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10077041

alpha innotec

LWCV 82R1/3 + Luxtronik 2.1





heatpump datasheet:		
manufacturer:	alpha innotec	
model:	LWCV 82R1/3	

Information concerning energy efficiency class and rated heat output:

	average / low	average / medium	
energy efficiency class space heater:	A+++	A++	-
rated heat output:	7	6	kW
energy efficiency space heater:	180	135	%
annual final energy consumption space heater	3029	3390	kWh

48

dB

sound power level indoors

special precautions concerning assembly, installation or maintenance

All instructional work in this manual may only be carried out by qualified specialist personnel in compliance with local regulations.

additional information	low	medium	
rated heat output colder climate	7	5	kW
rated heat output warmer climate	4	6	kW
energy effiency space heater colder climate	145	127	%
energy effiency space heater warmer climate	214	156	%
annual energy consumption space heater colder climate	4339	3781	kWh
annual energy consumption space heater warmer climate	1009	1844	kWh
sound power level outdoors		44	dB

technical data of the temperature controller						
manufacturer:	alpha innotec					
model:	Luxtronik 2.1					
controller class	VII	-				
contribution of the controller to the energy efficiency space heater	3,5	%				

Model				LWCV 82R1/3			
Air-to-water heat pump: (yes/no)				yes			
Brine-to-water heat pump: (yes/n	o)			no			
Water-to-water heat pump: (yes/i	no)			no			
Low-temperature heat pump: (ye	s/no)			no			
Equipped with supplementary he	ater: (yes/no)		yes			
combination heater with: (yes/no))			no			
application: (low/medium)				medium			
climate: (colder/average/warmer)				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	6	kW	Seasonal space heating energy efficiency	ηS	134,7	%
Declared coefficient of perfor temperature 20°C and outdoo			indoor	Declared coefficient of perfor temperature 20°C and outdoor			ndoor
Tj = -7°C	Pdh	5,0	kW	Tj = -7°C	COPd	2,31	-
Tj = +2°C	Pdh	3,5	kW	Tj = +2°C	COPd	3,43	-
Tj = +7°C	Pdh	3,0	kW	Tj = +7°C	COPd	4,86	-
Tj = +12°C	Pdh	3,4	kW	Tj = +12°C	COPd	6,56	-
Tj = bivalent temperature	Pdh	5,0	kW	Tj = bivalent temperature	COPd	2,31	-
Tj = operation limit temperature	Pdh	4,2	kW	Tj = operation limit temperature	COPd	2,12	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes	other than	n active mod	e	Supplementary heater			
Off mode	P _{OFF}	0,031	kW	Rated heat output	Psup	1,4	kW
Thermostat-off mode	P _{TO}	-	kW	Type of energy input		electrical	1
Standby mode	P _{SB}	0,031	kW				
Crankcase heater mode	Рск	-	kW	-			
Other items			1		1		
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2.500	m ³ /h
sound power level, indoors/outdoors	L _{WA}	48 / 44	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides	NO _X	-	mg/kWh				
For heat pump combination h	eater:	-					
Declared load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Contact details	ait deutsch	land GmbH Ir	ndustriestr. 3	95359 Kasendorf Germany			•
				the rated heat output Prated is equ equal to the supplementary capac			eating
-			-	tion coefficient is Cdh = 0,9.	-		

