AIR-TO-WATER HEAT PUMPS

# Commercial heat. Considered at scale.

# 50 | 75

kW MODEL DESIGNATIONS

75 kW SHOWN

R290 refrigerant. Maximum outlet water temperature 75°C.
Single-unit and multi-unit commercial project planning.

# Larger buildings. A different brief.

Commercial heating starts with the building: its heat demand, operating hours and required water temperatures. Select the plant around that brief, not a headline output. High-temperature capability belongs within that assessment: 75°C is a maximum outlet-water temperature, not a guarantee at every condition.



HEAT PLANT

01

### Demand profile

Establish the peak load and the pattern of use.

02

### Temperature strategy

Review emitters and the required outlet temperature.

03

### Plant integration

Resolve siting, hydraulics, electrics and controls.

Illustrative building massing only. Not a completed project or installation design.

# Useful capability. Defined limits.

## 75°C

MAXIMUM OUTLET WATER

High-temperature capability, subject to the operating condition and project design.

## R290

REFRIGERANT

Source-listed GWP 3. Confirm refrigerant safety requirements within the installation design.

## –25°C

HEATING AMBIENT LIMIT

The listed heating ambient range is –25 to 45°C. Capacity varies with conditions.

## MODBUS

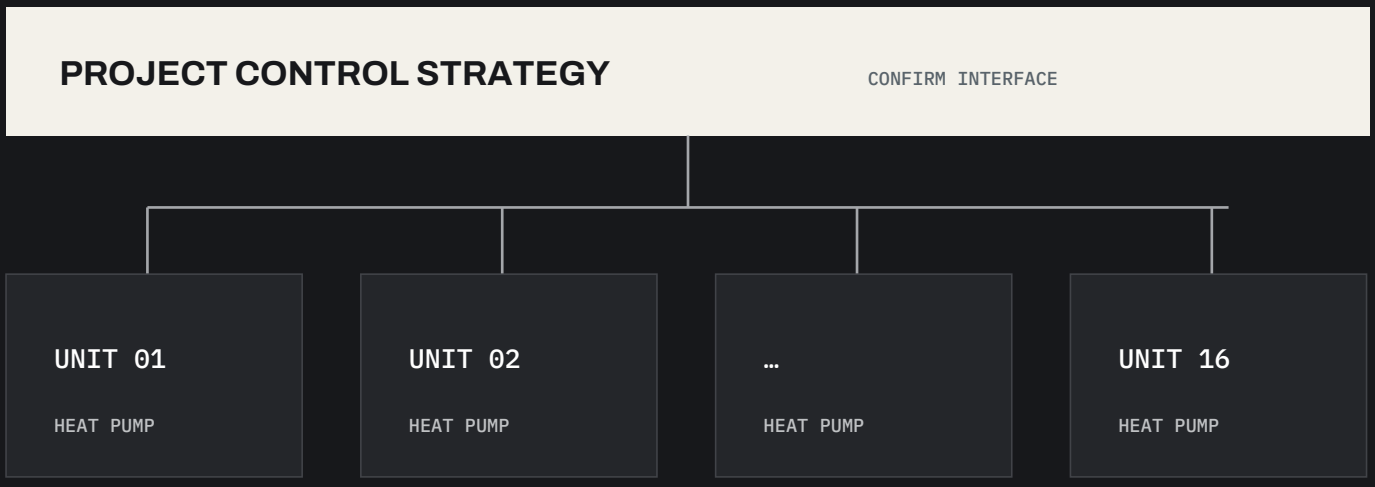
RS485 COMMUNICATION

A defined communication route. Confirm the project interface and control scope.

75°C is a maximum outlet-water temperature, not a guarantee at every ambient condition or at rated output. Suitability, emitters, heat demand and hydraulic/electrical design must be assessed for each project.

# One project. Up to 16 units.

The listed parallel-unit limit supports multi-unit project planning. Unit selection, sequencing and the complete system design need to be confirmed for the building.




FUNCTIONAL RELATIONSHIP ONLY — NOT PIPEWORK

01 **Match the duty**

Use confirmed performance at the required ambient and outlet temperatures.

