Flamco

Flow of Innovation

LogoEco Heat Interface Unit (HIU)

# A2RXE Series

Instantaneous Hot Water & Space Heating

Product code A2RXE

aalberts

Founded in 1975 by Jan Aalberts. The enterprise has grown to an organisational structure in which group companies are responsible for the day-to-day business.

With almost 15,338 employees, Aalberts Industries operates from over 200 locations in more than 30 countries. Achieving leading niche positions by focusing on businesses and technologies with sustainable profitable growth potential, delivering high added value for our customers.

Flamco

The Flamco Group is a member of the Aalberts Industries N.V. and is concerned with the development, production and sale of high-quality products for use in HVAC systems. Operating in more than 70 countries, we offer successful and innovative solutions.

At Flamco we are constantly trying to think of ways to make our products more user-friendly, energy-efficient and sustainable. With the focus on sustainability and innovation, we have been doing this for more than fifty years.

meibes

Meibes was founded in 1961 in Germany (close to Hannover) by the brothers Helmut & Alfred Meibes. During the following decades, Meibes founded subsidiaries (e.g. Poland, Czech Republic and Russia) and increased the existing product portfolio to fullfil the different market requirements. In 2001, Meibes joined Aalberts Industries N.V. and got the chance to cooperate with different other companies in the Aalberts group. During this time Meibes increased the business with different affiliates (e.g. Flamco) and Meibes increased the business in whole Europe and in many other countries in the world.

Right now Meibes is the leading supplier of pre-fabricated products and systems in the area of installation technologies for distribution of heating and cooling Medias. In addition to the classical systems for boiler connections, systems for renewable energies such as solar and heat pumps are an essential part of the delivery program.


**We operate from more than 200 locations in over 30 countries.**

ISO9001
Quality Management

WRAS

CE

CIBSE

CIBSE CPD

CSCA FOUNDER MEMBER

ukDEA .org.uk The UK District Energy Association

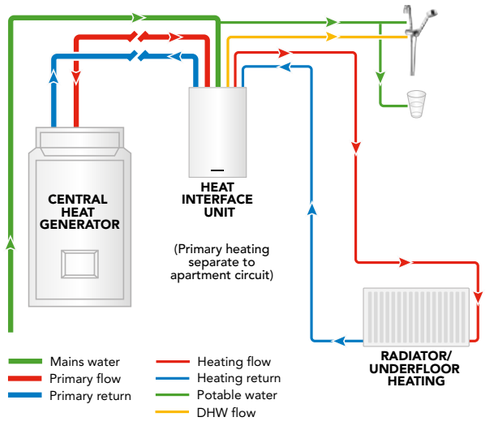
## LogoEco HIU A2RXE RANGE

A2RXE HIU's are for use where instantaneous hot water preparation is required combined with space heating output from one unit

- Designed to suit projects where minimal space combined with high output is required
- Can be supplied in a range of output configurations, domestic hot water, space heating and heat meter set-ups
- Independent and precise control of each Plate Heat Exchanger (PHE) to optimise Primary Return Temperature (VART)
- Latest, high efficiency low approach temperature, compact Plate Heat Exchangers are used
- Customised, fully insulated case minimising heat losses to the surrounding area and intensifying the heat transfer to the dwelling
- Highly visible status light indicating, without removing the case, the current readiness of the HIU
- Weekly auto pasteurisation of the hot water side of the unit when idle, minimising the risk of legionella
- Default comfort setting keep warm function ensuring energy consumption to maintain the HIU in a state of readiness is optimised.

### INDIRECT ELECTRONICALLY CONTROLLED UNIT SYSTEMS – A2RXE

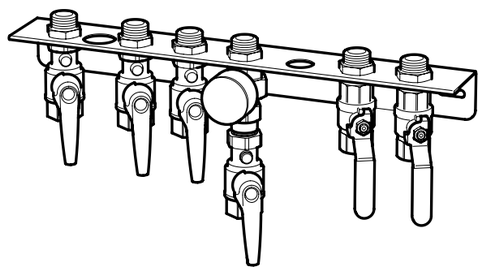
The HIU is connected to the primary heat network via two pipes. When supplying Domestic Hot Water (DHW) the unit configures itself to deliver 100% DHW. Once the demand ends, the HIU moves into it's usual state of supplying the space heating requirement. The HIU can also be set to a range of operating conditions. The DHW output can be set to different temperatures and volumes depending on the design brief. Similarly, the space heating temperature can be set permitting the unit to supply an underfloor heating installation.

