

**Energy saving system**

LRAC/H  
The Uniflair solution  
for heating / cooling panels



## LRAC/H: the Uniflair solution for heating / cooling panels

LRAC/H heat pump chillers are ideal for applications involving systems with heating/cooling panels.

The distinguishing features of this unit are those which satisfy the particular needs of systems of this type, meeting the demands required while ensuring high level performance.



## R410A

LRAC/H units are equipped with R410A refrigerant. This refrigerant, which is similar to that of a single component refrigerant (therefore called "almost azeotropic"), is characterised by the absence of a temperature glide during the changing phases which occur, resulting in a constant pressure level without energy losses. Thanks to an increased thermal heat capacity and a noticeable decrease in the pressure drop, it is possible to install components with reduced dimensions (evaporator, piping and compressors) without influencing the cooling capacity, creating, therefore, a significant reduction in volume with a noticeable increase in efficiency.



## Continuous operation throughout the year

Wide range of external temperatures: the unit can be used throughout the whole year without being supported by other sources of energy.



## Direct application on systems with heating panels

Wide range of water temperatures: the unit is able to work at optimum conditions with the typical water temperatures of heating panels.

|                          |    | min  | max |
|--------------------------|----|------|-----|
| <b>Cooling</b>           |    |      |     |
| External air temperature | °C | - 20 | 50  |
| Water temperature        | °C | 3    | 27  |
| <b>Heating</b>           |    |      |     |
| External air temperature | °C | - 10 | 25  |
| Water temperature        | °C | 20   | 55  |

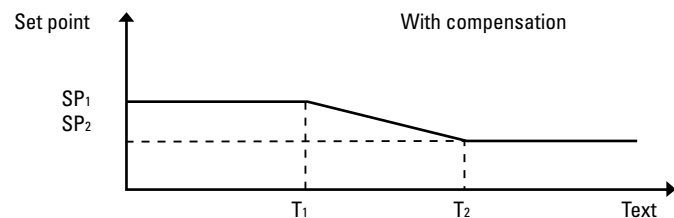
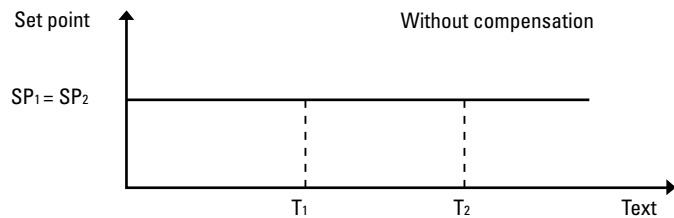
## High efficiency

Unlike traditional systems, in which the chiller works at between 7°C and 12°C, a heating panel system allows operation at temperatures between 15°C and 20°C in cooling mode and between 35°C and 40°C in heating mode.

**LRAC/H units not only operate at such temperatures, but may also operate with EER values of up to 5/6!**

## Adaptability

Sliding set point: Unlike standard chillers which have a pre-set operating temperature, LRAC/H units operate with a sliding set-point (compensation). There isn't a pre-set temperature, but instead the cooling/heating is modified depending on changes in the ambient conditions, therefore avoiding cooling/heating the area more than necessary and consequently wasting energy.



## Noise level

Focusing on problems associated with noise pollution is an issue which is of increasing importance during the design process. The aim is to protect the external environment and inhabitants from disturbance and a negative impact on well-being. LRAC/H units have been developed in order to obtain noise power levels which are extremely low!

Thanks to:

- Modulating condensation control
- Low noise three-blade fan
- Polyurethane sound-absorbing nozzle
- Oversized coil
- Enlarged compressor casing
- Insulated compressor housing

Units of up to 23 kW **can be installed in areas which are particularly protected (type I) according to the DPCM of 14/11/1997** (values limited to noise emissions) which defines the maximum noise level which can be emitted by a single source, measured near the source itself.



## Technical data

### Summer operation (Water outlet temperature: 15°C; ΔT: 5°C)

| External temperature | 15°C |     |            | 25°C |      |            | 35°C |      |            | 45°C |      |            |
|----------------------|------|-----|------------|------|------|------------|------|------|------------|------|------|------------|
| Models               | kWf  | kWa | COP        | kWf  | kWa  | COP        | kWf  | kWa  | COP        | kWf  | kWa  | COP        |
| <b>023B</b>          | 9.7  | 1.0 | <b>9.5</b> | 8.8  | 1.3  | <b>6.6</b> | 7.7  | 1.7  | <b>4.5</b> | 6.5  | 2.1  | <b>3.1</b> |
| <b>032B</b>          | 12.6 | 1.4 | <b>9.1</b> | 11.1 | 1.8  | <b>6.3</b> | 9.6  | 2.2  | <b>4.3</b> | 7.9  | 2.8  | <b>2.8</b> |
| <b>041B</b>          | 15.9 | 2.0 | <b>7.8</b> | 14.2 | 2.6  | <b>5.5</b> | 12.3 | 3.1  | <b>3.9</b> | 10.3 | 3.8  | <b>2.7</b> |
| <b>054A</b>          | 23.3 | 3.3 | <b>7.1</b> | 20.2 | 3.9  | <b>5.2</b> | 17.4 | 4.7  | <b>3.7</b> | 14.9 | 5.7  | <b>2.6</b> |
| <b>067A</b>          | 29.3 | 3.5 | <b>8.3</b> | 25.8 | 4.3  | <b>6.0</b> | 22.6 | 5.2  | <b>4.4</b> | 20.2 | 6.2  | <b>3.2</b> |
| <b>090A</b>          | 32.1 | 4.4 | <b>7.3</b> | 27.8 | 5.3  | <b>5.3</b> | 23.6 | 6.5  | <b>3.6</b> | 19.8 | 8.1  | <b>2.4</b> |
| <b>120A</b>          | 45.1 | 6.6 | <b>6.8</b> | 39.1 | 7.8  | <b>5.0</b> | 33.5 | 9.4  | <b>3.6</b> | 28.7 | 11.4 | <b>2.5</b> |
| <b>137A</b>          | 57.2 | 7.6 | <b>7.5</b> | 50.1 | 9.2  | <b>5.5</b> | 44.4 | 11.0 | <b>4.0</b> | 40.4 | 13.3 | <b>3.0</b> |
| <b>180A</b>          | 66.2 | 8.9 | <b>7.4</b> | 57.3 | 10.7 | <b>5.3</b> | 48.6 | 13.2 | <b>3.7</b> | 40.7 | 16.5 | <b>2.5</b> |