02 **Design the system**

Confirm hydraulic separation, circulation, electrical supplies and installation requirements.

03 **Agree the sequence**

Define operating priorities and the project control interface with HISA.

# A broad commercial project landscape.

Typical application contexts for project assessment. Suitability depends on the building, demand profile and engineered system design.

01 Housing and apartment developments

02 Hotels and hospitality

03 Offices

04 Schools and education estates

05 Healthcare premises

06 Leisure facilities

07 Retail

08 Factories and commercial premises

09 Restaurants

10 Transport facilities

Application listing does not establish a completed HISA project or sector-specific approval.

# Connected plant. A defined interface.

Agree the control scope early. The supplied commercial features are listed below; compatibility and implementation must be confirmed for the project.

01 **MODBUS RS485 communication**

02 **WiFi remote control**

03 **OTA connectivity**

04 **DTU connectivity**

05 **Power consumption monitoring**

PROJECT INTERFACE CHECK

Confirm the controller architecture, point availability, remote access arrangements, monitoring scope and commissioning responsibilities with HISA.

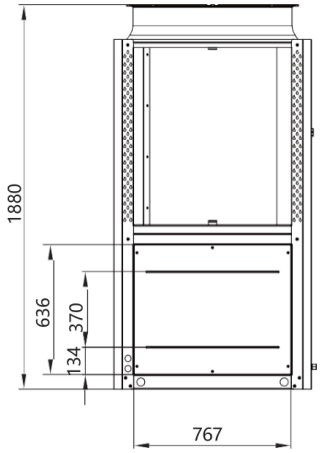
# 50

kW DESIGNATION

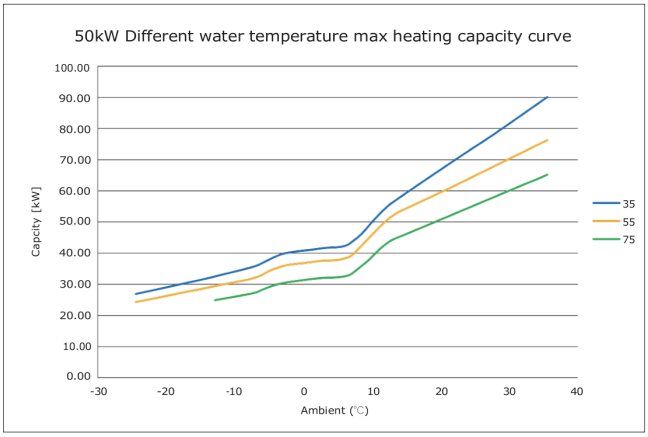
## HR290-050C-3PH

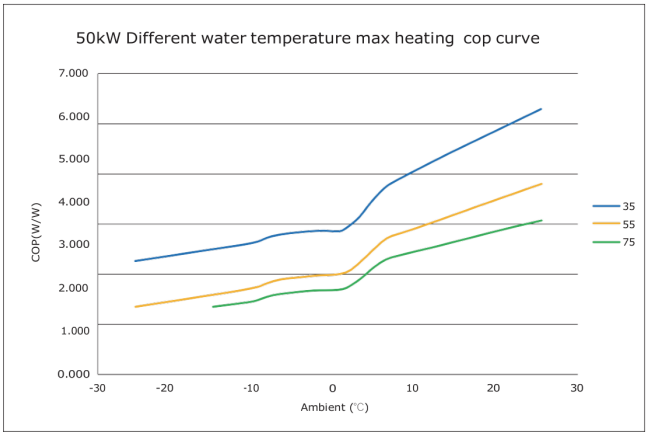
Single-fan commercial unit. The original engineering drawing and catalogue curves are shown below for reference.

| | |
|---|---|
| **Maximum outlet** | 75°C |
| **Rated water flow** | 8.6 m³/h |
| **Water connection** | DN40 (G 1-1/2") |
| **Net weight** | 500 kg |




CATALOGUE CURVES / REFERENCE ONLY




**50 numerical tables under verification; catalogue curves reference only, confirm design data.**

Differences between catalogue ranges and supplied maximum-output tables remain under review. No numerical performance points have been estimated or transcribed from these curves.