Rated heat outputPrated7kWSeasonal space heating energy efficiencynS179.8Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TjDeclared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TjTj = -7°CPdh5.9kWTj = -7°CCOPd3.26Tj = +7°CPdh3.8kWTj = +7°CCOPd4.70Tj = +7°CPdh3.3kWTj = +7°CCOPd5.97Tj = +12°CPdh3.4kWTj = +12°CCOPd5.97Tj = +12°CPdh5.9kWTj = +12°CCOPd5.97Tj = bivalent temperaturePdh5.9kWTj = +12°CCOPd3.26Tj = operation limit temperaturePdh5.9kWTj = -15°C (if TOL < -20°C)	Model				LWCV 82R1/3			
no Low-temperature heat pump: (yes/no) no Equipped with supplementary heater: (yes/no) yes Combination heater with: (yes/no) no application: (low/medium) low average Item Symbol Value U Belaned coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj T] = +2°C Pdh 3,8 kW T] = +2°C COPd 3,26 T] = +2°C Pdh 3,3 kW T] = +12°C COPd 5,27 T] = +12°C Pdh 3,3 kW T] = +12°C COPd 3,26 T] = +12°C COPd 5,27 T] = +12°C COPd 3,26 T] = operation limit temperature<	Air-to-water heat pump: (yes/no)							
Low-temperature heat pump: (yes/no) no Equipped with supplementary heater: (yes/no) yes combination heater with: (yes/no) no average average Item Symbol Value Unit Rated heat output Prated 7 kW Seasonal space heating energy efficiency nS 179.8 n Declared coefficient of performance for part load at indoor temperature Tj Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj Declared coefficient of performance for part load at indoor Declared coefficient of performance for part load at indoor Tj = -7°C Pdh 3.8 kW Tj = -7°C COPd 3.26 Tj = +2°C Pdh 3.8 kW Tj = -7°C COPd 5.97 Tj = +12°C Pdh 3.4 kW Tj = +2°C COPd 5.97 Tj = +12°C Pdh 3.4 kW Tj = +2°C COPd 3.26 Tj = oparation limit temperature Pdh 5.1 kW Tj = bivalent temperature COPd 3.18 For air-to-water heat pumps: Tj Pdh - KW Gurair-to	Brine-to-water heat pump: (yes/n	o)						
Equipped with supplementary heater: (yes/no) yes combination hadro with: (yes/no) no application: (low/medium) low combination: (low/medium) low climate: (colder/average/warmer) average Rated heat output Prated 7 kW Seasonal space heating energy efficiency nS 179.8 9 Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature 71 Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature 71 Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature 71 Tj = -7°C Pdh 5.9 kW Tj = +2°C COPd 3.26 17 Tj = +2°C Pdh 3.8 KW Tj = +2°C COPd 3.26 17 Tj = +2°C Pdh 3.4 kW Tj = +2°C COPd 3.26 17 Tj = +2°C Pdh 3.4 kW Tj = operation limit temperature COPd 3.26 17 Tj = operation limit temperature Pdh 5.1 kW Tj = operation limit temperature COPd 3.18 16 Fo	Water-to-water heat pump: (yes/	no)			no			
combination heater with: (yes/no) no application: (low/modium) low climate: (colder/average/warmer) average Item Symbol Value Unit Item Symbol Value U Rated heat output Prated 7 kW Seasonal space heating energy efficiency η S 179,8 U Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj Declared coefficient of performance for part load at indoor beclared coefficient of performance for part load at indoor T] = +7°C Pdh 5,9 kW Tj = -7°C COPd 3,26 T] = +7°C Pdh 3,8 kW Tj = -7°C COPd 5,97 T] = +2°C Pdh 3,4 kW Tj = +2°C COPd 5,97 T] = +12°C Pdh 3,4 kW Tj = +12°C COPd 5,97 T] = spacetion limit temperature Pdh 5,9 kW Tj = -17°C COPd 3,26 T] = operation limit temperature Pdh 5,1 KW Tj = -10°C COPd 3,26 T] = operation limit tempe	Low-temperature heat pump: (ye	s/no)						
