

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511 und EN 14825

Test results of air to water heat pumps based on EN 14511 and EN 14825

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	low (35°C) - average										Bivalentpunkt [°] Bivalent point	Volumenstrom [m³/h] Volume flow	SCOP	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							A7 / W30-35 (87% r. H.)	A2 / W35 (84% r. H.)	A-10 / W35 (-)	A-7 / W34 (74% r. H.)	A2 / W30 (84% r. H.)	A7 / W27 (87% r. H.)	A12 / W24 (89% r. H.)	Abiv / W_— ()							
							Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]					
Arkteos Site de kerquessaud F - 44350 Guérande	Zuran 4 120W	270-16-24	c,d	R410A	5.5	Heizleistung / Heat. cap. [kW]	12.0	11.3	14.7	13.6	11.3	12.7	13.4	13.6	-7 / 34	2.07	3.74	67.7	-		
						El. Leistung / Input power [kW]	2.8	3.3	6.0	5.3	3.1	2.6	2.2	5.3							
						COP [-]	4.3	3.4	2.4	2.5	3.6	4.9	6.2	2.5							
	De Dietrich Thermique 57 rue de la Gare F - 67580 Mertzwiller	AJPAC 245W tri	278-17-05	c,d,e	R410A	7.5	Heizleistung / Heat. cap. [kW]	23.8	20.9	23.2	25.6	20.9	24.5	26.3	25.6	-7 / 34	4.00	3.62	65.2	56.1	
					R134A	1.3	El. Leistung / Input power [kW]	5.8	6.4	9.4	9.7	6.0	5.3	4.9	9.7						
					COP [-]	4.1	3.3	2.5	2.6	3.5	4.6	5.4	2.6								
Erset S.a.r.l 67 rue de Morat F - 68000 Colmar		Alezio S4.5 MREM V200	327-17-54	c,d	R410A	1.3	Heizleistung / Heat. cap. [kW]	4.5	2.9	4.0	3.8	3.0	3.5	2.8	4.0	-10 / 35	0.79	4.83	55.1	36.9	
							El. Leistung / Input power [kW]	0.9	0.7	1.5	1.2	0.6	0.6	0.3	1.5						
							COP [-]	5.1	4.3	2.7	3.3	5.0	6.4	9.5	2.7						
	Alezio S16 TRIH V200	326-17-53	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	14.3	8.0	11.9	10.4	8.2	10.0	10.1	11.9	-10 / 35	2.45	3.97	69.0	52.7		
						El. Leistung / Input power [kW]	3.4	2.3	4.8	3.5	2.1	2.0	1.7	4.8							
						COP [-]	4.2	3.5	2.5	2.9	3.9	5.1	5.8	2.5							
	BLW Split 6C	337-18-07	c,d	R410A	1.4	Heizleistung / Heat. cap. [kW]	5.8	2.4	4.6	3.6	2.5	3.4	3.8	4.6	-10 / 35	1.02	4.15	62.2	42.9		
						El. Leistung / Input power [kW]	1.4	0.6	1.9	1.3	0.6	0.5	0.6	1.9							
						COP [-]	4.3	4.0	2.4	2.7	4.4	6.2	6.7	2.4							
	BLW Split 16C	338-18-08	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	14.2	7.8	12.3	10.5	8.1	10.0	11.8	12.3	-10 / 35	2.44	4.06	68.9	37.3		
						El. Leistung / Input power [kW]	3.3	2.2	4.7	3.5	2.1	1.9	2.0	4.7							
						COP [-]	4.3	3.5	2.6	3.0	3.9	5.3	6.0	2.6							
Hoval Aktiengesellschaft Austrasse 70 FL - 9490 Vaduz	Belaria twin I (20)	232-15-04	a,d	R407C	8.5	Heizleistung / Heat. cap. [kW]	20.2	17.1	14.1	15.4	9.8	13.4	15.9	15.4	-7 / 34	4.00	3.91	-	-		
						El. Leistung / Input power [kW]	5.3	5.2	5.2	5.2	2.6	2.6	2.6	5.3							
						COP [-]	3.8	3.3	2.7	2.9	3.8	5.2	6.2	2.9							
Belaria twin IR (20)	228-14-15	a,d	R407C	13.0	Heizleistung / Heat. cap. [kW]	24.4	17.4	14.1	15.8	17.5	13.1	15.5	15.8	-7 / 34	4.20	3.75	-	-			
					El. Leistung / Input power [kW]	5.9	5.3	5.4	5.4	4.9	2.7	2.6	5.4								
					COP [-]	4.1	3.3	2.6	2.9	3.6	4.9	5.9	2.9								
Belaria dual AR (60)	287-17-14	b,e	R410A	14.8	Heizleistung / Heat. cap. [kW]	69.5	50.3	43.9	47.2	50.1	35.5	41.8	47.2	-7 / 34	11.90	4.03	72.9	-			
			R410A	14.8	El. Leistung / Input power [kW]	15.6	13.8	14.8	14.9	13.1	7.2	7.1	14.9								
			COP [-]	4.5	3.6	3.0	3.2	3.8	4.9	5.9	3.2										

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511 und EN 14825

Test results of air to water heat pumps based on EN 14511 and EN 14825

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	low (35°C) - average										Bivalentpunkt [°] Bivalent point	Volumenstrom [m³/h] Volume flow	SCOP	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							A7 / W30-35 (87% r. H.)	A2 / W35 (84% r. H.)	A-10 / W35 (-)	A-7 / W34 (74% r. H.)	A2 / W30 (84% r. H.)	A7 / W27 (87% r. H.)	A12 / W24 (89% r. H.)	Abiv / W_— ()							
							Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]	COP [-]	Heizleistung / Heat. cap. [kW]					
F. Zaugg AG Kälte / Klima / Wärmepumpen Biergutstrasse 22 CH - 3608 Thun	WP ECP-M-14-A	231-15-03	c,d	R410A	5.5		Heizleistung / Heat. cap. [kW]	10.7	12.3	13.0	11.8	12.3	13.6	13.4	13.0	-10 / 35	1.80	3.54	66.9	-	
							El. Leistung / Input power [kW]	2.7	3.9	5.3	4.5	3.5	2.9	2.2	5.3						
							COP [-]	4.1	3.1	2.4	2.6	3.5	4.6	6.1	2.4						
iDM Energiesysteme GmbH Seblas 16-18 A - 9971 Matri in Osttirol	AERO ILM 2-8 230V	314-17-41	a,d	R410A	3.2		Heizleistung / Heat. cap. [kW]	4.5	3.9	5.6	5.0	3.0	2.7	1.4	5.6	-10 / 35	0.79	4.59	50.9	43.9	
							El. Leistung / Input power [kW]	0.9	0.9	1.9	1.5	0.6	0.4	0.3	1.9						
							COP [-]	5.1	4.3	2.9	3.3	4.9	6.4	5.1	2.9						
Ochsner Wärmepumpen GmbH Krackowizerstrasse 4 A - 4020 Linz	Eagle 717	243-15-15	c,d	R410A	7.6		Heizleistung / Heat. cap. [kW]	7.1	7.1	13.5	12.8	9.2	6.6	7.5	10.3	-2 / 32	1.20	4.48	63.4	-	
							El. Leistung / Input power [kW]	1.5	1.7	4.2	4.1	1.9	1.2	1.1	2.7						
							COP [-]	4.8	4.2	3.2	3.1	4.8	5.6	6.8	3.8						
	AIR HAWK 208 C11B	404-19-17	c,d	R513A	2.7		Heizleistung / Heat. cap. [kW]	2.5	2.5	4.9	5.3	3.2	2.1	1.1	5.3	-7 / 34	0.44	4.46	45.4	-	
							El. Leistung / Input power [kW]	0.5	0.6	1.9	2.0	0.7	0.3	0.2	2.0						
							COP [-]	5.0	4.2	2.6	2.7	4.5	6.4	5.5	2.7						
Sapac AG Mühleweg 2 CH - 1734 Tentlingen	Mistral Compact 11	298-17-25	a,d	R410A	2.3		Heizleistung / Heat. cap. [kW]	8.3	5.7	8.8	9.8	5.9	5.9	7.1	9.8	-7 / 34	1.45	4.03	59.7	57.2	
							El. Leistung / Input power [kW]	1.8	1.6	3.6	3.7	1.5	1.1	1.1	3.7						
							COP [-]	4.6	3.5	2.5	2.7	3.9	5.4	6.5	2.7						
Striega-Therm AG Breitenstrasse 10 CH - 4852 Rothrist	AWS 17	434-19-47	c	R407C	5.6		Heizleistung / Heat. cap. [kW]	14.4	10.2	8.2	9.5	10.1	10.8	12.9	9.5	-7 / 34	2.46	3.72	65.1	48.8	
							El. Leistung / Input power [kW]	3.2	2.9	3.1	3.0	2.7	2.7	2.6	3.0						
							COP [-]	4.6	3.5	2.6	3.2	3.7	4.1	4.9	3.2						
Templari s.r.l. Via Pitagora 20/A I - 35030 Rubano	KITA L Split (3 Phase)	246-15-18	c,d	R410A	13.0		Heizleistung / Heat. cap. [kW]	11.9	12.2	17.7	19.1	11.8	10.1	10.6	19.1	-7 / 34	2.01	4.77	63.9	-	
							El. Leistung / Input power [kW]	2.3	2.8	6.3	6.4	2.4	1.5	1.4	6.4						
							COP [-]	5.1	4.3	2.8	3.0	4.8	6.7	7.6	3.0						
Walter Meier (Klima Schweiz) AG Bahnstrasse 24 CH - 8603 Schwerzenbach	LSI 80 SHW-AA	310-17-37	c,d	R410A	4.6		Heizleistung / Heat. cap. [kW]	5.0	7.0	8.9	9.2	7.1	5.5	6.4	9.2	-7 / 34	0.87	4.33	56.9	38.6	
							El. Leistung / Input power [kW]	1.0	1.7	3.0	2.9	1.7	0.9	0.8	2.9						
							COP [-]	4.9	4.0	2.9	3.2	4.2	5.8	7.6	3.2						
	LSI 112 SHW-AA	311-17-38	c,d	R410A	4.6		Heizleistung / Heat. cap. [kW]	6.6	7.5	12.0	10.8	7.5	6.9	6.4	10.8	-7 / 34	1.15	4.32	58.7	38.6	
							El. Leistung / Input power [kW]	1.3	1.9	4.8	3.9	1.8	1.1	0.7	3.9						
							COP [-]	5.1	3.9	2.5	2.8	4.2	6.1	8.7	2.8						
	LSI 140 SHW-SG	304-17-31	c,d	R410A	5.5		Heizleistung / Heat. cap. [kW]	9.3	-	15.4	13.8	8.6	8.5	7.4	13.8	-7 / 34	1.56	3.62	-	-	
							El. Leistung / Input power [kW]	2.1	-	6.8	5.7	2.3	1.7	1.1	5.7						
							COP [-]	4.5	-	2.3	2.4	3.7	5.1	6.8	2.4						