Overall table dimensions: 1155 × 990 × 1880 mm. The original drawing shows 987 mm rather than 990 mm; confirm before installation.

# 75

kW DESIGNATION

## HR290-075C-3PH

**12.9 m³/h**

Rated water flow

**DN65**

Water connection

**2**

Fans

| | |
|---|---|
| **Maximum input power** | 45.84 kW |
| **Maximum input current** | 70.6 A |
| **Net weight** | 770 kg |
| **Sound pressure at 1 m** | 65 dB(A) |

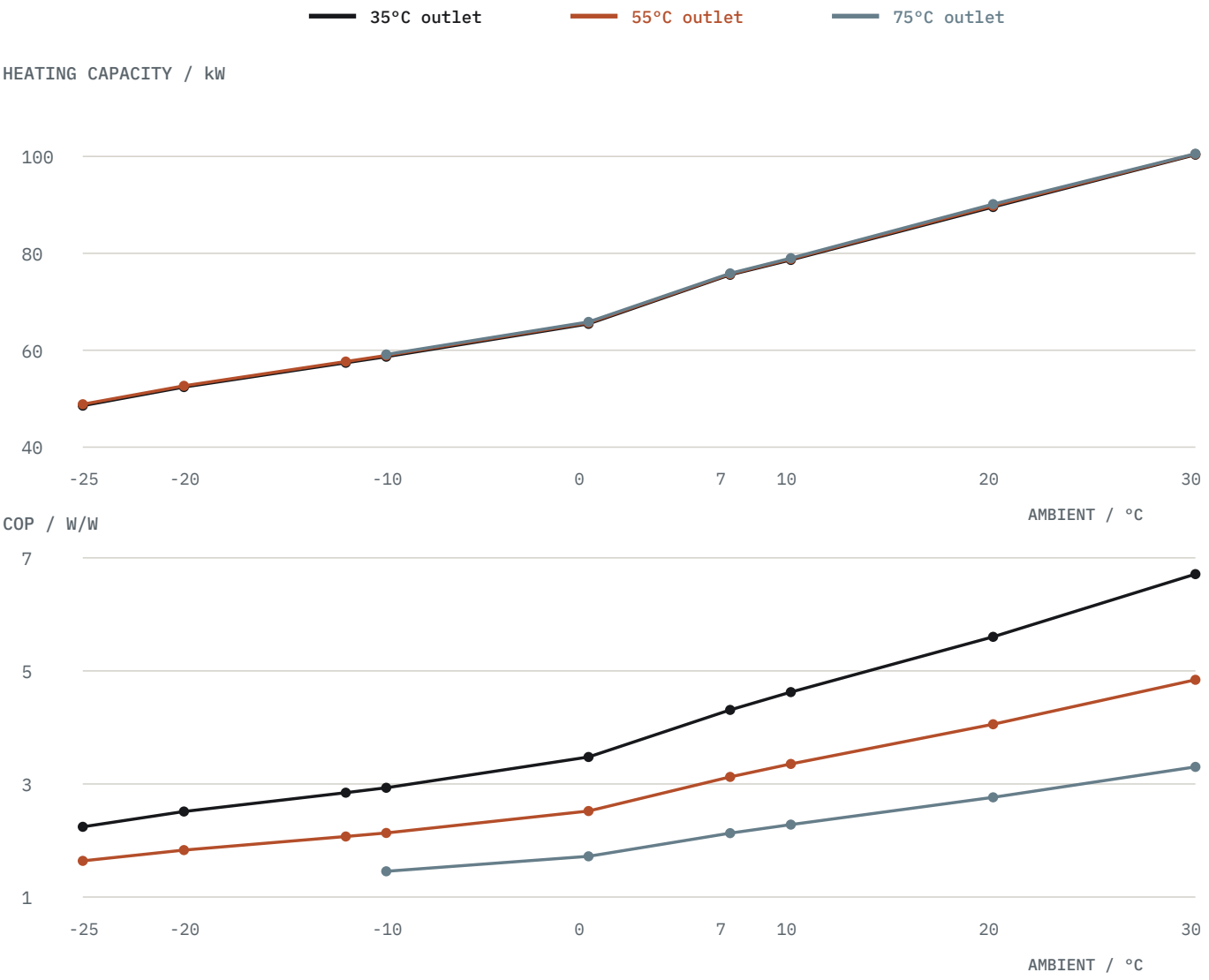
Sound pressure is source-listed at 1 m; the operating/test condition is not given. This is not a sound-power figure or a prediction for other distances.

