EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

EN

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Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

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Reversible Heat Pump (Heating Mode)

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EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Average climate 30/35ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	31.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	25.3	kW
T_j = + 2 ºC	**Pdh**	26.7	kW
T_j = + 7 ºC	**Pdh**	27.7	kW
T_j = + 12 ºC	**Pdh**	35.9	kW
T j = bivalent temperature	**Pdh**	31.7	kW
T j = operational limit	**Pdh**	31.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	147.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.91	---
T_j = + 2 ºC	COP_d	4.17	---
T_j = + 7 ºC	COP_d	4.09	---
T_j = + 12 ºC	COP_d	6.01	---
T j = bivalent temperature	COP_d	2.59	---
T j = operational limit	COP_d	2.59	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

Contact information	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - C.P.: 14900 - Lucena, Córdoba (SPAIN) - Phone: +34 957 51 07 52

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	50.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	40.5	kW
T_j = + 2 ºC	**Pdh**	40.1	kW
T_j = + 7 ºC	**Pdh**	42.9	kW
T_j = + 12 ºC	**Pdh**	51.8	kW
T j = bivalent temperature	**Pdh**	50.6	kW
T j = operational limit	**Pdh**	50.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	147.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.50	---
T_j = + 2 ºC	COP_d	4.12	---
T_j = + 7 ºC	COP_d	4.28	---
T_j = + 12 ºC	COP_d	5.78	---
T j = bivalent temperature	COP_d	2.59	---
T j = operational limit	COP_d	2.59	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	72.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	59.2	kW
T_j = + 2 ºC	**Pdh**	51.8	kW
T_j = + 7 ºC	**Pdh**	57.0	kW
T_j = + 12 ºC	**Pdh**	69.8	kW
T j = bivalent temperature	**Pdh**	72.7	kW
T j = operational limit	**Pdh**	72.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.09	---
T_j = + 2 ºC	COP_d	4.25	---
T_j = + 7 ºC	COP_d	4.65	---
T_j = + 12 ºC	COP_d	6.53	---
T j = bivalent temperature	COP_d	2.75	---
T j = operational limit	COP_d	2.75	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	84.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	69.7	kW
T_j = + 2 ºC	**Pdh**	59.9	kW
T_j = + 7 ºC	**Pdh**	66.4	kW
T_j = + 12 ºC	**Pdh**	80.0	kW
T j = bivalent temperature	**Pdh**	84.7	kW
T j = operational limit	**Pdh**	84.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	151.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.02	---
T_j = + 2 ºC	COP_d	4.19	---
T_j = + 7 ºC	COP_d	4.60	---
T_j = + 12 ºC	COP_d	6.19	---
T j = bivalent temperature	COP_d	2.67	---
T j = operational limit	COP_d	2.67	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	103.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	83.1	kW
T_j = + 2 ºC	**Pdh**	76.9	kW
T_j = + 7 ºC	**Pdh**	85.8	kW
T_j = + 12 ºC	**Pdh**	100.5	kW
T j = bivalent temperature	**Pdh**	103.5	kW
T j = operational limit	**Pdh**	103.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.70	---
T_j = + 2 ºC	COP_d	4.41	---
T_j = + 7 ºC	COP_d	4.89	---
T_j = + 12 ºC	COP_d	6.27	---
T j = bivalent temperature	COP_d	2.70	---
T j = operational limit	COP_d	2.70	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	105.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	84.4	kW
T_j = + 2 ºC	***Pdh***	51.4	kW
T_j = + 7 ºC	***Pdh***	42.5	kW
T_j = + 12 ºC	***Pdh***	50.3	kW
T j = bivalent temperature	***Pdh***	105.0	kW
T j = operational limit	***Pdh***	105.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	-10	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	160.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.12	---
T_j = + 2 ºC	COP_d	4.18	---
T_j = + 7 ºC	COP_d	4.55	---
T_j = + 12 ºC	COP_d	5.90	---
T j = bivalent temperature	COP_d	2.67	---
T j = operational limit	COP_d	2.67	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	148.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	118.8	kW
T_j = + 2 ºC	**Pdh**	72.6	kW
T_j = + 7 ºC	**Pdh**	56.4	kW
T_j = + 12 ºC	**Pdh**	68.0	kW