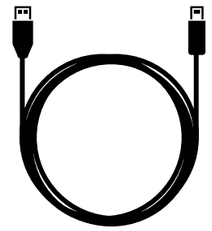



### SYSTEM BENEFITS

- No storage or legionella risk
- Minimal space required
- Configurable output

| Code | Description | With case | With Heat meter |
|---|---|---|---|
| M10920.40OH30 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con BPHM | YES | YES |
| M10920.40OH31 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con MPHM | YES | YES |
| M10920.40OH32 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con BPHM Ex. Mbus card | YES | YES |
| M10920.40OH33 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con MPHM Ex. Mbus card | YES | YES |
| M10920.40OH34 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con BPHM PPV | YES | YES |
| M10920.40OH35 | A2RXE TP HIU 20L DHW 10Kw S.Htg c/w ins case B con MPHM PPV | YES | YES |





| Code | Accessory |
|---|---|
| M10920.40OH301 | Bottom first fix rail and pressure gauge |
| M1059131 | Unit communication cable/data cable |



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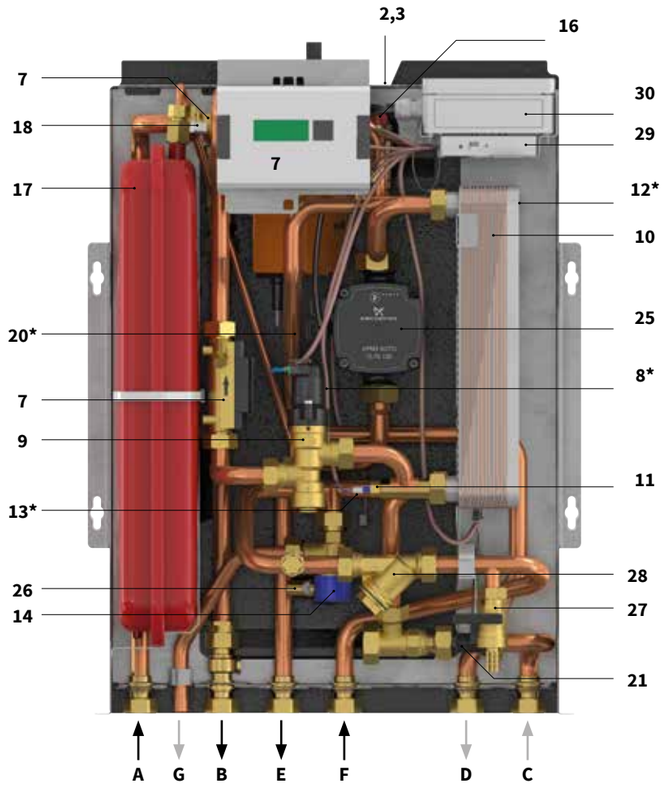
We reserve the right to change designs and technical specifications of our products.

The HIU A2RXE dual plate is used to provide domestic hot water and space heating in residences connected to a district heating system.

**Status indicator LED**

| | |
|---|---|
| Green blinking slow (1x per second): | Stand-by condition (no SH heat demand) |
| Green blinking fast (2x per second): | Heating condition (CH heat demand) |
| Blue blinking: | Tapping condition |
| Red blinking: | Error mode |
| White continuous: | Service mode (installer only) |
| No LED: | No power / switched off |

