


	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 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



Certificate data	
Certificate holder name	tecalor GmbH
Address	Lüchtringer Weg Nr. 3 37603 Holzminden
Type of heat pump	Brine/Water
Reg. No.	011-1W0042
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Name of testing laboratory	VDE Prüf- und Zertifizierungsinstitut

	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 Page: 2 of 7



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

	TTF I3	TTF I3 cool	TTC I3	TTC I3 cool
General data				
Refrigerant	R410 A	R410 A	R410 A	R410 A
Mass of refrigerant [kg]	2,3	2,3	2,3	2,3
GWP according to EU Nr. 517/2014 [CO _{2eq}]	4,802	4,802	4,802	4,802
Frequency [Hz]	50	50	50	50
Voltage [V]	400	400	400	400
Test points EN 14511-2 Air/Water heat pump (if applicable)				
A7/W35				
heat output [kW]				
El input [kW]				
COP				
A7/W55 (if applicable)				
heat output [kW]				
El input [kW]				
COP				
Test points EN 14511-2 Brine/Water heat pump (if applicable)				
B0/W35				
heat output [kW]	13,21	13,21	13,21	13,21
El input [kW]	2,74	2,74	2,74	2,74
COP	4,82	4,82	4,82	4,82
B0/W55				
heat output [kW]	11,9	11,9	11,9	11,9
El input [kW]	3,91	3,91	3,91	3,91
COP	3,07	3,07	3,07	3,07
Test points EN 14511-2 Water/Water heat pump (if applicable)				
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

	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 Page: 3 of 7



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

	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 Page: 4 of 7



Average Climate Low temperature application (if applicable)				
Declared values EN 14825				
T_{biv} [°C]	T_{biv} at low temperature conditions			
heat output [kW]	13,2	13,2	13,2	13,2
El input [kW]	2,74	2,74	2,74	2,74
COP	4,82	4,82	4,82	4,82
Sound power level according EN 12102				
Sound power level indoor if relevant) [dB(A)]	(see 55°C application)	(see 55°C application)	(see 55°C application)	(see 55°C application)
Sound power level outdoor [dB(A)]	-	-	-	-
Declared data regarding ErP regulation				
η_s	203	203	203	203
P_{rated} [kW]	13	13	13	13
SCOP	5,26	5,26	5,26	5,26
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j				
Pdh: $T_j = -7$ °C [kW]	12	12	12	12
COPd: $T_j = -7$ °C	3,05	3,05	3,05	3,05
Pdh: $T_j = +2$ °C [kW]	12	12	12	12
COPd: $T_j = +2$ °C	3,05	3,05	3,05	3,05
Pdh: $T_j = +7$ °C [kW]	12,4	12,4	12,4	12,4
COPd: $T_j = +7$ °C	3,45	3,45	3,45	3,45
Pdh: $T_j = +12$ °C [kW]	12,9	12,9	12,9	12,9
COPd: $T_j = +12$ °C	4,23	4,23	4,23	4,23
Pdh: $T_j =$ bivalent temperature [kW]	13,2	13,2	13,2	13,2
COPd: $T_j =$ bivalent temperature	4,84	4,84	4,84	4,84
Pdh: $T_j = -15$ °C (if $TOL < -20$ °C) [kW]	12	12	12	12
COPd: $T_j = -15$ °C (if $TOL < -20$ °C)	3,05	3,05	3,05	3,05
T_{biv} [°C]	2	2	2	2
TOL [°C]	-20	-20	-20	-20
WTOL [°C]	65	65	65	65
Annual energy consumption Q_{HE} [kWh]	5186	5186	5186	5186
Power input „compressor off“ [kW]	0	0	0	0
P_{OFF} [W]	0	0	0	0
P_{TO} [W]	84	84	84	84
P_{SB} [W]	9	9	9	9
P_{CK} [W]	0	0	0	0
P_{SUP} [kW]	0	0	0	0
Type of energy input (e.g. electricity)	electricity	electricity	electricity	electricity