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							A7 / W30-35 (87% r. H.)	A2 / W35 (84% r. H.)	A-10 / W35 (-)	A-7 / W34 (74% r. H.)	A2 / W30 (84% r. H.)	A7 / W27 (87% r. H.)	A12 / W24 (89% r. H.)	Abiv / W_— ()	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]					
Walter Meier (Klima Schweiz) AG Bahnstrasse 24 CH - 8603 Schwerzenbach	LSI 230 SHW-SG	305-17-32	c,d	R410A	7.7		Heizleistung / Heat. cap. [kW]	16.9	-	24.1	21.2	15.6	16.2	19.2	21.2	-7 / 34	2.89	3.38	-	-	
							El. Leistung / Input power [kW]	3.9	-	10.9	9.9	4.7	3.1	3.2	9.9						
							COP [-]	4.3	-	2.2	2.1	3.3	5.2	6.0	2.1						
Waterkotte GmbH Gewerkenstrasse 15 D - 44628 Herne	Basic Line 5008.5 - 230V	346-18-16	c,d	R410A	2.1		Heizleistung / Heat. cap. [kW]	8.1	3.6	6.6	5.9	3.7	2.9	3.4	-10 / 35	1.42	4.91	62.3	41.9		
							El. Leistung / Input power [kW]	1.8	0.9	2.4	1.9	0.8	0.5	0.4						2.4	
							COP [-]	4.5	4.2	2.8	3.1	4.8	6.3	8.7						2.8	
	Basic Line 5011.5 - 230V	348-18-18	c,d	R410A	2.7			Heizleistung / Heat. cap. [kW]	9.3	6.9	7.9	7.1	4.3	5.2	6.1	-10 / 35	1.64	4.21	63.4	41.9	
								El. Leistung / Input power [kW]	2.0	2.0	3.0	2.3	1.1	1.0	0.8						3.0
								COP [-]	4.7	3.5	2.6	3.0	4.0	5.3	7.2						2.6
	Basic Line 5011.5 - 400V	347-18-17	c,d	R410A	2.3			Heizleistung / Heat. cap. [kW]	9.5	8.6	9.1	8.2	5.1	5.1	5.9	-10 / 35	1.66	4.94	60.4	41.9	
								El. Leistung / Input power [kW]	1.9	2.2	3.2	2.6	1.0	0.8	0.7						3.2
								COP [-]	5.1	3.9	2.9	3.2	4.9	6.3	8.0						2.9
Zehnder Group Produktion Gränichen AG Oberfeldstrasse 1 CH - 5722 Gränichen	ComfoBox CB-AW-MO14	226-14-13	b,d	R410A	4.0		Heizleistung / Heat. cap. [kW]	8.6	9.1	14.2	13.8	9.5	11.8	13.8	-10 / 35	1.50	3.71	65.8	-		
							El. Leistung / Input power [kW]	1.8	2.7	5.9	5.5	2.5	2.1	2.0						5.9	
							COP [-]	4.7	3.4	2.4	2.5	3.8	5.6	6.9						2.4	

Bauart / Type of construction

- a Kompaktwärmepumpe für Innenaufstellung / Compact heat pump for indoor installation
- b Kompaktwärmepumpe für Aussenaufstellung / Compact heat pump for outdoor installation
- c Splitwärmepumpe / Split heat pump
- d Leistungsgeregelte Wärmepumpe mit Frequenzumformer / Output-modulated heat pump with frequency converter
- e Leistungsgeregelte Wärmepumpe mit mehreren Kompressoren / Output-modulated heat pump with several compressors

Abkürzungen / Abbreviations

- A Lufttemperatur / Air temperature
- W Wassertemperatur / Water temperature
- r. H. relative Luftfeuchtigkeit / relative humidity
- V Durchflussrate / Volume flow rate

Schalleistungspegel aussen / Sound power level outdoor:

bezieht sich auf das Geräusch draussen (wird vom Nachbar wahrgenommen) / it relates to the outside noise (is perceived by the neighbor)

Schalleistungspegel innen / Sound power level indoor:

bezieht sich auf das Geräusch drinnen (z.B. im Aufstellungsraum) / it relates to the indoor noise (e.g. in the installation room)