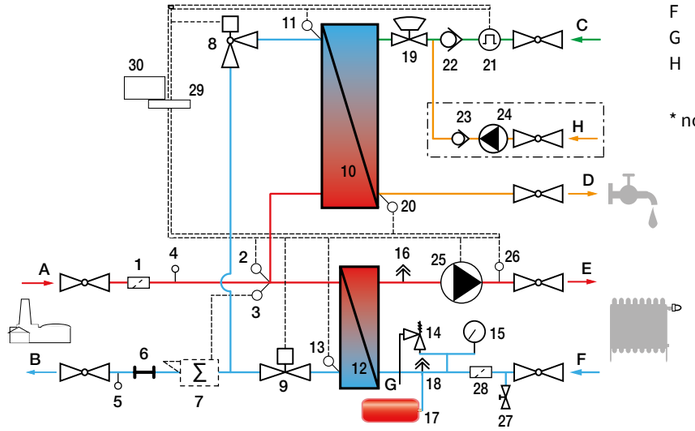
## 1 Hydraulics




1 Strainer
2 Flow temperature Sensor (primary)
3 Flow temperature Sensor (Heat meter)
4 Test point (primary, flow)
5 Test point (primary, return)
6 Spool piece (DPCV or shut off valve)
7 Heat meter
8 Control valve (DHW)
9 Control valve (SH)
10 Plate heat exchanger (DHW)
11 Return Temperature Sensor (primary, DHW)
12 Plate heat exchanger (SH)
13 Return Temperature Sensor (primary, SH)
14 Over pressure relief valve (3 bar)
15 Temperature/Pressure gauge
16 Automatic bleed point
17 Expansion vessel
18 Bleed point
19 Water hammer arrestor (optional)
20 Temperature sensor (DHW)
21 Flow sensor
22 Non return valve
23 Non return valve (hot water return, optional)
24 Circulation pump (DHW, optional)
25 Circulation pump (SH)
26 Temperature/Pressure sensor
27 Drain point
28 Strainer
29 Controller
30 Power supply (mains connection)

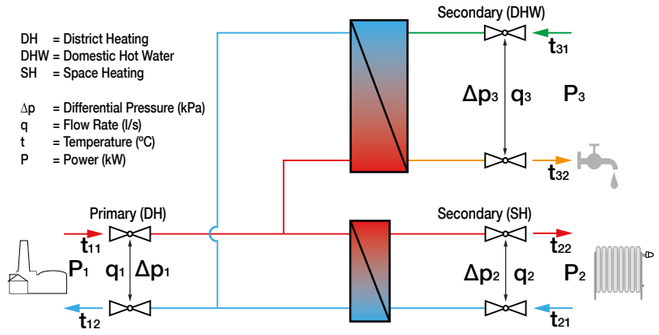
A Primary flow
B Primary return
C Cold water mains
D Domestic hot water (DHW)
E Secondary flow (Space heating)
F Secondary return (Space heating)
G Over pressure relief pipe
H Hot water return (optional, not illustrated)

