



	<b>Heat Pump KEYMARK</b>	 <b>TÜVRheinland®</b>  Genau. Richtig.
<b>Annex D1</b> Data sheet template		Rev.-No.: 1 Date: 2017-04-11 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**

<b>Certificate data</b>	
Certificate holder name	tecalor GmbH
Address	Lüchtringer Weg 3 37603 Holzminden Germany
Type of heat pump	Air/Water
Reg. No.	011-1W0120
Certification Body	DIN CERTCO 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 9.5 I TTL 9.5 IK TTL 9.5 A TTL 9.5 A SR	TTL 13.5 I TTL 13.5 IK TTL 13.5 A TTL 13.5 A SR	
<b>General data</b>			
Refrigerant	R410A	R410A	
Mass of refrigerant [kg]	4,75	4,75	
GWP according to EU Nr. 517/2014 [CO <sub>2eq</sub> ]	9,918	9,918	
Frequency [Hz]	50	50	
Voltage [V]	400	400	
<b>Test points EN 14511-2 Air/Water heat pump (if applicable)</b>			
A7/W35			
heat output [kW]	6,70	7,41	
El input [kW]	1,35	1,57	
COP	4,96	4,72	
A7/W55 (if applicable)			
heat output [kW]	8,59	10,42	
El input [kW]	2,61	3,17	
COP	3,29	3,19	
<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			

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

Test points EN 14511-4			
operating Range A.../W... lower limit-lower limit (min)			
Please state if the requirement is passed or failed	passed	passed	
operating Range A.../W... upper limit- upper limit (min)			
Please state if the requirement is passed or failed	passed	passed	
Shutting off the heat transfer medium flow			
Please state if the requirement is passed or failed	passed	passed	
Complete power supply failure			
Please state if the requirement is passed or failed	passed	passed	
Defrost test only for AirT Water heat pumps (if applicable)			
Please state if the requirement is passed or failed	passed	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]	9,91	13,45	
El input [kW]	2,98	4,52	
COP	3,32	2,98	
Sound power level according EN 12102			
Sound power level indoor if relevant [dB(A)]	(see 55 °C application)	(see 55 °C application)	
Sound power level outdoor [dB(A)]	(see 55 °C application)	(see 55 °C application)	
Declared data regarding ErP regulation			
$\eta_s$	174,34%	174,00%	
$P_{rated}$ [kW]	11,20	15,20	
SCOP	4,43	4,43	
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
Pdh: $T_j = -7$ °C [kW]	9,91	13,54	
COPd: $T_j = -7$ °C	3,32	3,01	
Pdh: $T_j = +2$ °C [kW]	6,79	9,05	
COPd: $T_j = +2$ °C	4,51	4,47	
Pdh: $T_j = +7$ °C [kW]	6,61	7,53	
COPd: $T_j = +7$ °C	6,00	6,00	
Pdh: $T_j = +12$ °C [kW]	6,64	7,28	
COPd: $T_j = +12$ °C	7,27	8,01	
Pdh: $T_j =$ bivalent temperature [kW]	9,91	13,45	
COPd: $T_j =$ bivalent temperature [kW]	3,32	2,98	
Pdh: $T_j = -15$ °C (if $TOL < -20$ °C) [kW]	-	-	
COPd: $T_j = -15$ °C (if $TOL < -20$ °C)	-	-	
$T_{biv}$ [°C]	-7	-7	
TOL [°C]	-20	-20	
WTOL [°C]	65	65	
Annual energy consumption $Q_{HE}$ [kWh]	3537	4812	
Power input „compressor off“ [kW]	25	25	
$P_{OFF}$ [W]	25	25	
$P_{TO}$ [W]	25	25	
$P_{SB}$ [W]	25	25	
$P_{CK}$ [W]	0	0	
$P_{SUP}$ [kW]	1,81	1,87	
Type of energy input (e.g. electricity)	electricity	electricity	

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Average Climate Medium temperature application (if applicable)			
Declared values EN 14825			
$T_{biv}$ [°C]			
heat output [kW]	10,58	15,46	
El input [kW]	4,24	6,59	
COP	2,49	2,34	
Sound power level according EN 12102			
Sound power level indoor (if relevant) [dB(A)]	54	55	
Sound power level outdoor [dB(A)]	59	60	
Declared data regarding ErP regulation			
$\eta_s$	139,18%	136,77%	
$P_{rated}$ [kW]	11,96	17,48	
SCOP	3,55	3,49	
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
Pdh: $T_j = -7$ °C [kW]	10,48	14,24	
COPd: $T_j = -7$ °C	2,59	2,38	
Pdh: $T_j = +2$ °C [kW]	7,35	9,44	
COPd: $T_j = +2$ °C	3,57	3,49	
Pdh: $T_j = +7$ °C [kW]	6,79	7,74	
COPd: $T_j = +7$ °C	4,83	4,54	
Pdh: $T_j = +12$ °C [kW]	7,08	7,34	
COPd: $T_j = +12$ °C	6,36	6,53	
Pdh: $T_j =$ bivalent temperature [kW]	10,58	15,46	
COPd: $T_j =$ bivalent temperature [kW]	2,49	2,34	
Pdh: $T_j = -15$ °C (if $TOL < -20$ °C) [kW]	-	-	
COPd: $T_j = -15$ °C (if $TOL < -20$ °C)	-	-	
$T_{biv}$ [°C]	-7	-7	
TOL [°C]	-20	-20	
WTOL [°C]	65	65	
Annual energy consumption $Q_{HE}$ [kWh]	4712	6993	
Power input „compressor off“ [kW] (if applicable)	25	25	
$P_{OFF}$ [W]	25	25	
$P_{TO}$ [W]	25	25	
$P_{SB}$ [W]	25	25	
$P_{CK}$ [W]	0	0	
$P_{SUP}$ [kW]	1,89	3,79	
Type of energy input (e.g. electricity)	electricity	electricity	

