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|                     |  |          |               |
|---------------------|--|----------|---------------|
| Summary of          | Alféa Hybrid Duo Fioul/Oil A.I. mono phase | Reg. No. | 012-SC0258-19 |
| Certificate Holder  |  |          |               |
| Name                | Groupe Atlantic                            |          |               |
| Address             | 44 boulevard des Etats-Unis                | Zip      | 85000         |
| City                | La Roche Sur Yon                           | Country  | France        |
| Certification Body  | RISE CERT                                  |          |               |
| Subtype title       | Alféa Hybrid Duo Fioul/Oil A.I. mono phase |          |               |
| Heat Pump Type      | Outdoor Air/Water                          |          |               |
| Refrigerant         | R410A                                      |          |               |
| Mass of Refrigerant | 2.5 kg                                     |          |               |
| Certification Date  | 27.06.2019                                 |          |               |

# Model: Alféa Hybrid Duo Fioul/Oil A.I. 11 - 23kW

| Configure model                     |   |
|-------------------------------------|---|
| Model name                          | Alféa Hybrid Duo Fioul/Oil A.I. 11 - 23kW |
| Application                         | Heating + DHW + low temp                  |
| Units                               | Indoor + Outdoor                          |
| Climate Zone                        | n/a                                       |
| Reversibility                       | No  |
| Cooling mode application (optional) | n/a                                       |

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

## Heating

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 10.80 kW        | 7.59 kW            |
| El input    | 2.54 kW         | 3.07 kW            |
| COP         | 4.25            | 2.47               |

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

## Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

| <b>EN 14825</b>                                     |                        |                           |
|---|------------------------|---------------------------|
|   | <b>Low temperature</b> | <b>Medium temperature</b> |
| $\eta_s$  | 151 %                  | 112 %                     |
| Prated  | 11.00 kW               | 9.00 kW                   |
| SCOP  | 3.85                   | 2.87                      |
| Tbiv  | -7 °C                  | -7 °C                     |
| TOL   | -10 °C                 | -10 °C                    |
| Pdh Tj = -7°C                                       | 10.00 kW               | 8.20 kW                   |
| COP Tj = -7°C                                       | 2.60                   | 1.90                      |
| Pdh Tj = +2°C                                       | 6.10 kW                | 5.00 kW                   |
| COP Tj = +2°C                                       | 3.70                   | 2.80                      |
| Pdh Tj = +7°C                                       | 6.20 kW                | 5.90 kW                   |
| COP Tj = +7°C                                       | 5.30                   | 3.80                      |
| Pdh Tj = 12°C                                       | 7.40 kW                | 7.00 kW                   |
| COP Tj = 12°C                                       | 6.90                   | 4.80                      |
| Pdh Tj = Tbiv                                       | 10.00 kW               | 8.20 kW                   |
| COP Tj = Tbiv                                       | 2.60                   | 1.90                      |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.00 kW               | 8.00 kW                   |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.20                   | 1.70                      |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90                   | 0.90                      |
| WTOL  | 60 °C                  | 60 °C                     |

This information was generated by the HP KEYMARK database on 18 Mar 2022

|  |             |             |
|--|-------------|-------------|
| Poff                                       | 8 W         | 8 W         |
| PTO  | 45 W        | 22 W        |
| PSB  | 12 W        | 12 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 1.30 kW     | 1.30 kW     |
| Annual energy consumption Qhe              | 6062 kWh    | 6623 kWh    |

| <b>EN 12102-1</b>         |                        |                           |
|---------------------------|------------------------|---------------------------|
|                           | <b>Low temperature</b> | <b>Medium temperature</b> |
| Sound power level indoor  | 48 dB(A)               | 48 dB(A)                  |
| Sound power level outdoor | 69 dB(A)               | 69 dB(A)                  |

## Domestic Hot Water (DHW)

### Average Climate

| <b>EN 16147</b>                 |             |
|---------------------------------|-------------|
| Standby power input             | 40.0 W      |
| Reference hot water temperature | 54.0 °C     |
| Declared load profile           | L           |
| Efficiency $\eta_{DHW}$         | 88 %        |
| COP                             | 2.25        |
| Heating up time                 | 00:55 h:min |
| Mixed water at 40°C             | 250 l       |