* not visible



# 2 Specifications

## 2.1 Facts and Figures




| | | |
|---|---|---|
| **Description** | Type | District heating station for indirect heating and instantaneous domestic hot water |
| | Mounting | Wall mounted |
| | Dimensions | 490 x 275 x 640 mm (WxDxH, height of the case) |
| | Heating System | 2 pipe flow |
| **Construction Plate** | Pipework | Copper pipe with brass fittings |
| | Heat exchangers | Stainless steel, copper brazed |
| | Casing | Foam Arpro 50g/l density (Appendix A) with white painted metal sheet banding |
| | Primary Fluid | Low pressure hot water |
| | Secondary Fluid - Heating | Low pressure hot water |
| | Secondary Fluid - Domestic Hot Water | Potable hot water service |
| **Primary Duty** | | |
| | Min. / Max. flow temperature (t11) | 65°C / 90°C |
| | Nominal flow temperature (t11) | 75°C |
| | Flowrate (q1, at nominal flow temperature) | 0.267 l/s (960 l/h) at max. output |
| | Pressure rating | PN 16 |
| | Min. differential pressure (Δp1) | 50 kPa (0.5 bar), at nominal primary flow temperature |
| | Max. differential pressure (Δp1) | 250 kPa (2.5 bar), or 450 kPa (4.5 bar) with additional DPCV |
| **Cold Water Mains** | Min. (max.) pressure (Δp3) | 1 bar (PN 10) |
| **Secondary Duty** | | |
| **Domestic Hot Water** | Nominal Heat Transfer Capacity (P3) | 63 kW |
| | Max. flowrate (q3) | 20 l/min (0.333 l/s) |
| | Fluid Temperature in (t31) | 10°C |
| | Fluid Temperature out (t32) | 55°C |
| **Duty (secondary) Heating** | Heat Transfer Capacity (P2) | 18 kW @ 30K ΔT (10 kW @ 20K ΔT), at nominal primary flow temperature |
| | Fluid Temperature flow (t22) | Selectable: 40°C ... 70°C (at nominal primary flow temperature) |
| | Fluid Temperature return (t21) | Depending on radiators and setup |
| | Maximum secondary pressure | PN10 (restricted to 3 bar by over pressure relief valve) |
| **Connections** | All external connections | ¾" |
| **Primary & Secondary Fittings** | Primary control valves | Control valve with electronic stepper motor |
| | Strainer | In primary flow and secondary return |
| | Heat Meter | Prefitted - Rossweiner HeatSonic, battery powered, M-Bus interface |
| | Circulation Pump | Grundfos, 6m, in secondary heating circuit |
| | Expansion Vessel | 8 litre fitted in secondary circuit |
| | Overpressure relief valve | 3 bar, in secondary heating circuit |
| | Shut off valve (optional) | Shut off valve for pre-payment systems (230V ~, 50Hz) |
| | DPCV (optional) | Differential pressure control valve (450 kPa max. dp) |
| | Hot water return (optional) | Hot water circulation (incl. pump, non return valve and ball valve) |