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Warmer Climate (if applicable)			
Declared values EN 14825 – 35°C application			
$T_{biv}$ [°C]			
heat output [kW]	7,41	9,04	
El input [kW]	1,80	2,23	
COP	4,12	4,07	
Sound power level according EN 12102			
Sound power level indoor if relevant) [dB(A)]	(See 55 °C application)	(See 55 °C application)	
Sound power level outdoor [dB(A)]	(See 55 °C application)	(See 55 °C application)	
Declared data regarding ErP regulation			
$\eta_s$	215,03%	222,70%	
$P_{rated}$ [kW]	7,41	9,07	
SCOP	5,45	5,64	
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$P_{dh} T_j = - 7 \text{ °C}$ [kW]	-	-	
$COP_d T_j = - 7 \text{ °C}$	-	-	
$P_{dh} T_j = +2 \text{ °C}$ [kW]	7,41	9,07	
$COP_d T_j = + 2 \text{ °C}$	4,12	4,07	
$P_{dh} T_j = +7 \text{ °C}$ [kW]	6,66	7,57	
$COP_d T_j = + 7 \text{ °C}$	5,45	5,25	
$P_{dh} T_j = +12 \text{ °C}$ [kW]	6,79	7,30	
$COP_d T_j = + 12 \text{ °C}$	6,92	7,44	
$P_{dh} T_j = \text{bivalent temperature}$ [kW]	7,41	9,07	
$COP_d T_j = \text{bivalent temperature}$	4,12	4,07	
$P_{dh} T_j = - 15 \text{ °C (if } TOL < - 20 \text{ °C)}$ [kW]	-	-	
$COP_d T_j = - 15 \text{ °C (if } TOL < - 20 \text{ °C)}$	-	-	
$T_{biv}$ [°C]	2	2	
TOL [°C]	2	2	
WTOL [°C]	65	65	
Annual energy consumption $Q_{HE}$ [kWh]	1903	2250	
Power input „compressor off“ [kW] (if applicable)	25	25	
$P_{OFF}$ [W]	25	25	
$P_{TO}$ [W]	25	25	
$P_{SB}$ [W]	25	25	
$P_{CK}$ [W]	0	0	
$P_{SUP}$ [kW]	0	0	
Type of energy input (e.g. electricity)	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]	9,91	13,45	
EI input[kW]	2,99	4,52	
COP	3,32	2,98	
Sound power level according EN 12102			
Sound power level indoor if relevant) [dB(A)]	(See 55 °C application)	(See 55 °C application)	
Sound power level outdoor [dB(A)]	(See 55 °C application)	(See 55 °C application)	
Declared data regarding ErP regulation			
$\eta_s$	144,78%	141,78%	
$P_{rated}$ [kW]	16,37	22,22	
SCOP	3,69	3,62	
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]	9,74	13,34	
COPd: $T_j = - 7^{\circ}\text{C}$	3,65	3,28	
Pdh: $T_j = + 2^{\circ}\text{C}$ [kW]	6,42	9,04	
COPd: $T_j = + 2^{\circ}\text{C}$	4,82	4,74	
Pdh: $T_j = + 7^{\circ}\text{C}$ [kW]	6,59	7,51	
COPd: $T_j = + 7^{\circ}\text{C}$	6,33	6,46	
Pdh: $T_j = + 12^{\circ}\text{C}$ [kW]	6,64	7,28	
COPd: $T_j = + 12^{\circ}\text{C}$	7,27	8,01	
Pdh: $T_j = \text{bivalent temperature}$ [kW]	9,91	13,45	
COPd: $T_j = \text{bivalent temperature}$	3,32	2,98	
Pdh: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$ ) [kW]	-	-	
COPd: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$ )	-	-	
$T_{biv}$ [°C]	-7	-7	
TOL [°C]	-20	-20	
WTOL [°C]	65	65	
Annual energy consumption $Q_{HE}$ [kWh]	9318	12917	
Power input „compressor off“ [kW] (if applicable)	25	25	
$P_{OFF}$ [W]	25	25	
$P_{TO}$ [W]	25	25	
$P_{SB}$ [W]	25	25	
$P_{CK}$ [W]	0	0	
$P_{SUP}$ [kW]	9,05	9,73	
Type of energy input (e.g. electricity)	electricity	electricity	