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511 und EN 14825

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Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	medium (55°C) - average								Bivalentpunkt [°] Bivalent point	Volumenstrom [m³/h] Volume flow	SCOP	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							A7 / W47-55 (87% r. H.)	A-10 / W55 (-)	A-7 / W52 (74% r. H.)	A2 / W42 (84% r. H.)	A7 / W36 (87% r. H.)	A12 / W30 (89% r. H.)	Abiv / W_						
Arkteos Site de kerquessaud F - 44350 Guérande	Zuran 4 120W	270-16-24	c,d	R410A	5.5	Heizleistung / Heat. cap. [kW]	12.1	15.3	15.7	11.3	-	-	15.7	-7 / 52	1.32	-	67.7	-	
						El. Leistung / Input power [kW]	4.5	8.6	8.1	4.0	-	-	8.1						
						COP [-]	2.7	1.8	2.0	2.8	-	-	2.0						
	De Dietrich Thermique 57 rue de la Gare F - 67580 Mertzwiller	AJPAC 245W tri	278-17-05	c,d,e	R410A	7.5	Heizleistung / Heat. cap. [kW]	25.8	20.9	22.0	22.4	-	-	22.0	-7 / 52	2.77	-	65.2	56.1
					R134A	1.3	El. Leistung / Input power [kW]	9.3	10.4	10.6	8.6	-	-	10.6					
					COP [-]	2.8	2.0	2.1	2.6	-	-	2.1							
Erset S.a.r.l 67 rue de Morat F - 68000 Colmar		Alezio S4.5 MREM V200	327-17-54	c,d	R410A	1.3	Heizleistung / Heat. cap. [kW]	3.2	3.0	2.5	2.6	3.2	2.5	3.0	-10 / 55	0.35	3.01	55.1	36.9
							El. Leistung / Input power [kW]	1.4	2.2	1.5	0.8	0.8	0.4	2.2					
							COP [-]	2.4	1.4	1.7	3.2	4.2	6.0	1.4					
	Alezio S16 TRIH V200	326-17-53	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	14.3	8.8	7.6	6.5	6.1	5.8	8.8	-10 / 55	1.55	3.02	69.0	52.7	
						El. Leistung / Input power [kW]	5.3	6.4	4.6	2.2	1.4	0.9	6.4						
						COP [-]	2.7	1.4	1.6	3.0	4.4	6.3	1.4						
	BLW Split 6C	337-18-07	c,d	R410A	1.4	Heizleistung / Heat. cap. [kW]	5.5	3.9	3.3	2.1	2.0	2.7	3.9	-10 / 55	0.60	3.08	62.2	42.9	
						El. Leistung / Input power [kW]	2.2	2.6	1.9	0.7	0.5	0.4	2.6						
						COP [-]	2.5	1.5	1.7	3.1	4.5	6.9	1.5						
	BLW Split 16C	338-18-08	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	14.2	9.4	7.6	6.4	5.8	7.3	9.4	-10 / 55	1.53	3.09	68.9	37.3	
						El. Leistung / Input power [kW]	5.2	6.5	4.5	2.1	1.3	1.1	6.5						
						COP [-]	2.7	1.5	1.7	3.1	4.5	6.5	1.5						
Mistral Compact 11	298-17-25	a,d	R410A	2.3	Heizleistung / Heat. cap. [kW]	8.2	8.1	9.1	5.7	5.5	6.6	9.1	-7 / 52	0.89	3.03	59.7	57.2		
					El. Leistung / Input power [kW]	2.9	4.3	4.4	2.0	1.4	1.3	4.4							
					COP [-]	2.8	1.9	2.1	2.9	4.0	5.2	2.1							
Hoval Aktiengesellschaft Austrasse 70 FL - 9490 Vaduz	Belaria twin I (20)	232-15-04	a,d	R407C	8.5	Heizleistung / Heat. cap. [kW]	22.2	-	14.9	17.4	-	-	14.9	-7 / 52	2.41	-	-	-	
						El. Leistung / Input power [kW]	7.8	-	6.7	5.7	-	-	6.7						
						COP [-]	2.8	-	2.2	3.0	-	-	2.2						
	Belaria twin IR (20)	228-14-15	a,d	R407C	13.0	Heizleistung / Heat. cap. [kW]	22.5	-	15.0	17.3	-	-	15.0	-7 / 52	2.39	-	-	-	
						El. Leistung / Input power [kW]	7.8	-	6.8	5.8	-	-	6.8						
						COP [-]	2.9	-	2.2	3.0	-	-	2.2						
	Belaria dual AR (60)	287-17-14	b,e	R410A	14.8	Heizleistung / Heat. cap. [kW]	65.8	43.0	46.6	50.8	-	-	46.6	-7 / 52	7.10	-	72.9	-	
				R410A	14.8	El. Leistung / Input power [kW]	21.7	20.7	20.1	16.8	-	-	20.1						
				COP [-]	3.0	2.1	2.3	3.0	-	-	2.3								

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511 und EN 14825

Test results of air to water heat pumps based on EN 14511 and EN 14825

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions											Bivalentpunkt [°] Bivalent point	Volumenstrom [m³/h] Volume flow	SCOP	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
						medium (55°C) - average															
						A7 / W47-55 (87% r. H.)	A-10 / W55 (-)	A-7 / W52 (74% r. H.)	A2 / W42 (84% r. H.)	A7 / W36 (87% r. H.)	A12 / W30 (89% r. H.)	Abiv / W_— ()									
F. Zaugg AG Kälte / Klima / Wärmepumpen Biergutstrasse 22 CH - 3608 Thun	WP ECP-M-14-A	231-15-03	c,d	R410A	5.5	Heizleistung / Heat. cap. [kW]	13.6	-	10.9	12.4	-	-	10.9	-7 / 52	1.45	-	66.9	-			
						El. Leistung / Input power [kW]	6.3	-	5.4	4.6	-	-	5.4								
						COP [-]	2.2	-	2.0	2.7	-	-	2.0								
iDM Energiesysteme GmbH Seblas 16-18 A - 9971 Matri in Osttirol	AERO ILM 2-8 230V	314-17-41	a,d	R410A	3.2	Heizleistung / Heat. cap. [kW]	4.0	4.4	4.0	2.4	2.5	1.6	4.4	-10 / 55	0.43	3.32	50.9	43.9			
						El. Leistung / Input power [kW]	1.3	2.4	1.7	0.7	0.6	0.3	2.4								
						COP [-]	3.0	1.8	2.3	3.5	4.5	5.1	1.8								
Ochsner Wärmepumpen GmbH Krackowizerstrasse 4 A - 4020 Linz	Eagle 717	243-15-15	c,d	R410A	7.6	Heizleistung / Heat. cap. [kW]	11.0	14.1	13.6	9.3	6.4	7.3	10.7	-2 / 46	1.20	3.63	63.4	-			
						El. Leistung / Input power [kW]	3.3	6.1	5.7	2.5	1.4	1.3	3.6								
						COP [-]	3.3	2.3	2.4	3.8	4.6	5.8	3.0								
	AIR HAWK 208 C11B	404-19-17	c,d	R513A	2.7	Heizleistung / Heat. cap. [kW]	4.0	4.6	5.0	3.2	2.0	1.1	5.0	-7 / 52	0.43	3.56	45.4	-			
						El. Leistung / Input power [kW]	1.3	2.3	2.3	0.9	0.4	0.2	2.3								
						COP [-]	3.1	2.0	2.1	3.6	5.0	4.6	2.1								
Sapac AG Mühleweg 2 CH - 1734 Tentlingen	Mistral Compact 11	298-17-25	a,d	R410A	2.3	Heizleistung / Heat. cap. [kW]	8.2	8.1	9.1	5.7	5.5	6.6	9.1	-7 / 52	0.89	3.03	59.7	57.2			
						El. Leistung / Input power [kW]	2.9	4.3	4.4	2.0	1.4	1.3	4.4								
						COP [-]	2.8	1.9	2.1	2.9	4.0	5.2	2.1								
Striega-Therm AG Breitenstrasse 10 CH - 4852 Rothrist	AWS 17	434-19-47	c	R407C	5.6	Heizleistung / Heat. cap. [kW]	14.0	-	9.8	10.3	-	-	-	-7 / 52	1.51	-	65.1	48.8			
						El. Leistung / Input power [kW]	4.5	-	3.9	3.4	-	-	-								
						COP [-]	3.1	-	2.6	3.1	-	-	-								
Templari s.r.l. Via Pitagora 20/A I - 35030 Rubano	KITA L Split (3 Phase)	246-15-18	c,d	R410A	13.0	Heizleistung / Heat. cap. [kW]	14.0	18.4	19.5	12.0	10.0	10.8	19.5	-7 / 52	1.52	3.74	63.9	-			
						El. Leistung / Input power [kW]	4.5	8.9	8.8	3.2	1.9	1.6	8.8								
						COP [-]	3.1	2.1	2.2	3.8	5.1	6.9	2.2								
Walter Meier (Klima Schweiz) AG Bahnstrasse 24 CH - 8603 Schwerzenbach	LSI 80 SHW-AA	310-17-37	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	4.3	8.9	8.6	6.7	5.2	5.9	8.6	-7 / 52	0.74	3.42	56.9	38.6			
						El. Leistung / Input power [kW]	1.5	4.2	3.7	2.0	1.1	1.0	3.7								
						COP [-]	2.8	2.1	2.4	3.3	4.8	6.1	2.4								
	LSI 112 SHW-AA	311-17-38	c,d	R410A	4.6	Heizleistung / Heat. cap. [kW]	5.7	12.6	10.7	7.4	6.6	6.2	10.7	-7 / 52	0.63	3.34	58.7	38.6			
						El. Leistung / Input power [kW]	1.9	6.6	5.1	2.3	1.4	0.9	5.1								
						COP [-]	3.0	1.9	2.1	3.2	4.8	6.8	2.1								
	LSI 140 SHW-SG	304-17-31	c,d	R410A	5.5	Heizleistung / Heat. cap. [kW]	7.1	15.6	15.9	10.2	8.1	4.7	15.9	-7 / 52	0.77	3.07	-	-			
						El. Leistung / Input power [kW]	2.5	8.3	8.5	3.4	1.7	0.7	8.5								
						COP [-]	2.8	1.9	1.9	3.0	4.7	6.7	1.9								