T j = bivalent temperature	**Pdh**	148.2	kW
T j = operational limit	**Pdh**	148.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	168.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.15	---
T_j = + 2 ºC	COP_d	4.35	---
T_j = + 7 ºC	COP_d	4.84	---
T_j = + 12 ºC	COP_d	6.48	---
T j = bivalent temperature	COP_d	2.73	---
T j = operational limit	COP_d	2.73	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	175.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	141.7	kW
T_j = + 2 ºC	**Pdh**	86.1	kW
T_j = + 7 ºC	**Pdh**	62.2	kW
T_j = + 12 ºC	**Pdh**	72.9	kW
T j = bivalent temperature	**Pdh**	175.3	kW
T j = operational limit	**Pdh**	175.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	162.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.14	---
T_j = + 2 ºC	COP_d	4.22	---
T_j = + 7 ºC	COP_d	4.59	---
T_j = + 12 ºC	COP_d	5.79	---
T j = bivalent temperature	COP_d	2.72	---
T j = operational limit	COP_d	2.72	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	208.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	166.5	kW
T_j = + 2 ºC	**Pdh**	102.4	kW
T_j = + 7 ºC	**Pdh**	88.5	kW
T_j = + 12 ºC	**Pdh**	103.8	kW
T j = bivalent temperature	**Pdh**	208.8	kW
T j = operational limit	**Pdh**	208.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	162.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.89	---
T_j = + 2 ºC	COP_d	3.95	---
T_j = + 7 ºC	COP_d	5.47	---
T_j = + 12 ºC	COP_d	6.99	---
T j = bivalent temperature	COP_d	2.72	---
T j = operational limit	COP_d	2.72	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Average climate 40/45ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	29.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	23.4	kW
T_j = + 2 ºC	**Pdh**	25.3	kW
T_j = + 7 ºC	**Pdh**	26.5	kW
T_j = + 12 ºC	**Pdh**	34.9	kW
T j = bivalent temperature	**Pdh**	29.1	kW
T j = operational limit	**Pdh**	29.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	136.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.22	---
T_j = + 2 ºC	COP_d	3.81	---
T_j = + 7 ºC	COP_d	3.64	---
T_j = + 12 ºC	COP_d	5.45	---
T j = bivalent temperature	COP_d	2.18	---
T j = operational limit	COP_d	2.18	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	46.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	37.6	kW
T_j = + 2 ºC	**Pdh**	38.6	kW
T_j = + 7 ºC	**Pdh**	41.8	kW
T_j = + 12 ºC	**Pdh**	51.3	kW
T j = bivalent temperature	**Pdh**	46.8	kW
T j = operational limit	**Pdh**	46.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	132.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.19	---
T_j = + 2 ºC	COP_d	3.75	---
T_j = + 7 ºC	COP_d	3.84	---
T_j = + 12 ºC	COP_d	5.28	---
T j = bivalent temperature	COP_d	2.23	---
T j = operational limit	COP_d	2.23	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	65.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	52.5	kW
T_j = + 2 ºC	**Pdh**	49.4	kW
T_j = + 7 ºC	**Pdh**	55.1	kW
T_j = + 12 ºC	**Pdh**	68.7	kW
T j = bivalent temperature	**Pdh**	65.9	kW
T j = operational limit	**Pdh**	65.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	135.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.69	---
T_j = + 2 ºC	COP_d	3.81	---
T_j = + 7 ºC	COP_d	4.11	---
T_j = + 12 ºC	COP_d	5.85	---
T j = bivalent temperature	COP_d	2.33	---
T j = operational limit	COP_d	2.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	77.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	61.8	kW
T_j = + 2 ºC	**Pdh**	57.3	kW
T_j = + 7 ºC	**Pdh**	64.3	kW
T_j = + 12 ºC	**Pdh**	78.9	kW
T j = bivalent temperature	**Pdh**	77.0	kW
T j = operational limit	**Pdh**	77.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	133.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.62	---
T_j = + 2 ºC	COP_d	3.76	---
T_j = + 7 ºC	COP_d	4.09	---
T_j = + 12 ºC	COP_d	5.59	---
T j = bivalent temperature	COP_d	2.28	---
T j = operational limit	COP_d	2.28	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	94.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	76.0	kW
T_j = + 2 ºC	**Pdh**	73.4	kW
T_j = + 7 ºC	**Pdh**	83.0	kW
T_j = + 12 ºC	**Pdh**	99.0	kW
T j = bivalent temperature	**Pdh**	94.7	kW
T j = operational limit	**Pdh**	94.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	135.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.35	---
