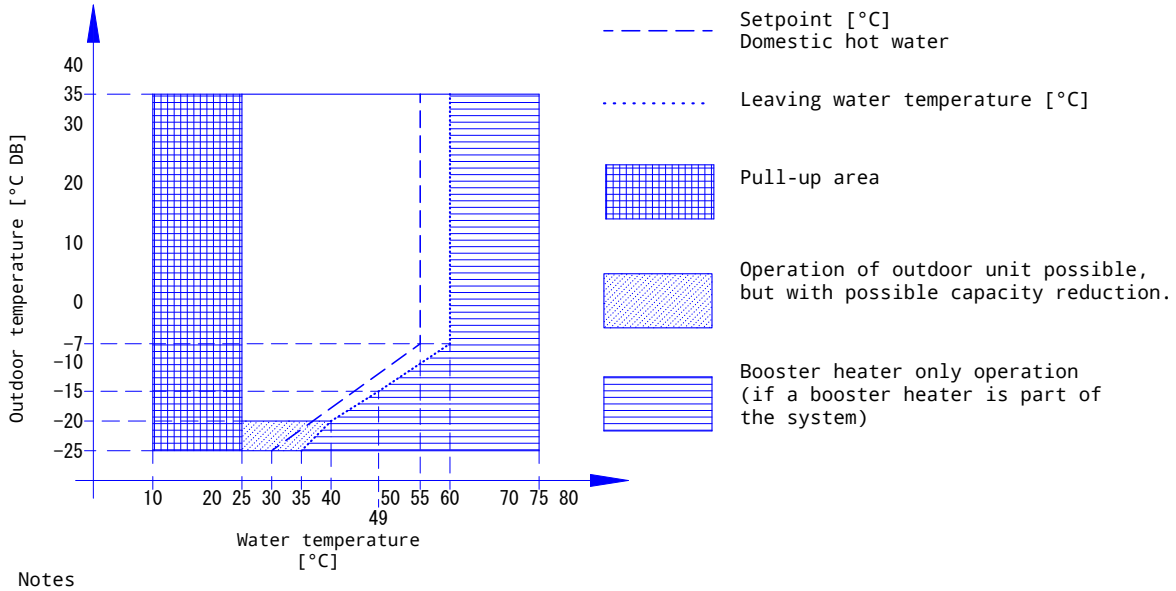
- Backup heater only operation
  No outdoor unit operation
- Heat pump + backup heater operation
  Pull-up area
- Outdoor unit operation if controller setpoint is regulated to minimal leaving water temperature request.
  See dashed lines
- Operation of outdoor unit possible, but with possible capacity reduction.
- Circulation pump operation only

**Notes**

1. Tank preheating
   For details, see the installer reference guide.
2. In restricted power supply mode, the outdoor unit and backup heater can only operate separately.

**3D136633A**

**ERLA11-16DV3**
**ERLA11-16DW1**




Notes

1. In restricted power supply mode (·EKHW*· only ), the outdoor unit, booster heater and backup heater can only operate separately.
2. Third-party with identical specifications as ·EKHWS*·
   Coil surface >·1.05·m² and <·3.7·m²
   Tank thermistor and booster heater above heat pump coil.
3. If negative ambient temperatures are expected, both in operation or at standstill, take adequate countermeasures against freezing.

   For more information, refer to the installation manual.

**3D130989A**

**Daikin Europe N.V.** Naamloze Vennootschap · Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Responsible Editor)

EEDEN21 10/2021