application: (low/medium) low climate: (colder/average/warmer) average Item Symbol Value Unit Item Symbol Value U Rated heat output Prated 7 kW Seasonal space heating energy efficiency n_S 179,8 0 Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj Declared coefficient of performance for part load at indoor Tj = -7°C Pdh 5,9 kW Tj = -7°C COPd 3,26 Tj = +2°C Pdh 3,8 kW Tj = +7°C COPd 5,97 T T = +1°C Pdh 3,8 kW Tj = +7°C COPd 5,97 T T = +1°C Pdh 3,4 kW Tj = +1°C COPd 5,97 T T = bivalent temperature Pdh 5,1 kW Tj = peration limit temperature COPd 3,26 T = operation limit temperature Pdh 5,1 kW Tj = operation limit temperature COPd 3,8 For air-to-water heat pumps: Tj = operation limit temperature To -	Equipped with supplementary heater: (yes/no)				yes			
climate: (colder/average/warmer) average Item Symbol Value Unit Item Symbol Value U Rated heat output Prated 7 KW Seasonal space heating emperature 20°C and outdoor temperature TJ η S 179.8 η Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TJ Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TJ Tj = -7°C Pdh 5.9 kW Tj = -7°C COPd 3.26 Tj = +2°C Pdh 3.8 kW Tj = +2°C COPd 5.97 C Tj = +12°C Pdh 3.4 kW Tj = +12°C COPd 3.26 C Tj = opration limit temperature Pdh 5.9 kW Tj = +12°C COPd 3.26 C Tj = opration limit temperature Pdh 5.9 kW Tj = -12°C COPd 3.26 C Tj = opration limit temperature Pdh 5.9 kW Tj = opration limit temperature COPd 3.18 For air-to-water heat pumps: Tj Pdh - -<	combination heater with: (yes/no))			no			
ItemSymbolValueUnitItemSymbolValueURated heat outputPrated7kWSeasonal space heating energy efficiency η S179,8 η SDeclared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TjDeclared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TjDeclared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature TjTj = -7°CPdh5,9kWTj = -7°CCOPd3,26Tj = +2°CPdh3,8kWTj = +12°CCOPd5,97Tj = +12°CPdh3,4kWTj = +12°CCOPd3,26Tj = bivalent temperaturePdh5,9kWTj = opration limit temperatureCOPd3,26Tj = opration limit temperaturePdh5,9kWTj = opration limit temperatureCOPd3,26Tj = opration limit temperaturePdh5,9kWTj = opration limit temperatureCOPd3,18For air-to-water heat pumps: TjPdh-kWFor air-to-water heat pumps: TjCOPd-=15°C (IT TOL <-20°C)	application: (low/medium)				low			
Rated heat output Prated 7 kW Seasonal space heating energy efficiency nS 179,8 nS Declared coefficient of performance for part load at indoor temperature 71 Declared coefficient of performance for part load at indoor temperature 71 Declared coefficient of performance for part load at indoor temperature 70°C COPd 3,26 IT = +2°C COPd 3,26 IT = +17°C COPd 5,97 IT = +17°C COPd 3,26 IT = +17°C COPd 3,26 IT = +15°C (IT COV IT = +15°C (IT COV COPd 3,18 IT = +15°C (IT COV COPd -	climate: (colder/average/warmer)				average			
Declared coefficient of performance for part load at index temperature 20°C and outdoor temperature Tj $T = -7^{\circ}C$ Pdh5.9KWTj = -7^{\circ}CCOPd3.26T = +2°CPdh3.8KWTj = +2°CCOPd4.70TjT = +2°CPdh3.3KWTj = +2°CCOPd5.97TjT = +12°CPdh3.4KWTj = +2°CCOPd5.97TjT = +12°CPdh3.4KWTj = +12°CCOPd7.92TjT = operation limit temperaturePdh5.9KWTj = bivalent temperatureCOPd3.26TjT = operation limit temperaturePdh5.9KWTj = operation limit temperatureCOPd3.18TjT = operation limit temperaturePdh5.1KWTj = operation limit temperatureCOPd3.18Tj= -15°C (if TOL < -20°C)	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
temperature 20°C and outdoor temperature TjTj = -7°CPdh5.9KWTj = -7°CCOPd3.26TjTj = +2°CPdh3.8KWTj = +2°CCOPd4.70TjTj = +2°CPdh3.3KWTj = +2°CCOPd5.97TjTj = +12°CPdh3.3KWTj = +7°CCOPd5.97TjTj = bivalent temperaturePdh5.9KWTj = paratorCOPd3.26TjTj = operation limit temperaturePdh5.9KWTj = parator temperatureCOPd3.26TjTo aperation limit temperaturePdh5.1KWTj = operation limit temperatureCOPd3.18ToFor air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Rated heat output	Prated	7	kW		ηS	179,8	%