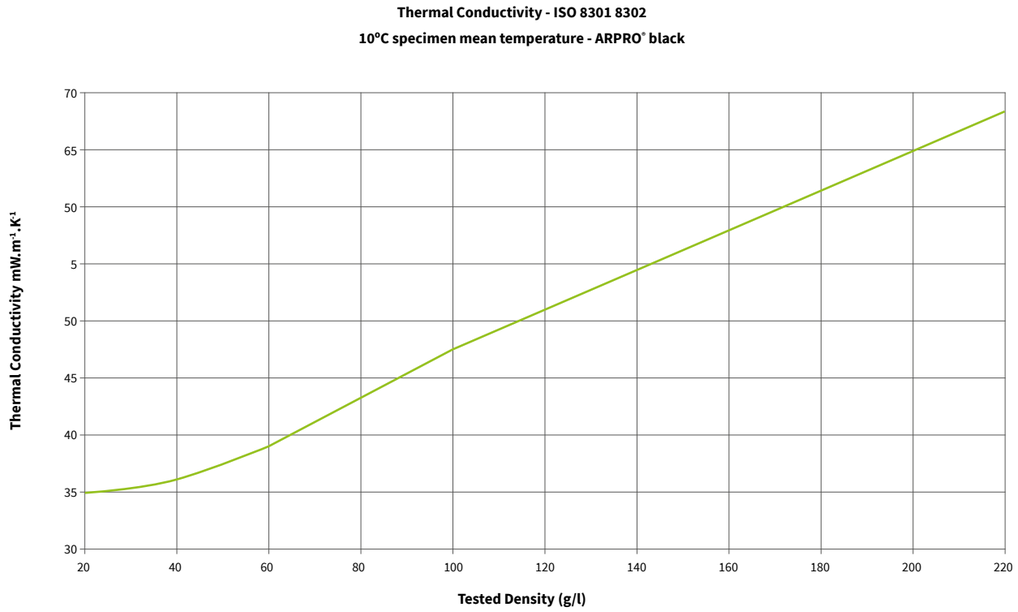
# 3 Graph

## 3.1 Performance Summary

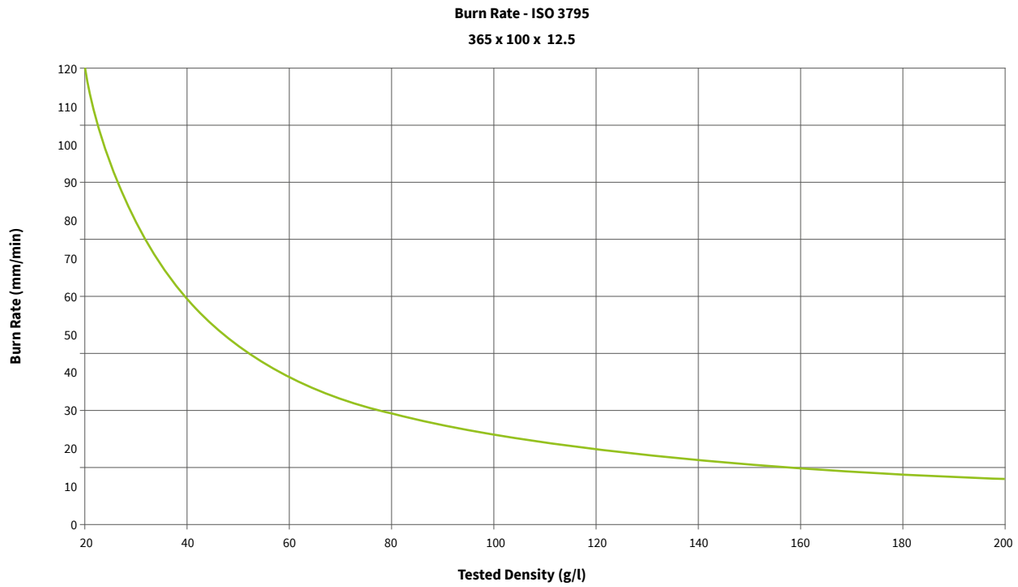
| | | | | | | SH flow rate: 200 l/hour | | | SH flow rate: 400 l/hour | | | SH flow rate: 600 l/hour | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DH flow temp. | SH flow temp. | DH return temp. limit (default) | DH return temp. limit (min) | DH return temp. limit (max.) | SH return temp. (assumption) | DH return temp. | SH power output | DH flow rate | DH return temperature | SH power output | DH flow rate | DH return temp. | SH power output | DH differential pressure | SH differential pressure | DH flow rate |
| °C | °C | °C | °C | °C | °C | °C | kW | l/hour | °C | kW | l/hour | °C | kW | kPa | kPa | l/hour |
| 45 | 40.0 | 35.0 | 35.0 | 35.0 | 30.0 | 30.1 | 2.276 | 133 | 30.37 | 4.62 | 274.5 | 30.65 | 6.9 | 7.05 | 5.93 | 419.8 |
| 50 | 45.0 | 40.0 | 35.0 | 40.0 | 30.0 | 30.4 | 3.414 | 152.1 | 31.05 | 6.923 | 318.6 | 31.66 | 10.38 | 9.12 | 5.85 | 493.7 |
| 55 | 50.0 | 45.0 | 35.0 | 45.0 | 30.0 | 30.9 | 4.553 | 165.1 | 31.98 | 9.223 | 350 | 32.92 | 13.82 | 10.9 | 5.76 | 546.9 |
| 60 | 55.0 | 50.0 | 35.0 | 50.0 | 30.0 | 31.5 | 5.691 | 175 | 33.08 | 11.51 | 374.4 | 34.32 | 17.28 | 12.5 | 5.7 | 589.4 |
| 65 | 60.0 | 55.0 | 35.0 | 55.0 | 30.0 | 32.2 | 6.83 | 183 | 34.31 | 13.81 | 395.1 | 35.84 | 20.69 | 13.8 | 5.61 | 623.1 |
| 70 | 65.0 | 60.0 | 35.0 | 60.0 | 35.0 | 37.1 | 6.9 | 182.9 | 39.14 | 13.77 | 392.8 | 40.55 | 20.7 | 13.5 | 5.49 | 618.8 |
| 75 | 70.0 | 60.0 | 35.0 | 65.0 | 40.0 | 42.0 | 6.9 | 183 | 44.02 | 13.78 | 392.4 | 45.29 | 20.62 | 13.1 | 5.35 | 612.2 |
| 80 | 75.0 | 60.0 | 35.0 | 65.0 | 45.0 | 47.0 | 6.845 | 183.2 | 48.85 | 13.7 | 388.5 | 50.06 | 20.63 | 12.8 | 5.31 | 609.4 |
| 85 | 80.0 | 60.0 | 35.0 | 65.0 | 50.0 | 51.9 | 6.845 | 183.4 | 53.7 | 13.69 | 387.8 | 54.85 | 20.64 | 12.6 | 5.28 | 607.1 |
| 90 | 80.0 | 60.0 | 35.0 | 65.0 | 50.0 | 50.6 | 6.8 | 154.6 | 51.56 | 13.69 | 316.8 | 52.28 | 20.53 | 8.13 | 5.22 | 484.2 |
| 95 | 80.0 | 60.0 | 35.0 | 65.0 | 50.0 | 50.2 | 6.8 | 136.4 | 50.71 | 13.69 | 275.8 | 51.18 | 20.53 | 6.1 | 5.22 | 418.1 |
| 100 | 80.0 | 60.0 | 35.0 | 65.0 | 50.0 | 50.1 | 6.8 | 122.8 | 50.34 | 13.69 | 246.8 | 50.63 | 20.53 | 4.86 | 5.22 | 372.4 |

