

# IMMERGAS Magis Combo V2 (Combi)– DEAP4

## 1. Enter the Magis Combo V2 as a heat pump on the DEAP4 library.

The heat pump is tested to EN14825. Enter the data as you would with any other heat pump – including 35°C and 55°C data. Do not enter EN16147 data – water heating is via instantaneous combi gas boiler.

View Library Item Details - Self Assessor
✕

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BASIC PROPERTIES
HEAT PUMP TEST DATA

Manufacturer: Immergas

Heating Source Type: Heat pumps

Space Heating Standard: I.S. EN 14825

Seasonal Space Heating Efficiency,  $\eta_s$ : 128

Model: Magis Combo 9 V2

Heat Pump Type: Air to Water

## 2. To add the primary heat source, choose the Magis Combo V2 from the library...

Edit Primary Heat Source
✕

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Product Details
Survey Details

Type: Heat pumps

Heat Pump Type: Air to Water

Manufacturer: Immergas

Model: Magis Combo 9 V2

Seasonal Space Heating Efficiency,  $\eta_s$ : 128

Heat % \* : 100

Fuel Type: Electricity  Heats Water

Design Flow Temperature [C] \* : 70

Daily Operation [h] \* : 24

Heat Pump Type of DHW: Heat Pump Type of DHW

Back Up Space Heater Fuel: Bulk LPG (propane or butane)

Back Up Space Heater Efficiency [%] \* : 90

Back Up Water Heater Fuel: None Present

Back Up Water Heater Efficiency [%]:

... and enter the following details:

Heats Water: No      Heat Pump Type of DHW: N/A

Design flow temperature °C: Max 80°C      Daily Operation: Max 24h      **NOTE: These must match designer/installer sheet**

Choose the Back up Space Heater fuel and efficiency from the table below. No backup water heater present.

| Model    | Fuel                | Efficiency |
|----------|---------------------|------------|
| 4/6/9    | LPG Bottled or Bulk | 90.0%      |
| 4/6/9    | Natural Gas         | 89.0%      |
| 12/14/16 | LPG Bottled or Bulk | 91.0%      |
| 12/14/16 | Natural Gas         | 89.8%      |

**3a. Enter water heating via the Magis Combo V2's instantaneous combi boiler as follows**

Distribution losses: Yes      Storage Losses: No      Is there a combi boiler: Yes  
 Primary Circuit Loss Type: Combi Boiler      Combi Boiler Type: Instantaneous, without keep-hot facility  
 Electric Keep-hot facility: None      Low water usage: No (unless criteria met)  
 Additional Loss [kWh/yr]: 600 (or as per Table 3a for low usage)      Keep-hot consumption [kWh/yr]: 0

**3b. Add Indoor Unit Magis Combo V2 to the library as a gas boiler**

Create Library Item ✕

**BASIC PROPERTIES**

|   |   |          |
|---|---|----------|
| Item Type *                                       | Item Name *                               | Keywords |
| Heat Source                                       | Immergas Magis Combo 4-6-9                |          |
| Manufacturer *                                    | Model *                                   |          |
| Immergas  | Indoor Unit Magis Combo V2                |          |
| Heating Source Type *                             | Heat Pump Type                            |          |
| Gas and oil boilers                               |   |          |
| Space Heating Standard                            | Water Heating Standard                    |          |
| Seasonal Space Heating Efficiency, $\eta_s$ [%] * | Water Heating Efficiency, $\eta_{wh}$ [%] |          |
| 90  |   |          |

Use space heating efficiency from table below.

| Model    | Fuel                | Efficiency |
|----------|---------------------|------------|
| 4/6/9    | LPG Bottled or Bulk | 90.0%      |
| 4/6/9    | Natural Gas         | 89.0%      |
| 12/14/16 | LPG Bottled or Bulk | 91.0%      |
| 12/14/16 | Natural Gas         | 89.8%      |

**3c. Add water heater source**

Choose fuel type and Efficiency adjustment factor as normal.

Survey Details

|                              |                                |
|------------------------------|--------------------------------|
| Fuel Type *                  | Efficiency Adjustment Factor * |
| Bulk LPG (propane or butane) | 1                              |

# Supporting documentation – Efficiency – DEAP

Net efficiency is taken from manufacturer's data and test reports.

The methodology from DEAP manual Appendix D is applied below to determine DEAP seasonal efficiency values for Natural Gas and LPG models.

## Magis Combo V2 (Combi)

| Model                              | 4 / 6 / 9                             |        |              |        | 12 / 14 / 16 / 12T / 14T / 16T |         |              |        |
|------------------------------------|---------------------------------------|--------|--------------|--------|--------------------------------|---------|--------------|--------|
|                                    | Natural Gas                           |        | LPG          |        | Natural Gas                    |         | LPG          |        |
| Condition                          | Full                                  | Part   | Full         | Part   | Full                           | Part    | Full         | Part   |
| Net efficiency as per test reports | 96.2%                                 | 106.1% | 96.2%        | 106.1% | 97.1%                          | 107.2%* | 97.1%        | 107.2% |
| Adjustment LPG as per D4           | -                                     | -      | -            | -2.2%  | -                              | -       | -            | -2.2%  |
| D2.2 conversion factor             | 0.901                                 |        | 0.921        |        | 0.901                          |         | 0.921        |        |
| Gross Efficiency E                 | 86.68%                                | 95.60% | 88.60%       | 95.69% | 87.49%                         | 96.41%  | 89.43%       | 96.71% |
| Has permanent pilot P? No = 0      | 0                                     |        | 0            |        | 0                              |         | 0            |        |
| DEAP Function 104                  | $0.5(E_{full} + E_{part}) - 2.1 - 4p$ |        |              |        |                                |         |              |        |
| <b>Seasonal Efficiency</b>         | <b>89.0%</b>                          |        | <b>90.0%</b> |        | <b>89.8%</b>                   |         | <b>91.0%</b> |        |

\*Allowable net efficiency for calculation capped at max efficiency of 107%.