T j = +2°CPdh3,8KWT j = +2°CCOPd4,70T j = +7°CPdh3,3kWT j = +7°CCOPd5,97T j = +12°CPdh3,4kWT j = +7°CCOPd5,97T j = bivalent temperaturePdh5,9kWT j = +12°CCOPd7,92T j = bivalent temperaturePdh5,9kWT j = bivalent temperatureCOPd3,26T j = operation limit temperaturePdh5,1kWT j = operation limit temperatureCOPd3,26For air-to-water heat pumps: T jPdh-kWFor air-to-water heat pumps: T jCOPd-e-15°C (if TOL < -20°C)Bivalent temperatureT biv-7°CFor air-to-water heat pumps: TOL-10°geradation co-efficient (**)Cdh1,0-KWCycling interval efficiencyCOPcycDegradation co-efficient (**)Cdh1,0-Heating water operating limit temperatureWTOL60°Power consumption in modes other than active modeSupplementary heaterVTOL60°Off modeP_{OFF}0,031kWRated heat outputPsup1,6kThermostat-off modeP_{CK}-kWType of energy inputelectricalStandby modeP_{SB}0,031kWRated heat outputPsup1,6kCapacity controlvariableFor air-to-water heat pumps: Rated air flow rate, outdoors-2.500				indoor				indoor
Tj = +7°CPdh3,3kWTj = +7°CCOPd5,97Tj = +12°CPdh3,4kWTj = +12°CCOPd7,92Tj = bivalent temperaturePdh5,9kWTj = bivalent temperatureCOPd3,26Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,26Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,18For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Tj = -7°C	Pdh	5,9	kW	Tj = -7°C	COPd	3,26	-
Tj = +7°CPdh3,3kWTj = +7°CCOPd5,97Tj = +12°CPdh3,4kWTj = +12°CCOPd7,92Tj = bivalent temperaturePdh5,9kWTj = bivalent temperatureCOPd3,26Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,26Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,26For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Tj = +2°C	Pdh	3,8	kW	Tj = +2°C	COPd	4,70	-
T = bivalent temperaturePdh5.9kWT = bivalent temperatureCOPd3.26T = operation limit temperaturePdh5.1kWT = operation limit temperatureCOPd3.18For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)		Pdh	3,3	kW	Tj = +7°C	COPd	5,97	-
Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,18For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Tj = +12°C	Pdh	3,4	kW	Tj = +12°C	COPd	7,92	-
Tj = operation limit temperaturePdh5,1kWTj = operation limit temperatureCOPd3,18For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Tj = bivalent temperature	Pdh	5,9	kW	Tj = bivalent temperature	COPd	3,26	-
= -15 °C (if TOL < -20 °C)	Tj = operation limit temperature	Pdh	5,1	kW	Tj = operation limit temperature	COPd	3,18	-
Cycling interval capacity for heatingPcych.kWCycling interval efficiencyCOPcyc.Degradation co-efficient (**)Cdh1,0.Heating water operating limit temperatureWTOL60.Power consumption in modes other than active modeOff mode P_{OFF} 0,031kWRated heat outputPsup1,6kOff mode P_{OFF} 0,031kWRated heat outputPsup1,6kThermostat-off mode P_{TO} .kWType of energy inputelectricalStandby mode P_{SB} 0,031kWFor air-to-water heat pumps: Rated air flow rate, outdoors.2.500mOther itemsKWBoy air flow rate, outdoors2.500mSound power level, indoors/outdoorsMB///Emissions of nitrogen oxidesNO_x.mg/kWhFor water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchangerFor heat pump combination heater:Output controlOther itemsOther itemsSunda power level,		Pdh	-	kW		COPd	-	-
heatingImage: Second seco	Bivalent temperature	T _{biv}	-7	°C		TOL	-10	°C
Power consumption in modes other than active mode Supplementary heater Off mode P _{OFF} 0,031 kW Rated heat output Psup 1,6 k Thermostat-off mode P _{TO} - kW Type of energy input electrical electrical Standby mode P _{SB} 0,031 kW Type of energy input electrical electrical Crankcase heater mode P _{CK} - kW electrical electrical electrical Other items Capacity control variable For air-to-water heat pumps: Rated air flow rate, outdoors - 2.500 m sound power level, indoors/outdoors L _{WA} 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - - - m Emissions of nitrogen oxides