# Appendix A

## A.1 ARPRO® Typical Physical Properties




## A.2 ARPRO® Typical Physical Properties






# Appendix A

## A.3 ARPRO® Typical Physical Properties

Below are the typical physical properties of ARPRO® that make it ideal for use in a wide range of applications

| Properties | Test | Units | Density |
|---|---|---|---|
| | | | ARPRO® |
| | | | 50 |
| **Equivalent Modulus**<br>at 3% compression | ISO 844 | MPa | 5.1 |
| **Compressive Strength**<br>25% Strain<br>50% Strain<br>75% Strain | ISO844<br>DIN 53421 | kPa | <br>275<br>370<br>800 |
| **Compression set**<br>25% Strain – 22 hours – 23 °C | ISO 1856 C<br>Stabilizing<br>24 hours | % | 11.5 |
| **Tensile Strength*** | ISO 1798<br>DIN 53571 | kPa | 650 |
| **Tensile Elongation*** | ISO 1798<br>DIN 53571 | % | 18 |
| **Energy absorption in dynamic impact**<br>25% Strain<br>50% Strain<br>75% Strain | Vertical Impact drop tower<br>Flat impactor 8km/h 23°C | J/l | <br>115<br>280<br>500 |
| **Resiliency after dynamic impact**<br>At 75% | 5 min after impact | % | 94 |
| **λ Thermal conductivity** | ISO 8301-8302<br>ARPRO® black<br>10°C | mW/mK | 37 |
| **Acoustic absorption coefficient**<br>ARPRO® Porous | ISO 354<br>1250 Hz<br>30 mm | | 0.86 |
| **Chemical resistance** | JSP method | | Good resistance to most chemical agents*** |
| **Recycling** | | % | ARPRO® is 100% recyclable and we supply ARPRO® Recycled |
| **Burn rate** | ISO 3795<br>FMVSS 302<br>12.5 mm | mm/min | 50 |

* For tensile properties of improved grades refer to specific datasheet per grade
** Dynamic compression up to 75% not recommended for ARPRO® ≥ 180 g/l
*** For list of the Chemical Agents – available on request.

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We deliver products for plumbing and heating installers in over 70 countries. The distribution is handled by subsidiaries and wholesalers, who are familiar with the local market and thus can provide you with professional advice anytime.

**Flamco Limited**
Washway Lane
WA10 6PB St. Helens
Merseyside
United Kingdom
**T** +44 17 447 447 44
**F** +44 17 447 447 00
**E** info@flamco.co.uk
**I** www.flamcogroup.com

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