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|  | <b>Heat Pump KEYMARK</b> |  <b>TÜVRheinland®</b><br><b>DIN CERTCO</b><br>Genau. Richtig. |
| <b>Annex D1</b><br>Data sheet template   |                          | Rev.-No.: 1<br>Date: 14.12.2015<br>Page: 1 of 7  |

Data has to be declared for all Models inside a sub-type.

**1. AIR/WATER; BRINE/WATER; WATER/WATER HEAT PUMPS (IF APPLICABLE) 2**

**2**



| <b>Certificate data</b>    |  |
|----------------------------|--|
| Certificate holder name    | tecalor GmbH   |
| Address                    | Lüchtringer Weg Nr. 3<br>37603 Holzminden                |
| Type of heat pump          | Air/Water  |
| Reg. No.                   | 011-1W0056   |
| Certification Body         | DIN CERTCO<br>Gesellschaft für Konformitätsbewertung mbH |
| Name of testing laboratory | VDE Prüf- und Zertifizierungsinstitut                    |

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## 1. Air/Water; Brine/Water; Water/Water heat pumps (if applicable)

|   |          |  |  |
|---|----------|--|--|
|   | TTL I8 E |  |  |
| <b>General data</b>   |          |  |  |
| Refrigerant   | R407 C   |  |  |
| Mass of refrigerant [kg]  | 3,4      |  |  |
| GWP according to EU Nr. 517/2014 [CO <sub>2eq</sub> in t]           | 6,031    |  |  |
| Frequency [Hz]  | 50       |  |  |
| Voltage [V]   | 400      |  |  |
| <b>Test points EN 14511-2 Air/Water heat pump (if applicable)</b>   |          |  |  |
| A7/W35  |          |  |  |
| heat output [kW]  | 12,9     |  |  |
| El input [kW]   | 2,89     |  |  |
| COP   | 4,46     |  |  |
| A7/W55 (if applicable)  |          |  |  |
| heat output [kW]  | 11,63    |  |  |
| El input [kW]   | 4,05     |  |  |
| COP   | 2,87     |  |  |
| <b>Test points EN 14511-2 Brine/Water heat pump (if applicable)</b> |          |  |  |
| B0/W35  |          |  |  |
| heat output [kW]  |          |  |  |
| El input [kW]   |          |  |  |
| COP   |          |  |  |
| B0/W55  |          |  |  |
| heat output [kW]  |          |  |  |
| El input [kW]   |          |  |  |
| COP   |          |  |  |
| <b>Test points EN 14511-2 Water/Water heat pump (if applicable)</b> |          |  |  |
| W10/W35   |          |  |  |
| heat output [kW]  |          |  |  |
| El input [kW]   |          |  |  |
| COP   |          |  |  |
| W10/W55   |          |  |  |
| heat output [kW]  |          |  |  |
| El input [kW]   |          |  |  |
| COP   |          |  |  |



In case of gas driven heat pump, EN14511 shall be replaced by EN 12309:2015-03

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| Test points EN 14511-4                                      |        |  |  |
|---|--------|--|--|
| operating Range A.../W... lower limit-lower limit (min)     |        |  |  |
| Please state if the requirement is passed or failed         | passed |  |  |
| operating Range A.../W... upper limit- upper limit (min)    |        |  |  |
| Please state if the requirement is passed or failed         | passed |  |  |
| Shutting off the heat transfer medium flow                  |        |  |  |
| Please state if the requirement is passed or failed         | passed |  |  |
| Complete power supply failure                               |        |  |  |
| Please state if the requirement is passed or failed         | passed |  |  |
| Defrost test only for AirT Water heat pumps (if applicable) |        |  |  |
| Please state if the requirement is passed or failed         | passed |  |  |