NO _X - mg/kWh - - - - m For heat pump combination beater: Emissions of nitrogen oxides NO _X - mg/kWh - - - - - -		Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Off mode P_{OFF} 0,031kWRated heat outputPsup1,6kThermostat-off mode P_{TO} -kWType of energy inputelectricalStandby mode P_{SB} 0,031kWType of energy inputelectricalCrankcase heater mode P_{CK} -kWMOther items $Variable$ For air-to-water heat pumps: Rated air flow rate, outdoors-2.500msound power level, indoors/outdoors L_{WA} $48/44$ dBFor water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchangermEmissions of nitrogen oxides NO_X -mg/kWh-m-mFor heat pump combination heater:	Degradation co-efficient (**)	Cdh	1,0	-		WTOL	60	°C
Thermostat-off mode PTO - kW Type of energy input electrical Standby mode PSB 0,031 kW Type of energy input electrical Crankcase heater mode PCK - kW electrical electrical Other items Capacity control variable For air-to-water heat pumps: Rated air flow rate, outdoors - 2.500 m sound power level, indoors/outdoors LWA 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - - m Emissions of nitrogen oxides NOx - mg/kWh - mg/kWh - <td>Power consumption in modes</td> <td>other than</td> <td>n active mod</td> <td>le</td> <td>Supplementary heater</td> <td></td> <td></td> <td></td>	Power consumption in modes	other than	n active mod	le	Supplementary heater			
Thermostat-off mode PTO - kW Type of energy input electrical Standby mode PSB 0,031 kW - electrical - Crankcase heater mode PCK - kW -	Off mode	P _{OFF}	0,031	kW	Rated heat output	Psup	1,6	kW
Standby mode P _{SB} 0,031 kW Crankcase heater mode P _{CK} - kW Other items Other items - kW For air-to-water heat pumps: Rated air flow rate, outdoors - 2.500 m Sound power level, indoors/outdoors L _{WA} 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - - m Emissions of nitrogen oxides NO _X - mg/kWh - the pump combination heater:	Thermostat-off mode		-	kW	Type of energy input		electrical	
Crankcase heater mode P _{CK} - kW Other items Other items Capacity control variable For air-to-water heat pumps: Rated air flow rate, outdoors - 2.500 m sound power level, indoors/outdoors L _{WA} 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - - m Emissions of nitrogen oxides NO _X - mg/kWh -	Standby mode		0,031	kW	-			
Other items Capacity control variable For air-to-water heat pumps: Rated air flow rate, outdoors - 2.500 m sound power level, indoors/outdoors LwA 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - m Emissions of nitrogen oxides NO _X - mg/kWh For heat pump combination heater: - md/km M/km	Crankcase heater mode		-	kW				
Sound power level, indoors/outdoors L _{WA} 48 / 44 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - m Emissions of nitrogen oxides NO _X - mg/kWh For heat pump combination heater: - md/km	Other items			•				
indoors/outdoors NO _X - mg/kWh For heat pump combination heater:	Capacity control		variable			-	2.500	m³/h
For heat pump combination heater:		L _{WA}	48 / 44	dB	pumps: Rated brine or water flow rate, outdoor heat	-	-	m ³ /h
	Emissions of nitrogen oxides	NO _X	-	mg/kWh				
Declared load profile - Water heating energy efficiency η_{wh} -	For heat pump combination h	eater:						
	Declared load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption Q _{elec} - kWh Daily fuel consumption Qfuel - kV	Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption		-	kWh
Contact details ait deutschland GmbH Industriestr. 3 95359 Kasendorf Germany	Contact details	ait deutsch	land GmbH Ir	ndustriestr. 3	95359 Kasendorf Germany	-		-
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).								eating
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.			-					