# Model: Alféa Hybrid Duo Fioul/Oil A.I. 11 - 29kW

| Configure model                     |   |
|-------------------------------------|---|
| Model name                          | Alféa Hybrid Duo Fioul/Oil A.I. 11 - 29kW |
| Application                         | Heating + DHW + low temp                  |
| Units                               | Indoor + Outdoor                          |
| Climate Zone                        | n/a                                       |
| Reversibility                       | No  |
| Cooling mode application (optional) | n/a                                       |

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

## Heating

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 10.80 kW        | 7.59 kW            |
| El input    | 2.54 kW         | 3.07 kW            |
| COP         | 4.25            | 2.47               |

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

## Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

| <b>EN 14825</b>                                     |                        |                           |
|---|------------------------|---------------------------|
|   | <b>Low temperature</b> | <b>Medium temperature</b> |
| $\eta_s$  | 151 %                  | 112 %                     |
| Prated  | 11.00 kW               | 9.00 kW                   |
| SCOP  | 3.85                   | 2.87                      |
| Tbiv  | -7 °C                  | -7 °C                     |
| TOL   | -10 °C                 | -10 °C                    |
| Pdh Tj = -7°C                                       | 10.00 kW               | 8.20 kW                   |
| COP Tj = -7°C                                       | 2.60                   | 1.90                      |
| Pdh Tj = +2°C                                       | 6.10 kW                | 5.00 kW                   |
| COP Tj = +2°C                                       | 3.70                   | 2.80                      |
| Pdh Tj = +7°C                                       | 6.20 kW                | 5.90 kW                   |
| COP Tj = +7°C                                       | 5.30                   | 3.80                      |
| Pdh Tj = 12°C                                       | 7.40 kW                | 7.00 kW                   |
| COP Tj = 12°C                                       | 6.90                   | 4.80                      |
| Pdh Tj = Tbiv                                       | 10.00 kW               | 8.20 kW                   |
| COP Tj = Tbiv                                       | 2.60                   | 1.90                      |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.00 kW               | 8.00 kW                   |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.20                   | 1.70                      |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90                   | 0.90                      |
| WTOL  | 60 °C                  | 60 °C                     |

This information was generated by the HP KEYMARK database on 18 Mar 2022

|  |             |             |
|--|-------------|-------------|
| Poff                                       | 8 W         | 8 W         |
| PTO  | 45 W        | 22 W        |
| PSB  | 12 W        | 12 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 1.30 kW     | 1.30 kW     |
| Annual energy consumption Q <sub>he</sub>  | 6062 kWh    | 6623 kWh    |

| <b>EN 12102-1</b>         |                        |                           |
|---------------------------|------------------------|---------------------------|
|                           | <b>Low temperature</b> | <b>Medium temperature</b> |
| Sound power level indoor  | 48 dB(A)               | 48 dB(A)                  |
| Sound power level outdoor | 69 dB(A)               | 69 dB(A)                  |

## Domestic Hot Water (DHW)

### Average Climate



This information was generated by the HP KEYMARK database on 18 Mar 2022

| <b>EN 16147</b>                 |             |
|---------------------------------|-------------|
| Standby power input             | 40.0 W      |
| Reference hot water temperature | 54.0 °C     |
| Declared load profile           | L           |
| Efficiency $\eta_{DHW}$         | 88 %        |
| COP                             | 2.25        |
| Heating up time                 | 00:55 h:min |
| Mixed water at 40°C             | 250 l       |

# Model: Alféa Hybrid Duo Fioul/Oil A.I. 14 - 23 kW

| Configure model                     |  |
|-------------------------------------|--|
| Model name                          | Alféa Hybrid Duo Fioul/Oil A.I. 14 - 23 kW |
| Application                         | Heating + DHW + low temp                   |
| Units                               | Indoor + Outdoor                           |
| Climate Zone                        | n/a  |
| Reversibility                       | No   |
| Cooling mode application (optional) | n/a  |

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

## Heating

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 13.50 kW        | 9.48 kW            |
| El input    | 3.23 kW         | 3.95 kW            |
| COP         | 4.18            | 2.40               |

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

## Average Climate

### EN 12102-1

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 48 dB(A)        | 48 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