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511 und EN 14825

Test results of air to water heat pumps based on EN 14511 and EN 14825

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	medium (55°C) - average								Bivalentpunkt [°] Bivalent point	Volumenstrom [m³/h] Volume flow	SCOP	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							A7 / W47-55 (87% r. H.)	A-10 / W55 (-)	A-7 / W52 (74% r. H.)	A2 / W42 (84% r. H.)	A7 / W36 (87% r. H.)	A12 / W30 (89% r. H.)	Abiv / W_						
Walter Meier (Klima Schweiz) AG Bahnstrasse 24 CH - 8603 Schwerzenbach	LSI 230 SHW-SG	305-17-32	c,d	R410A	7.7	Heizleistung / Heat. cap. [kW]	14.4	22.1	22.0	14.8	10.6	12.8	22.0	-7 / 52	1.55	2.74	-	-	
						El. Leistung / Input power [kW]	5.5	13.5	13.6	5.6	2.4	2.4	13.6						
						COP [-]	2.6	1.6	1.6	2.6	4.3	5.4	1.6						
Waterkotte GmbH Gewerkenstrasse 15 D - 44628 Herne	Basic Line 5008.5 - 230V	346-18-16	c,d	R410A	2.1	Heizleistung / Heat. cap. [kW]	5.7	5.9	5.3	3.3	-	-	5.9	-10 / 55	0.63	-	62.3	41.9	
						El. Leistung / Input power [kW]	1.9	3.1	2.4	1.0	-	-	3.1						
						COP [-]	2.9	1.9	2.2	3.4	-	-	1.9						
	Basic Line 5011.5 - 230V	348-18-18	c,d	R410A	2.7	Heizleistung / Heat. cap. [kW]	8.0	6.6	6.0	3.6	-	-	6.6	-10 / 55	0.88	-	63.4	41.9	
						El. Leistung / Input power [kW]	3.1	4.3	3.3	1.3	-	-	4.3						
						COP [-]	2.6	1.5	1.8	2.8	-	-	1.5						
	Basic Line 5011.5 - 400V	347-18-17	c,d	R410A	2.3	Heizleistung / Heat. cap. [kW]	7.7	7.6	6.8	4.2	-	-	7.6	-10 / 55	0.84	-	60.4	41.9	
						El. Leistung / Input power [kW]	2.8	4.2	3.3	1.3	-	-	4.2						
						COP [-]	2.8	1.8	2.1	3.2	-	-	1.8						
Zehnder Group Produktion Gränichen AG Oberfeldstrasse 1 CH - 5722 Gränichen	ComfoBox CB-AW-MO14	226-14-13	b,d	R410A	4.0	Heizleistung / Heat. cap. [kW]	11.6	12.6	12.8	-	-	-	12.6	-10 / 55	1.25	-	65.8	-	
						El. Leistung / Input power [kW]	4.4	7.2	6.4	-	-	-	7.2						
						COP [-]	2.6	1.7	2.0	-	-	-	1.7						

Bauart / Type of construction

- a Kompaktwärmepumpe für Innenaufstellung / Compact heat pump for indoor installation
- b Kompaktwärmepumpe für Aussenauflistung / Compact heat pump for outdoor installation
- c Splitwärmepumpe / Split heat pump
- d Leistungsgeregelte Wärmepumpe mit Frequenzumformer / Output-modulated heat pump with frequency converter
- e Leistungsgeregelte Wärmepumpe mit mehreren Kompressoren / Output-modulated heat pump with several compressors

Abkürzungen / Abbreviations

- A Lufttemperatur / Air temperature
- W Wassertemperatur / Water temperature
- r. H. relative Luftfeuchtigkeit / relative humidity
- V Durchflussrate / Volume flow rate

Schalleistungspegel aussen / Sound power level outdoor:

bezieht sich auf das Geräusch draussen (wird vom Nachbar wahrgenommen) / it relates to the outside noise (is perceived by the neighbor)

Schalleistungspegel innen / Sound power level indoor:

bezieht sich auf das Geräusch drinnen (z.B. im Aufstellungsraum) / it relates to the indoor noise (e.g. in the installation room)

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2011 und EN 14511:2013

Test results of air to water heat pumps based on EN 14511:2011

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions										Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							VolumenstromEinstellung Volume flow adjustment												
							A10 / W35 (80% r. H.)	A7 / W35 - 30 (89% r. H.)	A2 / W35 (84% r. H.)	A-7 / W35 (75% r. H.)	A-15 / W35 (-)	A7 / W45 - 40 (89% r. H.)	A7 / W55 - 47 (89% r. H.)	A-7 / W55 (75% r. H.)	V ₃₅	V ₄₅			
CTC Giersch AG Bahnhofstrasse 60 CH - 8112 Otelfingen	MLW 12	197-12-14	a	S	R407C	5.9	Heizleistung / Heat. cap. [kW]	15.7	13.1	9.7	9.2	7.6	12.4	12.5	9.2	2.51	77	66	
							El. Leistung / Input power [kW]	3.8	3.6	3.1	3.2	3.6	4.2	4.8	4.7	2.41			
							COP [-]	4.1	3.6	3.2	2.9	2.1	3.0	2.6	1.9	1.44			
Daikin Europe N.V. Zandvoordestraat 300 B - 8400 Oostende	ERLQ006CAV3 & EHBH08C	207-13-10	c,d	S	R410A	1.6	Heizleistung / Heat. cap. [kW]	6.3	6.1	4.7	5.4	5.7	5.7	5.4	2.8	1.07	59	-	
							El. Leistung / Input power [kW]	1.2	1.3	1.2	1.9	2.6	1.6	1.8	2.1	0.99			
							COP [-]	5.2	4.8	3.8	2.9	2.2	3.6	2.9	1.3	0.59			
	ERLQ016CAW1 & EHVX16S	208-13-11	c,d	S	R410A	3.4	Heizleistung / Heat. cap. [kW]	17.5	16.6	11.7	12.1	9.4	15.6	15.0	12.7	2.86	65	-	
							El. Leistung / Input power [kW]	3.9	3.9	3.4	4.6	4.5	4.6	5.4	6.8	2.72			
							COP [-]	4.5	4.3	3.4	2.6	2.1	3.4	2.8	1.9	1.66			
De Dietrich Thermique 57 rue de la Gare F - 67580 Mertzwiller	HPI 14TR	205-13-08	c,d	S	R410A	5.0	Heizleistung / Heat. cap. [kW]	14.7	13.8	9.6	9.8	7.1	13.3	8.6	-	2.39	66	-	
							El. Leistung / Input power [kW]	3.4	3.4	3.0	4.2	4.2	4.3	3.7	-	2.34			
							COP [-]	4.3	4.1	3.2	2.3	1.7	3.1	2.3	-	0.93			
	HPI 22TR	206-13-09	c,d	S	R410A	7.1	Heizleistung / Heat. cap. [kW]	20.9	19.9	12.1	12.1	8.7	19.7	-	-	3.45	72	-	
El. Leistung / Input power [kW]	5.3	5.3	3.9	5.3	5.2	6.8	-	-	3.42										
COP [-]	4.0	3.7	3.1	2.3	1.7	2.9	-	-	-										
Elcotherm AG Sarganserstrasse 100 CH - 7324 Vilters	Aerotop S07M-CR	214-14-01	a,d	S	R410A	4.7	Heizleistung / Heat. cap. [kW]	6.0	5.7	5.7	7.1	6.8	5.3	6.5	7.0	0.98	54	46	
							El. Leistung / Input power [kW]	1.2	1.2	1.4	2.4	3.0	1.5	2.3	3.7	0.91			
							COP [-]	5.1	4.8	4.0	3.0	2.3	3.5	2.8	1.9	0.70			
	Aerotop S15M-HT	213-13-16	a,d	S	R410A	4.9	Heizleistung / Heat. cap. [kW]	11.0	9.2	9.0	13.9	13.5	11.2	10.5	13.7	1.59	58	48	
El. Leistung / Input power [kW]	2.3	2.0	2.3	4.8	5.8	3.2	3.7	6.4	1.89										
COP [-]	4.8	4.6	3.9	2.9	2.3	3.5	2.8	2.1	1.14										
Energy Panel S.L. Carretera Estepa-Guadix PK 45 E - 14900 Lucena (Córdoba)	Green e-pack GTEP01 (4 evaporator panels)	227-14-14	d	S	R134a	1.0	Heizleistung / Heat. cap. [kW]	1.5	1.4	1.2	0.8	-	-	-	-	0.24	-	-	
							El. Leistung / Input power [kW]	0.4	0.4	0.4	0.3	-	-	-	-	-			
							COP [-]	3.9	3.7	3.2	2.2	-	-	-	-	-			
Erset S.a.r.l 67 rue de Morat F - 68000 Colmar	Sirocco 13	211-13-14	d	S	R407C	10.4	Siehe / see Sapac SA, Sirocco 13												
	Sirocco 18	217-14-04	d	S	R407C	13.4	Siehe / see Sapac SA, Sirocco 18												
Friap AG Ey 9 CH - 3063 Ittigen	FLWsp 1-15	195-12-12	c	S	R407C	9.4	Heizleistung / Heat. cap. [kW]	16.1	15.2	13.9	11.4	9.5	15.9	16.1	11.2	2.85	71	48	
							El. Leistung / Input power [kW]	4.1	4.1	4.1	4.0	3.9	5.0	6.0	5.9	3.06			
							COP [-]	3.9	3.7	3.4	2.9	2.4	3.2	2.7	1.9	1.91			