Condition-specific current-input figures for the 75 kW model are withheld pending HISA engineering verification. The separately listed maximum input current is retained.

# Performance, condition by condition.

RATED

75 kW model · 24 exact capacity/COP pairs · three outlet temperatures




A7 / AMBIENT 7°C / RATED

| WATER OUTLET | CAPACITY / kW | COP |
|---|---|---|
| **35°C** | 75.57 | 4.31 |
| **55°C** | 75.718 | 3.125 |
| **75°C** | 75.866 | 2.13 |

Lines join supplied points; no interpolation. Water-inlet and wet-bulb conditions are not specified. Do not equate these points to catalogue A7/6 conditions.

# The specification. Side by side.

| CATALOGUE DATA | 50 kW | 75 kW |
|---|---|---|
| **Model** | HR290-050C-3PH | HR290-075C-3PH |
| **Designation** | 50 kW | 75 kW |
| **Supply** | 380–415 V / 3 phase / 50 Hz | 380–415 V / 3 phase / 50 Hz |
| **Refrigerant** | R290 | R290 |
| **Source-listed GWP** | 3 | 3 |
| **Compressor** | DC inverter | DC inverter |
| **Fan motor** | DC inverter | DC inverter |
| **Fans** | 1 | 2 |
| **Ingress protection** | IPX4 | IPX4 |
| **Sound pressure at 1 m**[1] | 65 dB(A) | 65 dB(A) |
| **Max. outlet water** | 75 °C | 75 °C |
| **Water pressure (source-listed)** | 0.1 / 0.3 MPa | 0.1 / 0.3 MPa |
| **Heating ambient** | −25 to 45 °C | −25 to 45 °C |
| **Cooling ambient** | 16 to 45 °C | 16 to 45 °C |
| **ErP at 35°C** | A++ | A+++ |
| **Max. input power** | 19.84 kW | 45.84 kW |
| **Max. input current** | 30.3 A | 70.6 A |
| **Rated water flow** | 8.6 $m^3/h$ | 12.9 $m^3/h$ |
| **Water connection** | DN40 (G 1-1/2") | DN65 |
| **Max. water pressure drop** | 65 kPa | 23 kPa |
| **Overall dimensions**[2] | 1155 × 990 × 1880 mm | 2200 × 1100 × 2190 mm |
| **Net weight** | 500 kg | 770 kg |
| **Heating 35°C capacity** | 17.56–50 kW | 19.98–88.78 kW |
| **Heating 35°C input power** | 2.61–12.88 kW | 3.65–21.49 kW |
| **Heating 35°C input current** | 5.46–18.8 A | Under verification |
| **Heating 55°C capacity** | 17.95–49 kW | 19.42–90.42 kW |
| **Heating 55°C input power** | 3.48–17.2 kW | 5.64–29.35 kW |
| **Heating 55°C input current** | 7.78–26.8 A | Under verification |
| **Cooling capacity** | 10–35 kW | 10.85–62.75 kW |
| **Cooling input power** | 3.84–14.50 kW | 3.04–21.98 kW |
| **Cooling input current** | 6.42–20.56 A | Under verification |

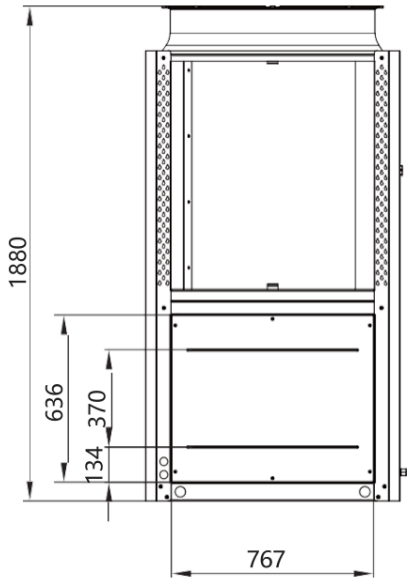
Catalogue range conditions: heating 35°C A7/6°C · W30/35°C; heating 55°C A7/6°C · W47/55°C; cooling A35/24°C · W12/7°C. These are separate from the RATED performance records.