	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 Page: 5 of 7

Average Climate Medium temperature application (if applicable)				
Declared values EN 14825				
T_{biv} [°C]				
heat output [kW]	12,0	12,0	12,0	12,0
El input [kW]	3,93	3,93	3,93	3,93
COP	3,05	3,05	3,05	3,05
Sound power level according EN 12102				
Sound power level indoor if relevant) [dB(A)]	50	50	50	50
Sound power level outdoor [dB(A)]	-	-	-	-
Declared data regarding ErP regulation				
η_s	142	142	142	142
P_{rated} [kW]	12	12	12	12
SCOP	3,75	3,75	3,75	3,75
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j				
Pdh: $T_j = -7$ °C [kW]	12,1	12,1	12,1	12,1
COPd: $T_j = -7$ °C	3,18	3,18	3,18	3,18
Pdh: $T_j = +2$ °C [kW]	12,5	12,5	12,5	12,5
COPd: $T_j = +2$ °C	3,69	3,69	3,69	3,69
Pdh: $T_j = +7$ °C [kW]	12,8	12,8	12,8	12,8
COPd: $T_j = +7$ °C	4,08	4,08	4,08	4,08
Pdh: $T_j = +12$ °C [kW]	13,1	13,1	13,1	13,1
COPd: $T_j = +12$ °C	4,54	4,54	4,54	4,54
Pdh: $T_j =$ bivalent temperature [kW]	12,0	12,0	12,0	12,0
COPd: $T_j =$ bivalent temperature	3,05	3,05	3,05	3,05
Pdh: $T_j = -15$ °C (if $TOL < -20$ °C) [kW]	12,0	12,0	12,0	12,0
COPd: $T_j = -15$ °C (if $TOL < -20$ °C)	3,05	3,05	3,05	3,05
T_{biv} [°C]	-10	-10	-10	-10
TOL [°C]	-10	-10	-10	-10
WTOL [°C]	65	65	65	65
Annual energy consumption Q_{HE} [kWh]	6603	6603	6603	6603
Power input „compressor off“ [kW] (if applicable)	0	0	0	0
P_{OFF} [W]	0	0	0	0
P_{TO} [W]	84	84	84	84
P_{SB} [W]	9	9	9	9
P_{CK} [W]	0	0	0	0
P_{SUP} [kW]	0	0	0	0
Type of energy input (e.g. electricity)	electricity	electricity	electricity	electricity

	Heat Pump KEYMARK	 TÜVRheinland® DIN CERTCO Genau. Richtig.
Annex D1 Data sheet template		Rev.-No.: 1 Date: 14.12.2015 Page: 6 of 7