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2011 und EN 14511:2013

Test results of air to water heat pumps based on EN 14511:2011

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions												Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							VolumenstromEinstellung Volume flow adjustment														
							A10 / W35 (80% r. H.)	A7 / W35 - 30 (89% r. H.)	A2 / W35 (84% r. H.)	A-7 / W35 (75% r. H.)	A-15 / W35 (-)	A7 / W45 - 40 (89% r. H.)	A7 / W55 - 47 (89% r. H.)	A-7 / W55 (75% r. H.)	V ₃₅	V ₄₅	V ₅₅				
Hoval Aktiengesellschaft Austrasse 70 FL - 9490 Vaduz	Belaria SRM (6)	207-13-10	c,d	S	R410A	1.6	Siehe / see Daikin Europe N.V., ERLQ006CAV3 & EHBH08C														
	Belaria SRM (16)	208-13-11	c,d	S	R410A	3.4	Siehe / see Daikin Europe N.V., ERLQ016CAV3/W1 & EHVX16S														
Kermi GmbH Bankofen-Bahnhof 1 D - 94447 Plattling	x-change WPL 12	196-12-13	a,d	S	R410A	7.2	Heizleistung / Heat. cap. [kW]	10.9	10.2	9.7	8.8	8.0	9.5	8.7	9.6	1.77					
							El. Leistung / Input power [kW]	2.0	2.1	2.4	3.4	4.1	2.5	3.0	5.0	1.61	55	-			
							COP [-]	5.3	5.0	4.1	2.6	2.0	3.8	2.9	1.9	0.95	A7 / W63				
Krüger + Co. AG Winterhaldenstrasse 11 CH - 9113 Degersheim	HWS-804HE	222-14-09	c,d	S	R410A	1.8	Heizleistung / Heat. cap. [kW]	9.2	8.2	6.5	5.4	4.0	7.8	8.1	-	1.41					
							El. Leistung / Input power [kW]	2.2	2.0	2.1	2.3	2.0	2.4	3.0	-	1.34	65	-			
	COP [-]	4.1	4.2	3.1	2.4	2.0	3.2	2.7	-	0.89	A7 / W55										
	HWS-1604H8R-E	221-14-08	c,d	S	R410A	2.7	Heizleistung / Heat. cap. [kW]	17.9	14.4	11.7	9.4	8.3	14.7	15.5	-	2.60					
El. Leistung / Input power [kW]							4.1	3.6	3.6	3.5	3.5	4.3	5.3	-	2.56	65	-				
COP [-]	4.4	4.0	3.2	2.7	2.3	3.5	2.9	-	1.71	A7 / W55											
Multi Energie AG Wiesentalstrasse 20 CH - 8355 Aadorf	RLW 16.3	197-12-14	a	S	R407C	5.9	Siehe / see CTC Giersch AG, MLW 12														
Ochsner Wärmepumpen GmbH Ochsner-Strasse 1 A - 3350 Haag	GMLW 5 plus (VHS-M5)	212-13-15	c	S	R407C	4.7	Heizleistung / Heat. cap. [kW]	6.8	6.3	5.4	4.1	3.0	5.9	5.6	3.7	1.09					
							El. Leistung / Input power [kW]	1.3	1.3	1.3	1.3	1.2	1.6	1.9	1.8	1.03	51	42			
							COP [-]	5.1	4.8	4.1	3.2	2.4	3.7	3.0	2.0	0.61	A7 / W55				
Sapac SA Mühleweg 2 CH - 1734 Tentlingen	Sirocco 13	211-13-14	c	S	R407C	10.4	Heizleistung / Heat. cap. [kW]	15.1	13.0	10.7	9.9	8.1	13.2	15.0	10.6	2.46					
							El. Leistung / Input power [kW]	3.4	3.2	3.0	3.1	3.0	3.9	4.9	4.5	2.45	59	-			
	COP [-]	4.4	4.0	3.5	3.2	2.7	3.4	3.1	2.4	1.62	A7 / W55										
	Sirocco 18	217-14-04	c	S	R407C	13.4	Heizleistung / Heat. cap. [kW]	22.1	20.9	13.2	14.6	11.8	21.4	21.8	15.7	3.55					
El. Leistung / Input power [kW]							4.4	4.4	3.8	4.2	4.1	5.5	6.8	6.6	3.62	60	-				
COP [-]	5.0	4.8	3.5	3.5	2.9	3.9	3.2	2.4	2.36	A7 / W55											
Striega-Therm AG Breitenstrasse 10 CH - 4852 Rothrist	AWS 8	198-13-01	c	S	R407C	3.0	Heizleistung / Heat. cap. [kW]	8.0	7.6	6.0	4.9	3.8	7.3	7.0	4.2	1.33					
							El. Leistung / Input power [kW]	1.8	1.7	1.6	1.7	1.5	2.1	2.3	2.1	1.27	56	45			
	COP [-]	4.6	4.4	3.6	2.9	2.5	3.6	3.0	2.0	0.76	A7 / W55										
	AWS 16	199-13-02	c	S	R407C	3.0	Heizleistung / Heat. cap. [kW]	13.9	12.4	10.6	9.2	7.3	12.6	13.0	8.8	2.33					
El. Leistung / Input power [kW]							3.3	3.2	3.1	3.1	2.9	4.0	4.6	4.0	2.27	55	48				
COP [-]	4.2	3.9	3.4	3.0	2.5	3.2	2.8	2.2	1.42	A7 / W55											