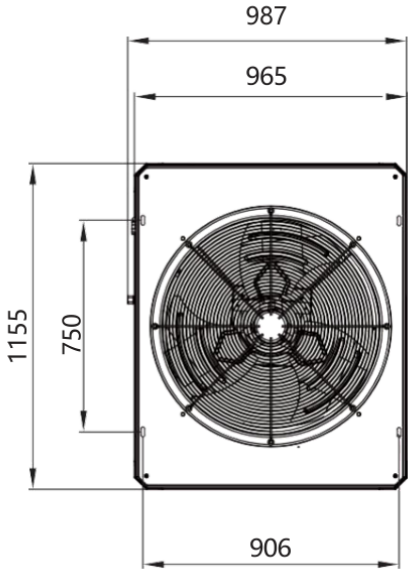
[1] Operating/test condition not given. [2] 50 kW drawing states 987 mm, while the table lists 990 mm. 50 numerical tables under verification; catalogue curves reference only, confirm design data.

# Plan from the confirmed drawing.

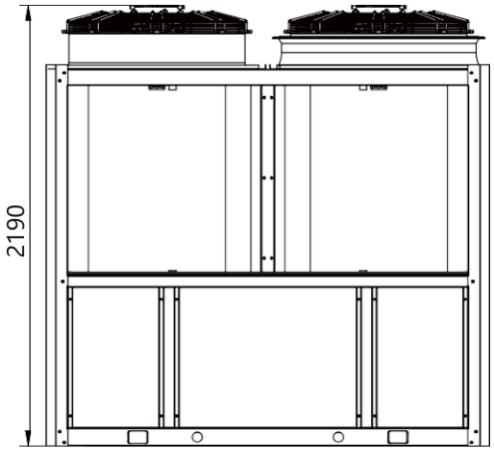
Selected original views · dimensions in mm · not installation clearances

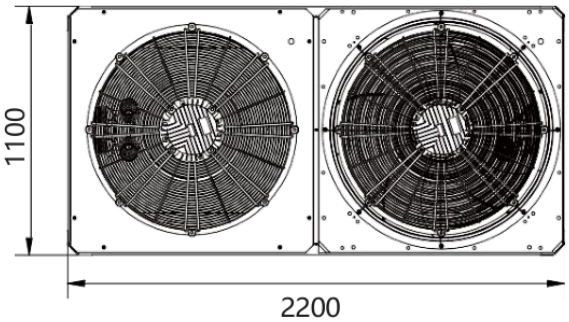
## 50 kW / ORIGINAL FRONT + PLAN VIEWS




## 75 kW / ORIGINAL FRONT + PLAN VIEWS




50 kW: nominal table dimensions 1155 × 990 × 1880 mm; the plan labels 987 mm, not 990 mm. Both are retained as supplied. Confirm dimensional details before installation.

START WITH THE BUILDING

# Bring the brief. Resolve the detail.

Share the project requirements with HISA to discuss equipment selection and the information needed for the next design stage.

| | | |
|---|---|---|
| 01 | **Building + demand** | Application, heat-loss assessment and operating profile. |
| 02 | **System temperatures** | Required water outlet temperatures and emitter strategy. |
| 03 | **Plant + interface** | Site constraints, electrical supply and controls requirements. |

COMMERCIAL PROJECT ENQUIRIES


## enquiries@hisauk.com

## 0141 530 2010

## hisauk.com


75 kW online performance data includes RATED, MAX and MIN operating levels: 72 supplied pairs in total. This brochure charts RATED only. Confirm the latest project data with HISA.

Commercial project support does not imply an automatic warranty entitlement. Confirm the applicable commercial terms for the project.