### EN 14825

|               | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| $\eta_s$      | 148 %           | 113 %              |
| Prated        | 13.00 kW        | 11.00 kW           |
| SCOP          | 3.77            | 2.90               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -10 °C          | -10 °C             |
| Pdh Tj = -7°C | 11.10 kW        | 10.00 kW           |
| COP Tj = -7°C | 2.50            | 1.90               |
| Pdh Tj = +2°C | 6.70 kW         | 6.10 kW            |
| COP Tj = +2°C | 3.60            | 2.80               |
| Pdh Tj = +7°C | 6.20 kW         | 5.90 kW            |
| COP Tj = +7°C | 5.40            | 3.90               |
| Pdh Tj = 12°C | 7.30 kW         | 7.10 kW            |
| COP Tj = 12°C | 6.90            | 5.10               |
| Pdh Tj = Tbiv | 11.10 kW        | 10.00 kW           |

This information was generated by the HP KEYMARK database on 18 Mar 2022

|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.50        | 1.90        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.80 kW    | 9.30 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.40        | 1.70        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.90        | 0.90        |
| WTOL  | 60 °C       | 60 °C       |
| P <sub>off</sub>  | 8 W         | 8 W         |
| PTO   | 72 W        | 25 W        |
| PSB   | 12 W        | 12 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 1.70 kW     | 2.10 kW     |
| Annual energy consumption $Q_{he}$                                      | 6824 kWh    | 8041 kWh    |

## Domestic Hot Water (DHW)

### Average Climate

| <b>EN 16147</b>                 |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency $\eta_{DHW}$         | 88 %        |
| COP                             | 2.25        |
| Heating up time                 | 00:55 h:min |
| Mixed water at 40°C             | 250 l       |
| Standby power input             | 40.0 W      |
| Reference hot water temperature | 54.0 °C     |

# Model: Alféa Hybrid Duo Fioul/Oil A.I. 14 - 29 kW

| Configure model                     |  |
|-------------------------------------|--|
| Model name                          | Alféa Hybrid Duo Fioul/Oil A.I. 14 - 29 kW |
| Application                         | Heating + DHW + low temp                   |
| Units                               | Indoor + Outdoor                           |
| Climate Zone                        | n/a  |
| Reversibility                       | No   |
| Cooling mode application (optional) | n/a  |

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

## Heating

| EN 14511-2  |                 |                    |
|-------------|-----------------|--------------------|
|             | Low temperature | Medium temperature |
| Heat output | 13.50 kW        | 9.48 kW            |
| El input    | 3.23 kW         | 3.95 kW            |
| COP         | 4.18            | 2.40               |

| EN 14511-4   |        |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow                                 | passed |
| Complete power supply failure  | passed |
| Defrost test   | passed |

## Average Climate

### EN 12102-1

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 48 dB(A)        | 48 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

### EN 14825

|               | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| $\eta_s$      | 148 %           | 113 %              |
| Prated        | 13.00 kW        | 11.00 kW           |
| SCOP          | 3.77            | 2.90               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -10 °C          | -10 °C             |
| Pdh Tj = -7°C | 11.10 kW        | 10.00 kW           |
| COP Tj = -7°C | 2.50            | 1.90               |
| Pdh Tj = +2°C | 6.70 kW         | 6.10 kW            |
| COP Tj = +2°C | 3.60            | 2.80               |
| Pdh Tj = +7°C | 6.20 kW         | 5.90 kW            |
| COP Tj = +7°C | 5.40            | 3.90               |
| Pdh Tj = 12°C | 7.30 kW         | 7.10 kW            |
| COP Tj = 12°C | 6.90            | 5.10               |
| Pdh Tj = Tbiv | 11.10 kW        | 10.00 kW           |

This information was generated by the HP KEYMARK database on 18 Mar 2022

|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.50        | 1.90        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.80 kW    | 9.30 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.40        | 1.70        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.90        | 0.90        |
| WTOL  | 60 °C       | 60 °C       |
| P <sub>off</sub>  | 8 W         | 8 W         |
| PTO   | 72 W        | 25 W        |
| PSB   | 12 W        | 12 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 1.70 kW     | 2.10 kW     |
| Annual energy consumption $Q_{he}$                                      | 6824 kWh    | 8041 kWh    |

## Domestic Hot Water (DHW)

### Average Climate



| <b>EN 16147</b>                 |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency $\eta_{DHW}$         | 88 %        |
| COP                             | 2.25        |
| Heating up time                 | 00:55 h:min |
| Mixed water at 40°C             | 250 l       |
| Standby power input             | 40.0 W      |
| Reference hot water temperature | 54.0 °C     |