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2011 und EN 14511:2013

Test results of air to water heat pumps based on EN 14511:2011

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions												Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							VolumenstromEinstellung Volume flow adjustment														
							V ₃₅			V ₄₅			V ₅₅								
A10 / W35 (80% r. H.)	A7 / W35 - 30 (89% r. H.)	A2 / W35 (84% r. H.)	A-7 / W35 (75% r. H.)	A-15 / W35 (-)	A7 / W45 - 40 (89% r. H.)	A7 / W55 - 47 (89% r. H.)	A-7 / W55 (75% r. H.)														
Thermolink AG Wittenwilerstrasse 31a CH - 8355 Aadorf	LWi 1-6	225-14-12	a	S	R407C	6.5	Heizleistung / Heat. cap. [kW]	9.9	9.0	7.5	6.1	4.6	9.3	9.3	-	1.62	57	54			
							El. Leistung / Input power [kW]	2.3	2.3	2.2	2.1	2.1	2.9	3.4	-	1.62					
							COP [-]	4.3	4.0	3.4	2.9	2.3	3.3	2.7	-	1.01					
Toshiba Carrier (UK) Ltd. Porsham Close Roborough, Plymouth UK - Devon PL6 7DB	HWS-804HE	222-14-09	c,d	S	R410A	1.8	Heizleistung / Heat. cap. [kW]	9.2	8.2	6.5	5.4	4.0	7.8	8.1	-	1.41	65	-			
							El. Leistung / Input power [kW]	2.2	2.0	2.1	2.3	2.0	2.4	3.0	-	1.34					
							COP [-]	4.1	4.2	3.1	2.4	2.0	3.2	2.7	-	0.89					
	HWS-1604H8R-E	221-14-08	c,d	S	R410A	2.7	Heizleistung / Heat. cap. [kW]	17.9	14.4	11.7	9.4	8.3	14.7	15.5	-	2.60	65	-			
							El. Leistung / Input power [kW]	4.1	3.6	3.6	3.5	3.5	4.3	5.3	-	2.56					
							COP [-]	4.4	4.0	3.2	2.7	2.3	3.5	2.9	-	1.71					
	HWS-P804HR-E HWS-P804XWHM3-E	233-15-05	c,d	S	R410A	2.7	Heizleistung / Heat. cap. [kW]	18.6	7.9	11.8	10.5	9.3	7.1	11.7	7.9	1.34	62	-			
							El. Leistung / Input power [kW]	4.1	1.7	3.6	3.6	3.8	1.9	4.0	4.2	1.23					
							COP [-]	4.5	4.7	3.3	2.9	2.5	3.7	2.9	1.9	1.28					
	HWS-P1104HR-E HWS-P1104XWHM3-E	234-15-06	c,d	S	R410A	2.7	Heizleistung / Heat. cap. [kW]	18.9	11.3	12.1	11.0	10.5	10.9	12.4	7.9	2.00	63	-			
							El. Leistung / Input power [kW]	4.1	2.3	3.6	4.0	4.2	2.9	4.1	4.0	1.85					
							COP [-]	4.6	4.9	3.4	2.8	2.5	3.8	3.0	2.0	1.37					
Walter Bösch GmbH & Co KG Industrie Nord A - 6890 Lustenau	HPI 14TR	205-13-08	c,d	S	R410A	5.0	Siehe / see De Dietrich Thermique, HPI 14TR														
	HPI 22TR	206-13-09	c,d	S	R410A	7.1	Siehe / see De Dietrich Thermique, HPI 22TR														
Walter Meier (Klima Schweiz) AG Bahnstrasse 24 CH - 8603 Schwerzenbach	LSI 140 SHW	200-13-03	c,d	S	R410A	5.0	Heizleistung / Heat. cap. [kW]	14.9	15.1	13.0	13.6	13.7	14.5	13.7	14.6	2.60	69	-			
							El. Leistung / Input power [kW]	3.3	3.6	4.1	5.7	6.9	4.6	5.1	8.2	2.51					
							COP [-]	4.5	4.2	3.2	2.4	2.0	3.1	2.7	1.8	1.50					
	LSP 50 SW	204-13-07	c,d	S	R410A	2.1	Heizleistung / Heat. cap. [kW]	6.5	6.1	3.2	4.6	3.6	6.5	6.1	4.7	1.13	62	-			
							El. Leistung / Input power [kW]	1.6	1.7	1.0	1.9	1.7	2.1	2.3	2.7	1.08					
							COP [-]	4.1	3.7	3.2	2.4	2.1	3.1	2.6	1.7	0.66					
	LSP 200 SW	203-13-06	c,d	S	R410A	5.1	Heizleistung / Heat. cap. [kW]	13.4	12.6	11.6	15.3	10.9	11.4	9.0	-	2.15	72	-			
							El. Leistung / Input power [kW]	2.8	2.9	3.6	6.4	5.9	3.5	4.2	-	1.98					
							COP [-]	4.7	4.3	3.2	2.4	1.8	3.3	2.2	-	0.97					
Weider Wärmepumpen GmbH Oberer Achdamm 4 A - 6971 Hard bei Bregenz	LW140	201-13-04	c	S	R407C	7.0	Heizleistung / Heat. cap. [kW]	16.5	16.0	14.0	10.9	9.0	15.8	11.4	11.1	2.73	67	-			
							El. Leistung / Input power [kW]	3.2	3.2	3.2	3.0	3.0	3.8	4.0	4.2	2.69					
							COP [-]	5.1	5.0	4.4	3.6	3.0	4.1	2.8	2.6	1.40					

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2011 und EN 14511:2013

Test results of air to water heat pumps based on EN 14511:2011

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions										Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
							VolumenstromEinstellung Volume flow adjustment												
							V ₃₅			V ₄₅		V ₅₅							
							A10 / W35 (80% r. H.)	A7 / W35 - 30 (89% r. H.)	A2 / W35 (84% r. H.)	A-7 / W35 (75% r. H.)	A-15 / W35 (-)	A7 / W45 - 40 (89% r. H.)	A7 / W55 - 47 (89% r. H.)	A-7 / W55 (75% r. H.)					
Zehnder Group Produktion Gränichen AG Oberfeldstrasse 1 CH - 5722 Gränichen	ComfoBox A/W-B-8	202-13-05	c,d	S	R410A	2.4	Heizleistung / Heat. cap. [kW]	9.0	4.5	6.2	7.8	6.1	8.1	8.0	5.2	0.78	56	-	
							El. Leistung / Input power [kW]	2.1	1.1	1.7	2.8	2.6	2.6	2.9	2.6	1.40			
							COP [-]	4.3	4.2	3.7	2.8	2.4	3.2	2.7	2.0	0.87			
	CB-AW-MO11	219-14-06	b,d	S	R410A	4.0	Heizleistung / Heat. cap. [kW]	9.9	6.8	8.0	11.6	9.8	9.3	9.3	11.0	1.15	65	-	
							El. Leistung / Input power [kW]	1.9	1.5	2.3	4.3	4.3	2.7	3.5	5.6	1.59			
							COP [-]	5.1	4.7	3.6	2.7	2.3	3.5	2.7	2.0	1.02			