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| Average Climate Low temperature application (if applicable)   |   |  |  |
|---|---|--|--|
| Declared values EN 14825  |   |  |  |
| $T_{biv}$ [°C]  | $T_{biv}$ at low temperature conditions |  |  |
| heat output [kW]  | 10                                      |  |  |
| El input [kW]   | 2,86                                    |  |  |
| COP   | 3,49                                    |  |  |
| Sound power level according EN 12102  |   |  |  |
| Sound power level indoor if relevant) [dB(A)]   | (see 55 °C application)                 |  |  |
| Sound power level outdoor [dB(A)]   | (see 55 °C application)                 |  |  |
| Declared data regarding ErP regulation  |   |  |  |
| $\eta_s$  | 157                                     |  |  |
| $P_{rated}$ [kW]  | 12                                      |  |  |
| SCOP  | 3,99                                    |  |  |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$ |   |  |  |
| Pdh: $T_j = -7$ °C [kW]   | 9,7                                     |  |  |
| COPd: $T_j = -7$ °C   | 3,31                                    |  |  |
| Pdh: $T_j = +2$ °C [kW]   | 11,2                                    |  |  |
| COPd: $T_j = +2$ °C   | 4,01                                    |  |  |
| Pdh: $T_j = +7$ °C [kW]   | 13,2                                    |  |  |
| COPd: $T_j = +7$ °C   | 4,99                                    |  |  |
| Pdh: $T_j = +12$ °C [kW]  | 14,5                                    |  |  |
| COPd: $T_j = +12$ °C  | 5,89                                    |  |  |
| Pdh: $T_j =$ bivalent temperature [kW]  | 10,0                                    |  |  |
| COPd: $T_j =$ bivalent temperature  | 3,49                                    |  |  |
| Pdh: $T_j = -15$ °C (if $TOL < -20$ °C) [kW]  | 8,3                                     |  |  |
| COPd: $T_j = -15$ °C (if $TOL < -20$ °C)  | 2,68                                    |  |  |
| $T_{biv}$ [°C]  | -5                                      |  |  |
| TOL [°C]  | -20                                     |  |  |
| WTOL [°C]   | 0                                       |  |  |
| Annual energy consumption $Q_{HE}$ [kWh]  | 6404                                    |  |  |
| Power input „compressor off“ [kW]   | 0                                       |  |  |
| $P_{OFF}$ [W]   | 62                                      |  |  |
| $P_{TO}$ [W]  | 7                                       |  |  |
| $P_{SB}$ [W]  | 7                                       |  |  |
| $P_{CK}$ [W]  | 7                                       |  |  |
| $P_{SUP}$ [kW]  | 3,21                                    |  |  |
| Type of energy input (e.g. electricity)   | electricity                             |  |  |

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| Average Climate Medium temperature application (if applicable)  |  |             |  |
|---|--|-------------|--|
| Declared values EN 14825  |  |             |  |
| $T_{biv}$ [°C]  |  |             |  |
| heat output [kW]  |  | 10,5        |  |
| El input [kW]   |  | 4,13        |  |
| COP   |  | 2,54        |  |
| Sound power level according EN 12102  |  |             |  |
| Sound power level indoor if relevant) [dB(A)]   |  | 57          |  |
| Sound power level outdoor [dB(A)]   |  | 65          |  |
| Declared data regarding ErP regulation  |  |             |  |
| $\eta_s$  |  | 121 %       |  |
| $P_{rated}$ [kW]  |  | 13          |  |
| SCOP  |  | 3,1         |  |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$ |  |             |  |
| Pdh: $T_j = - 7$ °C [kW]  |  | 10,2        |  |
| COPd: $T_j = - 7$ °C  |  | 2,37        |  |
| Pdh: $T_j = +2$ °C [kW]   |  | 11,7        |  |
| COPd: $T_j = + 2$ °C  |  | 3,09        |  |
| Pdh: $T_j = +7$ °C [kW]   |  | 12,5        |  |
| COPd: $T_j = + 7$ °C  |  | 3,85        |  |
| Pdh: $T_j = +12$ °C [kW]  |  | 13,1        |  |
| COPd: $T_j = + 12$ °C   |  | 4,73        |  |
| Pdh: $T_j =$ bivalent temperature [kW]  |  | 10,5        |  |
| COPd: $T_j =$ bivalent temperature  |  | 2,54        |  |
| Pdh: $T_j = - 15$ °C (if $TOL < - 20$ °C) [kW]  |  | 8,9         |  |
| COPd: $T_j = - 15$ °C (if $TOL < - 20$ °C)  |  | 1,78        |  |
| $T_{biv}$ [°C]  |  | -5          |  |
| TOL [°C]  |  | -20         |  |
| WTOL [°C]   |  | 0           |  |
| Annual energy consumption $Q_{HE}$ [kWh]  |  | 8684        |  |
| Power input „compressor off“ [kW] (if applicable)   |  | 0           |  |
| $P_{OFF}$ [W]   |  | 62          |  |
| $P_{TO}$ [W]  |  | 7           |  |
| $P_{SB}$ [W]  |  | 7           |  |
| $P_{CK}$ [W]  |  | 7           |  |
| $P_{SUP}$ [kW]  |  | 3,31        |  |
| Type of energy input (e.g. electricity)   |  | electricity |  |