Warmer Climate (if applicable)				
Declared values EN 14825 – 35°C application				
T_{biv} [°C]				
heat output [kW]	13,2	13,2	13,2	13,2
EI input [kW]	2,73	2,73	2,73	2,73
COP	4,84	4,84	4,84	4,84
Sound power level according EN 12102				
Sound power level indoor if relevant) [dB(A)]	(see 55°C application)	(see 55°C application)	(see 55°C application)	(see 55°C application)
Sound power level outdoor [dB(A)]	-	-	-	-
Declared data regarding ErP regulation				
η_s	202	202	202	202
P_{rated} [kW]	13	13	13	13
SCOP	5,25	5,25	5,25	5,25
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j				
$P_{dhT_j = -7\text{ °C}}$ [kW]	13,2	13,2	13,2	13,2
$COP_{d T_j = -7\text{ °C}}$	4,84	4,84	4,84	4,84
$P_{dhT_j = +2\text{ °C}}$ [kW]	13,2	13,2	13,2	13,2
$COP_{d T_j = +2\text{ °C}}$	4,84	4,84	4,84	4,84
$P_{dh T_j = +7\text{ °C}}$ [kW]	13,3	13,3	13,3	13,3
$COP_{d T_j = +7\text{ °C}}$	5,13	5,13	5,13	5,13
$P_{dh T_j = +12\text{ °C}}$ [kW]	13,5	13,5	13,5	13,5
$COP_{d T_j = +12\text{ °C}}$	5,61	5,61	5,61	5,61
$P_{dh T_j = \text{bivalent temperature}}$ [kW]	13,2	13,2	13,2	13,2
$COP_{d T_j = \text{bivalent temperature}}$	4,84	4,84	4,84	4,84
$P_{dh T_j = -15\text{ °C}}$ (if $TOL < -20\text{ °C}$) [kW]	13,2	13,2	13,2	13,2
$COP_{d T_j = -15\text{ °C}}$ (if $TOL < -20\text{ °C}$)	4,84	4,84	4,84	4,84
T_{biv} [°C]	2	2	2	2
TOL [°C]	2	2	2	2
WTOL [°C]	65	65	65	65
Annual energy consumption Q_{HE} [kWh]	3361	3361	3361	3361
Power input „compressor off“ [kW] (if applicable)	0	0	0	0
P_{OFF} [W]	0	0	0	0
P_{TO} [W]	84	84	84	84
P_{SB} [W]	9	9	9	9
P_{CK} [W]	0	0	0	0
P_{SUP} [kW]	0	0	0	0
Type of energy input (e.g. electricity)	electricity	electricity	electricity	electricity

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

Colder Climate (if applicable)				
Declared values EN 14825 – 35°C application				
$T_{biv}/^{\circ}\text{C}$				
heat output [kW]	13,4	13,4	13,4	13,4
El input[kW]	2,55	2,55	2,55	2,55
COP	5,25	5,25	5,25	5,25
Sound power level according EN12102				
Sound power level indoor if relevant) [dB(A)]	(see 55°C application)	(see 55°C application)	(see 55°C application)	(see 55°C application)
Sound power level outdoor [dB(A)]	-	-	-	-
Declared date regarding ErP regulation				
η_s	208	208	208	208
P_{rated} [kW]	16	16	16	16
SCOP	5,39	5,39	5,39	5,39
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]	13,4	13,4	13,4	13,4
COPd: $T_j = - 7^{\circ}\text{C}$	5,35	5,35	5,35	5,35
Pdh: $T_j = + 2^{\circ}\text{C}$ [kW]	13,5	13,5	13,5	13,5
COPd: $T_j = + 2^{\circ}\text{C}$	5,59	5,59	5,59	5,59
Pdh: $T_j = + 7^{\circ}\text{C}$ [kW]	13,6	13,6	13,6	13,6
COPd: $T_j = + 7^{\circ}\text{C}$	5,78	5,78	5,78	5,78
Pdh: $T_j = + 12^{\circ}\text{C}$ [kW]	13,6	13,6	13,6	13,6
COPd: $T_j = + 12^{\circ}\text{C}$	5,82	5,82	5,82	5,82
Pdh: $T_j = \text{bivalent temperature}$ [kW]	13,4	13,4	13,4	13,4
COPd: $T_j = \text{bivalent temperature}$	5,25	5,25	5,25	5,25
Pdh: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$) [kW]	13,4	13,4	13,4	13,4
COPd: $T_j = - 15^{\circ}\text{C}$ (if $TOL < - 20^{\circ}\text{C}$)	5,25	5,25	5,25	5,25
T_{biv} [°C]	-15	-15	-15	-15
TOL [°C]	-22	-22	-22	-22
WTOL [°C]	65	65	65	65
Annual energy consumption Q_{HE} [kWh]	7507	7507	7507	7507
Power input „compressor off“ [kW] (if applicable)	0	0	0	0
P_{OFF} [W]	0	0	0	0
P_{TO} [W]	84	84	84	84
P_{SB} [W]	9	9	9	9
P_{CK} [W]	0	0	0	0
P_{SUP} [kW]	3,21	3,21	3,21	3,21
Type of energy input (e.g. electricity)	electricity	electricity	electricity	electricity