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2004 und EN 14511:2007

Test results of air to water heat pumps based on EN 14511:2004 and EN 14511:2007

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	A10 / W35	A7 / W35 - 30	A2 / W35	A-7 / W35	A-15 / W35	A7 / W45	A20 / W55	A7 / W55	A-7 / W65	Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor
								(80% r. H.)	(89% r. H.)	(84% r. H.)	(75% r. H.)	(-)	(89% r. H.)	(50% r. H.)	(89% r. H.)	(75% r. H.)			
Alpha-InnoTec GmbH Industriestrasse 3 D - 95359 Kasendorf	LWC 80	128-09-01	a	S	R407C	3.2	Heizleistung / Heat. cap. [kW]	-	8.8	8.0	6.0	4.6	8.5	11.5	8.5	5.7	1.7	53	-
							El. Leistung / Input power [kW]	-	2.1	2.3	2.2	2.1	2.5	3.6	3.1	3.1			
							COP [-]	-	4.1	3.5	2.7	2.2	3.4	3.2	2.7	1.9			
BARTL Wärmepumpen Wörthstrasse 13/1 D - 89077 Ulm	ECO 5LCI	146-10-06	a	S	R404A	2.8	Heizleistung / Heat. cap. [kW]	13.1	10.8	9.1	7.5	6.0	11.6	13.5	10.8	6.8	2.1	74	59
							El. Leistung / Input power [kW]	3.0	2.8	2.8	2.9	3.0	3.7	4.5	4.5	4.5			
							COP [-]	4.4	3.9	3.3	2.6	2.0	3.2	3.0	2.4	1.5			
	ECO 6 LS/HG	160-10-20	c	S	R404A	5.6	Heizleistung / Heat. cap. [kW]	16.5	15.7	10.8	8.6	8.6	14.7	16.8	13.9	9.5	2.7	69	51
							El. Leistung / Input power [kW]	3.8	3.8	3.4	3.3	3.5	4.6	5.6	5.6	5.3			
							COP [-]	4.3	4.1	3.2	2.6	2.4	3.2	3.0	2.5	1.8			
CTC Giersch AG Bahnhofstrasse 60 CH - 8112 Otelfingen	MLW 8	119-07-09	a	S	R407C	8.0	Heizleistung / Heat. cap. [kW]	11.5	10.0	8.5	6.7	5.3	9.6	12.8	9.5	6.5	1.8	60	59
							El. Leistung / Input power [kW]	3.0	2.9	2.8	2.8	2.7	3.4	4.3	4.1	3.9			
							COP [-]	3.9	3.4	3.0	2.4	1.9	2.8	3.0	2.3	1.7			
	MLW 12	120-08-01	a	S	R407C	8.5	Heizleistung / Heat. cap. [kW]	13.8	11.9	10.5	8.2	6.5	11.1	17.0	10.7	7.8	2.4	67	59
							El. Leistung / Input power [kW]	3.6	3.5	3.4	3.3	3.2	4.1	5.5	4.9	4.6			
							COP [-]	3.8	3.4	3.0	2.5	2.1	2.7	3.1	2.2	1.7			
Elcotherm AG Sarganserstrasse 100 CH - 7324 Vilters	AEROTOP G10	164-11-03	b	S	R407C	4.0	Heizleistung / Heat. cap. [kW]	14.1	12.5	9.2	7.6	6.4	12.6	15.5	12.0	7.3	2.1	59	-
							El. Leistung / Input power [kW]	2.7	2.7	2.5	2.5	2.4	3.3	4.1	4.0	3.5			
							COP [-]	5.2	4.7	3.7	3.1	2.7	3.8	3.7	3.0	2.1			
	AEROTOP G07-14M	185-12-02	b,d	S	R407C	4.6	Heizleistung / Heat. cap. [kW]	5.2	11.0	10.0	10.7	10.3	10.4	6.0	9.5	9.2	1.9	55	-
							El. Leistung / Input power [kW]	1.0	2.2	2.6	3.6	4.2	2.7	1.6	3.3	4.6			
							COP [-]	5.0	5.0	3.8	2.9	2.4	3.9	3.6	2.9	2.0			
Friap AG Ey 9 CH - 3036 Ittigen	FLWi 1-6	132-09-05	a	S	R407C	4.0	Heizleistung / Heat. cap. [kW]	-	8.2	6.2	5.2	3.9	7.8	9.5	7.5	5.1	1.4	53	52
							El. Leistung / Input power [kW]	-	2.1	1.9	1.9	1.8	2.5	2.9	2.9	2.6			
							COP [-]	-	4.0	3.2	2.8	2.2	3.2	3.2	2.6	1.9			
	FLWi 1-12	107-06-04	a	S	R407C	7.2	Siehe / see Sapac SA, Sirocco [kW]	16.7	15.4	12.7	11.0	8.7	15.5	19.6	16.0	10.1	2.9	67	59
							Siehe / see Sapac SA, Sirocco [kW]	4.4	4.4	4.2	4.1	4.0	5.2	6.5	6.3	5.7			
							COP [-]	3.8	3.5	3.0	2.7	2.2	3.0	3.0	2.5	1.8			
	LWsp 1-8	135-09-08	c	S	R407C	6.0	Heizleistung / Heat. cap. [kW]	11.8	10.9	8.7	6.5	4.9	10.7	13.5	10.2	6.7	1.9	59	47
							El. Leistung / Input power [kW]	2.8	2.8	2.6	2.5	2.4	3.3	4.2	4.0	3.6			
							COP [-]	4.2	3.9	3.3	2.6	2.1	3.2	3.2	2.6	1.9			

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2004 und EN 14511:2007

Test results of air to water heat pumps based on EN 14511:2004 and EN 14511:2007

Auftraggeber Customer	Gerät Type	Prüfnummer Test number	Bauart Type of construction	Produktart Product type	Kältemittel Refrigerant	Kältemittelmenge [kg] Capacity of refrigerant	Prüfbedingungen Test conditions	A10 / W35	A7 / W35 - 30	A2 / W35	A-7 / W35	A-15 / W35	A7 / W45	A20 / W55	A7 / W55	A-7 / W65	Volumenstrom [m³/h] Volume flow	Schalleistungspegel aussen [dB(A)] Sound power level outdoor	Schalleistungspegel innen [dB(A)] Sound power level indoor		
								(80% r. H.)	(89% r. H.)	(84% r. H.)	(75% r. H.)	(-)	(89% r. H.)	(50% r. H.)	(89% r. H.)	(75% r. H.)					
Friap AG Ey 9 CH - 3036 Ittigen	LWsp 1-12	136-09-09	c	S	R407C	6.8	Heizleistung / Heat. cap. [kW]	16.9	14.9	12.3	9.2	7.1	14.5	18.9	14.5	9.3	2.7	62	49		
							El. Leistung / Input power [kW]	3.9	3.8	3.7	3.5	3.3	4.5	5.8	5.5	5.0					
							COP [-]	4.3	3.9	3.4	2.6	2.2	3.2	3.3	2.6	1.9					
Green Terra AG Wiesenstrasse 1a CH - 8865 Bilten	AW 13 EVI	189-12-06	c	S	R407C	10.1	Siehe / see Wamak s.r.o, AW 13 EVI														
Harreither GmbH Oberland 71 A - 3334 Gaflenz	Klima Star Air 10	130-09-03	b	S	R407C	7.9	Heizleistung / Heat. cap. [kW]	-	11.1	9.5	7.1	5.5	11.2	16.5	11.2	7.4	2.3	67	-		
							El. Leistung / Input power [kW]	-	3.2	3.0	2.9	2.8	3.8	5.0	4.6	4.1					
							COP [-]	-	3.5	3.1	2.4	2.0	3.0	3.3	2.4	1.8					
HAUTEC GmbH An der Molkerei 9 D - 47551 Bedburg-Hau	HWL-A 43	113-07-03	b	S	R404A	2.7	Heizleistung / Heat. cap. [kW]	10.9	8.8	7.5	5.7	4.4	8.7	10.9	7.9	4.4	1.8	62	-		
							El. Leistung / Input power [kW]	2.6	2.4	2.3	2.0	1.8	2.7	3.4	3.0	2.2					
							COP [-]	4.2	3.7	3.3	2.8	2.5	3.2	3.2	2.7	2.0					
Heim AG Wittenwilerstrasse 31 CH - 8355 Aadorf	HLWi 1-12	107-06-04	a	S	R407C	7.2	Heizleistung / Heat. cap. [kW]	16.7	15.4	12.7	11.0	8.7	15.5	19.6	16.0	10.1	2.9	67	59		
							El. Leistung / Input power [kW]	4.4	4.4	4.2	4.1	4.0	5.2	6.5	6.3	5.7					
							COP [-]	3.8	3.5	3.0	2.7	2.2	3.0	3.0	2.5	1.8					
Heliotherm Wärmepumpentechnik GmbH Sportplatz 18 A - 6336 Langkampfen	HP10L-K-BC	159-10-19	c	S	R410A	8.3	Heizleistung / Heat. cap. [kW]	13.1	12.3	10.1	8.0	6.1	11.6	13.6	10.7	5.8	2.1	66	51		
							El. Leistung / Input power [kW]	2.4	2.4	2.4	2.4	2.3	3.0	3.6	3.7	3.5					
							COP [-]	5.4	5.1	4.2	3.3	2.6	3.8	3.7	2.9	1.7					
	HP10L-WEB	141-10-01	c	S	R410A	13.9	Heizleistung / Heat. cap. [kW]	13.4	12.5	10.0	8.0	6.4	11.7	14.8	10.8	-	2.2	63	45		
							El. Leistung / Input power [kW]	2.4	2.4	2.4	2.3	2.3	3.0	3.7	3.7	-					
							COP [-]	5.5	5.2	4.2	3.4	2.8	3.9	4.0	2.9	-					
H2Q Systems GmbH Welzheimer Strasse 53 D - 71554 Weissach im Tal	H2Q-1200	140-09-13	c,d	S	R410A	3.8	Heizleistung / Heat. cap. [kW]	12.4	11.8	9.1	7.6	4.4	9.8	13.3	10.6	5.5	2.2	64	-		
							El. Leistung / Input power [kW]	2.9	2.9	2.8	2.8	2.4	3.4	4.3	4.1	3.2					
							COP [-]	4.3	4.0	3.3	2.7	1.8	2.9	3.1	2.5	1.7					
KNV Energietechnik GmbH Gahbergasse 11 A - 4861 Schörfing	LWSE - 10	131-09-04	c	S	R407C	7.0	Heizleistung / Heat. cap. [kW]	13.2	12.2	9.3	7.9	6.3	11.8	14.2	11.2	7.5	2.1	65	50		
							El. Leistung / Input power [kW]	3.0	2.9	2.8	2.7	2.6	3.5	4.4	4.2	3.9					
							COP [-]	4.5	4.2	3.4	2.9	2.4	3.3	3.2	2.6	1.9					
Multi Energie AG Wiesentalstrasse 20 CH - 8355 Aadorf	RLW 12.3	119-07-09	a	S	R407C	8.0	Siehe / see CTC Giersch AG, MLW 8														
	RLW 16.3	120-08-01	a	S	R407C	8.5	Siehe / see CTC Giersch AG, MLW 12														