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| Warmer Climate (if applicable)  |                         |  |
|---|-------------------------|--|
| Declared values EN 14825 – 35°C application   |                         |  |
| $T_{biv}$ [°C]  |                         |  |
| heat output [kW]  | 11,3                    |  |
| El input [kW]   | 3,35                    |  |
| COP   | 3,37                    |  |
| Sound power level according EN 12102  |                         |  |
| Sound power level indoor if relevant) [dB(A)]   | (see 55 °C application) |  |
| Sound power level outdoor [dB(A)]   | (see 55 °C application) |  |
| Declared data regarding ErP regulation  |                         |  |
| $\eta_s$  | 180 %                   |  |
| $P_{rated}$ [kW]  | 11                      |  |
| SCOP  | 4,58                    |  |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$ |                         |  |
| $P_{dhTj} = -7$ °C [kW]   | 9,7                     |  |
| $COP_{d Tj} = -7$ °C  | 3,23                    |  |
| $P_{dhTj} = +2$ °C [kW]   | 11,3                    |  |
| $COP_{d Tj} = +2$ °C  | 3,73                    |  |
| $P_{dh Tj} = +7$ °C [kW]  | 13,0                    |  |
| $COP_{d Tj} = +7$ °C  | 4,66                    |  |
| $P_{dh Tj} = +12$ °C [kW]   | 14,3                    |  |
| $COP_{d Tj} = +12$ °C   | 5,69                    |  |
| $P_{dh Tj} =$ bivalent temperature [kW]   | 11,3                    |  |
| $COP_{d Tj} =$ bivalent temperature   | 3,73                    |  |
| $P_{dh Tj} = -15$ °C (if $TOL < -20$ °C) [kW]   | 8,3                     |  |
| $COP_{d Tj} = -15$ °C (if $TOL < -20$ °C)   | 2,78                    |  |
| $T_{biv}$ [°C]  | 2                       |  |
| TOL [°C]  | 0                       |  |
| WTOL [°C]   | 0                       |  |
| Annual energy consumption $Q_{HE}$ [kWh]  | 3294                    |  |
| Power input „compressor off“ [kW] (if applicable)   | 0                       |  |
| $P_{OFF}$ [W]   | 62                      |  |
| $P_{TO}$ [W]  | 7                       |  |
| $P_{SB}$ [W]  | 7                       |  |
| $P_{CK}$ [W]  | 7                       |  |
| $P_{SUP}$ [kW]  | 0                       |  |
| Type of energy input (e.g. electricity)   | electricity             |  |

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| Colder Climate (if applicable)  |                         |  |  |
|---|-------------------------|--|--|
| Declared values EN 14825 – 35°C application   |                         |  |  |
| $T_{biv}/^{\circ}\text{C}$  |                         |  |  |
| heat output [kW]  | 9,1                     |  |  |
| El input[kW]  | 2,69                    |  |  |
| COP   | 3,38                    |  |  |
| Sound power level according EN12102   |                         |  |  |
| Sound power level indoor if relevant) [dB(A)]   | (see 55 °C application) |  |  |
| Sound power level outdoor [dB(A)]   | (see 55 °C application) |  |  |
| Declared date regarding ErP regulation  |                         |  |  |
| $\eta_s$  | 143 %                   |  |  |
| $P_{rated}$ [kW]  | 13                      |  |  |
| SCOP  | 3,65                    |  |  |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$ |                         |  |  |
| Pdh: $T_j = - 7^{\circ}\text{C}$ [kW]   | 9,6                     |  |  |
| COPd: $T_j = - 7^{\circ}\text{C}$   | 3,60                    |  |  |
| Pdh: $T_j = +2^{\circ}\text{C}$ [kW]  | 11,1                    |  |  |
| COPd: $T_j = + 2^{\circ}\text{C}$   | 4,24                    |  |  |
| Pdh: $T_j = +7^{\circ}\text{C}$ [kW]  | 13,3                    |  |  |
| COPd: $T_j = + 7^{\circ}\text{C}$   | 5,18                    |  |  |
| Pdh: $T_j = +12^{\circ}\text{C}$ [kW]   | 14,5                    |  |  |
| COPd: $T_j = + 12^{\circ}\text{C}$  | 5,86                    |  |  |
| Pdh: $T_j =$ bivalent temperature [kW]  | 9,1                     |  |  |
| COPd: $T_j =$ bivalent temperature  | 3,38                    |  |  |
| Pdh: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$ ) [kW]                             | 8,2                     |  |  |
| COPd: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$ )                                 | 2,95                    |  |  |
| $T_{biv}$ [°C]  | -10                     |  |  |
| TOL [°C]  | -20                     |  |  |
| WTOL [°C]   | 0                       |  |  |
| Annual energy consumption $Q_{HE}$ [kWh]  | 8929                    |  |  |
| Power input „compressor off“ [kW] (if applicable)   | 0                       |  |  |
| $P_{OFF}$ [W]   | 62                      |  |  |
| $P_{TO}$ [W]  | 7                       |  |  |
| $P_{SB}$ [W]  | 7                       |  |  |
| $P_{CK}$ [W]  | 7                       |  |  |
| $P_{SUP}$ [kW]  | 13,24                   |  |  |
| Type of energy input (e.g. electricity)   | electricity             |  |  |