### Winter operation (Water outlet temperature: 35°C; ΔT: 5°C)

| External temperature | -7°C |     |            | 0°C  |     |            | 7°C  |     |            | 14°C |     |            |
|----------------------|------|-----|------------|------|-----|------------|------|-----|------------|------|-----|------------|
| Models               | kWr  | kWa | COP        | kWr  | kWa | COP        | kWr  | kWa | COP        | kWr  | kWa | COP        |
| <b>023B</b>          | 4.9  | 1.3 | <b>3.7</b> | 5.9  | 1.3 | <b>4.4</b> | 7.0  | 1.3 | <b>5.2</b> | 8.1  | 1.4 | <b>5.9</b> |
| <b>032B</b>          | 6.7  | 1.9 | <b>3.6</b> | 8.0  | 1.9 | <b>4.3</b> | 9.3  | 1.8 | <b>5.1</b> | 10.7 | 1.8 | <b>5.9</b> |
| <b>041B</b>          | 8.4  | 2.2 | <b>3.8</b> | 9.7  | 2.3 | <b>4.3</b> | 11.2 | 2.3 | <b>5.0</b> | 12.8 | 2.3 | <b>5.6</b> |
| <b>054A</b>          | 12.3 | 3.3 | <b>3.7</b> | 14.1 | 3.3 | <b>4.3</b> | 16.3 | 3.3 | <b>5.0</b> | 18.8 | 3.3 | <b>5.8</b> |
| <b>067A</b>          | 14.7 | 3.9 | <b>3.8</b> | 17.1 | 3.9 | <b>4.4</b> | 19.9 | 3.8 | <b>5.2</b> | 23.0 | 3.8 | <b>6.0</b> |
| <b>090A</b>          | 18.2 | 4.3 | <b>4.2</b> | 20.3 | 4.4 | <b>4.6</b> | 23.2 | 4.4 | <b>5.2</b> | 26.6 | 4.4 | <b>6.0</b> |
| <b>120A</b>          | 23.2 | 6.9 | <b>3.4</b> | 27.0 | 7.0 | <b>3.9</b> | 31.3 | 7.1 | <b>4.4</b> | 36.0 | 7.2 | <b>5.0</b> |
| <b>137A</b>          | 28.2 | 8.2 | <b>3.4</b> | 32.8 | 8.1 | <b>4.0</b> | 38.0 | 8.2 | <b>4.7</b> | 43.9 | 8.2 | <b>5.4</b> |
| <b>180A</b>          | 35.3 | 9.1 | <b>3.9</b> | 39.6 | 9.4 | <b>4.2</b> | 45.3 | 9.7 | <b>4.7</b> | 51.9 | 9.8 | <b>5.3</b> |

### Dimensions and weights

| Models                                       |    | <b>023B</b> | <b>032B</b> | <b>041B</b> | <b>054A</b> | <b>067A</b> | <b>090A</b> | <b>120A</b> | <b>137A</b> | <b>180A</b> |
|--|----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Height                                       | mm | 650         | 650         | 650         | 1271        | 1271        | 1271        | 1271        | 1271        | 1271        |
| Depth  | mm | 458         | 458         | 458         | 458         | 458         | 458         | 615         | 615         | 615         |
| Length                                       | mm | 1274        | 1274        | 1274        | 1273        | 1273        | 1273        | 2054        | 2054        | 2054        |
| Weight (basic version without hydraulic kit) | kg | 100         | 101         | 103         | 152         | 160         | 162         | 262         | 272         | 282         |
| Weight (version with pump) (*)               | kg | 104         | 105         | 107         | 159         | 167         | 169         | 273         | 281         | 291         |
| Weight (version with tank and pump) (*)      | kg | 116         | 117         | 119         | 179         | 187         | 189         | 300         | 308         | 318         |

(\*) with empty hydraulic circuit

**UNIFLAI<sup>TM</sup>**

Uniflair SpA  
Viale della Tecnica, 2  
35026 Conselve (Pd) Italy  
Tel. +39 049 5388211  
Fax +39 049 5388212

info@uniflair.com  
uniflair.com



CE

Uniflair policy is one of continuous technological innovation and the Company therefore reserves the right to amend any data herein without prior notice. All rights reserved. Reproduction in whole or in part is prohibited.