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2004 und EN 14511:2007

Test results of air to water heat pumps based on EN 14511:2004 and EN 14511:2007

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							A10 / W35 (80% r. H.)	A7 / W35 - 30 (89% r. H.)	A2 / W35 (84% r. H.)	A-7 / W35 (75% r. H.)	A-15 / W35 (-)	A7 / W45 (89% r. H.)	A20 / W55 (50% r. H.)	A7 / W55 (89% r. H.)	A-7 / W65 (75% r. H.)	Heizleistung / Heat. cap. [kW]	El. Leistung / Input power [kW]			
Ochsner Wärmepumpen GmbH Ochsner-Strasse 1 A - 3350 Haag	GMLW 5 (VHS)	147-11-05	c	S	R407C	4.7	Heizleistung / Heat. cap. [kW]	6.8	6.3	5.3	4.0	3.1	5.9	7.4	5.5	3.6	1.1	54	41	
							El. Leistung / Input power [kW]	1.4	1.4	1.3	1.3	1.2	1.6	2.0	1.9	1.7				
							COP [-]	5.0	4.7	3.9	3.1	2.6	3.6	3.7	2.9	2.1				
	GMLW 9 plus (VHS) GMLW 9 plus (VHS/M)	191-12-08	c	S	R407C	11.5	Heizleistung / Heat. cap. [kW]	11.0	10.2	8.8	6.8	5.4	10.0	12.6	10.2	7.0	1.8	64	51	
							El. Leistung / Input power [kW]	2.2	2.2	2.2	2.0	2.0	2.6	3.2	3.2	3.0				
							COP [-]	4.9	4.5	4.0	3.3	2.7	3.9	3.9	3.2	2.3				
		GMLW 14 plus (VHS) GMLW 14 plus (VHS/M)	171-11-11	c	S	R407C	11.6	Heizleistung / Heat. cap. [kW]	16.0	15.1	13.2	10.6	8.2	15.0	18.5	15.2	11.1	2.6	55	48
								El. Leistung / Input power [kW]	3.0	3.0	3.0	3.0	2.9	3.7	4.6	4.6	4.4			
								COP [-]	5.3	5.0	4.4	3.6	2.8	4.1	4.0	3.3	2.5			
PZP Heating a.s. Dobre 149 CZ - 51793 Dobre	HP3AWX 08	190-12-07	b	S	R410A	2.7	Heizleistung / Heat. cap. [kW]	11.6	11.1	8.8	7.1	5.7	10.5	12.6	10.0	7.0	1.9	66	-	
							El. Leistung / Input power [kW]	2.3	2.4	2.3	2.3	2.3	2.9	3.5	3.5	3.4				
							COP [-]	5.0	4.7	3.8	3.1	2.5	3.6	3.5	2.9	2.0				
Swisstherm AG Hardstrasse 21 CH - 5103 Wildegg	AWX 08	149-10-09	b	S	R404A	3.8	Heizleistung / Heat. cap. [kW]	9.3	8.7	6.6	5.1	3.9	8.1	9.4	7.4	4.4	1.5	66	-	
							El. Leistung / Input power [kW]	2.3	2.3	2.1	2.0	1.9	2.6	3.2	3.0	2.6				
							COP [-]	4.0	3.8	3.1	2.5	2.0	3.2	3.0	2.5	1.7				
	AWX 08	190-12-07	b	S	R410A	2.7	Siehe / see PZP Heating a.s., HP3AWX 08													
Technibel S.A.S ZI Reyrieux - BP 131 F - 01601 Trevoux Cedex	PHRIE 157 F	183-11-23	b,d	S	R410A	3.5	Heizleistung / Heat. cap. [kW]	17.2	16.4	11.3	9.9	7.7	15.9	13.5	13.0	7.0	2.8	70	-	
							El. Leistung / Input power [kW]	3.6	3.7	3.2	3.3	3.2	4.4	3.9	4.6	3.8				
							COP [-]	4.7	4.5	3.5	3.0	2.4	3.6	3.5	2.8	1.9				
Voß Wärmepumpen GmbH Lange Gasse 20 D - 93468 Furth im Wald	LW 12 - basic	134-09-07	c	S	R407C	17.0	Heizleistung / Heat. cap. [kW]	12.6	11.8	9.7	7.7	6.1	11.3	14.1	11.1	7.4	2.0	63	50	
							El. Leistung / Input power [kW]	2.6	2.6	2.6	2.6	2.5	3.2	3.9	3.9	3.8				
							COP [-]	4.8	4.5	3.7	3.0	2.4	3.6	3.7	2.9	1.9				
Wamak s.r.o. Hodrusa - Harmre 1118 SK - 96661 Hodrusa-Hamre	AW 13 EVI	189-12-06	c	S	R407C	10.1	Heizleistung / Heat. cap. [kW]	14.9	12.9	11.0	9.5	7.9	13.0	17.3	13.3	9.7	2.4	64	-	
							El. Leistung / Input power [kW]	3.1	3.0	2.9	2.9	2.9	3.6	4.6	4.5	4.2				
							COP [-]	4.8	4.3	3.8	3.2	2.7	3.6	3.6	3.0	2.3				
Wolf GmbH Industriestrasse D - 84048 Mainburg	BWL-1-10	150-10-10	b	S	R407C	4.4	Heizleistung / Heat. cap. [kW]	10.6	9.4	9.4	8.5	6.7	12.2	14.5	11.8	8.1	2.1	56	-	
							El. Leistung / Input power [kW]	2.3	2.1	2.6	2.7	2.6	3.4	4.1	4.1	3.9				
							COP [-]	4.6	4.4	3.7	3.2	2.5	3.6	3.5	2.9	2.1				

Prüfresultate Luft/Wasser-Wärmepumpen basierend auf der EN 14511:2004 und EN 14511:2007

Test results of air to water heat pumps based on EN 14511:2004 and EN 14511:2007

Auftraggeber Customer	Gerät Type	Prüfbedingungen Test conditions
	Prüfnummer Test number Bauart Type of construction Produktart Product type Kältemittel Refrigerant Kältemittelmenge [kg] Capacity of refrigerant	A10 / W35 (80% r. H.) A7 / W35 - 30 (89% r. H.) A2 / W35 (84% r. H.) A-7 / W35 (75% r. H.) A-15 / W35 (-) A7 / W45 (89% r. H.) A20 / W55 (50% r. H.) A7 / W55 (89% r. H.) A-7 / W65 (75% r. H.) Volumenstrom [m ³ /h] Volume flow Schalleistungspegel aussen [dB(A)] Sound power level outdoor Schalleistungspegel innen [dB(A)] Sound power level indoor

Bauart / Type of construction

- a Kompaktwärmepumpe für Innenaufstellung / Compact heat pump for indoor installation
- b Kompaktwärmepumpe für Aussenaufstellung / Compact heat pump for outdoor installation
- c Splitwärmepumpe / Split heat pump
- d Leistungsgeregelte Wärmepumpe mit Frequenzumformer / Output-modulated heat pump with frequency converter

Produktart / Product typ

- S Serienprodukt / Standard product
- P Prototyp / Prototype
- E Einzelanfertigung / Single-unit production

Abkürzungen / Abbreviations

- A Lufttemperatur / Air temperature
- W Wassertemperatur / Water temperature
- r. H. relative Luftfeuchtigkeit / relative humidity

Schalleistungspegel aussen / Sound power level outdoor:

bezieht sich auf das Geräusch draussen (wird vom Nachbar wahrgenommen) / relates to the noise outside (is perceived by the neighbor)

Schalleistungspegel innen / Sound power level indoor:

bezieht sich auf das Geräusch drinnen (z.B. im Aufstellungsraum) / it relates to the indoor noise (e.g. in the installation room)