T_j = + 2 ºC	COP_d	3.94	---
T_j = + 7 ºC	COP_d	4.34	---
T_j = + 12 ºC	COP_d	5.70	---
T j = bivalent temperature	COP_d	2.31	---
T j = operational limit	COP_d	2.31	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	96.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	77.3	kW
T_j = + 2 ºC	**Pdh**	47.0	kW
T_j = + 7 ºC	**Pdh**	41.3	kW
T_j = + 12 ºC	**Pdh**	49.7	kW
T j = bivalent temperature	**Pdh**	96.8	kW
T j = operational limit	**Pdh**	96.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	143.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.74	---
T_j = + 2 ºC	COP_d	3.81	---
T_j = + 7 ºC	COP_d	4.05	---
T_j = + 12 ºC	COP_d	5.36	---
T j = bivalent temperature	COP_d	2.30	---
T j = operational limit	COP_d	2.30	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	133.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	106.9	kW
T_j = + 2 ºC	**Pdh**	65.0	kW
T_j = + 7 ºC	**Pdh**	54.5	kW
T_j = + 12 ºC	**Pdh**	66.9	kW
T j = bivalent temperature	**Pdh**	133.8	kW
T j = operational limit	**Pdh**	133.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	147.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.71	---
T_j = + 2 ºC	COP_d	3.86	---
T_j = + 7 ºC	COP_d	4.26	---
T_j = + 12 ºC	COP_d	5.81	---
T j = bivalent temperature	COP_d	2.33	---
T j = operational limit	COP_d	2.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	159.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	128.1	kW
T_j = + 2 ºC	**Pdh**	79.0	kW
T_j = + 7 ºC	**Pdh**	60.3	kW
T_j = + 12 ºC	**Pdh**	71.9	kW
T j = bivalent temperature	**Pdh**	159.8	kW
T j = operational limit	**Pdh**	159.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	143.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.71	---
T_j = + 2 ºC	COP_d	3.74	---
T_j = + 7 ºC	COP_d	4.08	---
T_j = + 12 ºC	COP_d	5.27	---
T j = bivalent temperature	COP_d	2.33	---
T j = operational limit	COP_d	2.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	192.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	153.3	kW
T_j = + 2 ºC	**Pdh**	93.7	kW
T_j = + 7 ºC	**Pdh**	84.8	kW
T_j = + 12 ºC	**Pdh**	101.7	kW
T j = bivalent temperature	**Pdh**	192.4	kW
T j = operational limit	**Pdh**	192.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	144.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.50	---
T_j = + 2 ºC	COP_d	3.59	---
T_j = + 7 ºC	COP_d	4.79	---
T_j = + 12 ºC	COP_d	6.28	---
T j = bivalent temperature	COP_d	2.34	---
T j = operational limit	COP_d	2.34	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Average climate 47/55ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	27.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	21.9	kW
T_j = + 2 ºC	**Pdh**	24.4	kW
T_j = + 7 ºC	**Pdh**	25.9	kW
T_j = + 12 ºC	**Pdh**	34.4	kW
T j = bivalent temperature	**Pdh**	27.0	kW
T j = operational limit	**Pdh**	27.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	132.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.41	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.27	---
T_j = + 2 ºC	COP_d	3.79	---
T_j = + 7 ºC	COP_d	3.52	---
T_j = + 12 ºC	COP_d	5.25	---
T j = bivalent temperature	COP_d	1.92	---
T j = operational limit	COP_d	1.92	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	43.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	35.0	kW
T_j = + 2 ºC	**Pdh**	37.5	kW
T_j = + 7 ºC	**Pdh**	41.1	kW
T_j = + 12 ºC	**Pdh**	50.9	kW
T j = bivalent temperature	**Pdh**	43.6	kW
T j = operational limit	**Pdh**	43.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	126.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.24	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.91	---
T_j = + 2 ºC	COP_d	3.68	---
T_j = + 7 ºC	COP_d	3.74	---
T_j = + 12 ºC	COP_d	5.14	---
T j = bivalent temperature	COP_d	1.97	---
T j = operational limit	COP_d	1.97	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	59.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	47.6	kW
T_j = + 2 ºC	**Pdh**	47.8	kW
T_j = + 7 ºC	**Pdh**	54.2	kW
T_j = + 12 ºC	**Pdh**	68.1	kW
T j = bivalent temperature	**Pdh**	59.7	kW
T j = operational limit	**Pdh**	59.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	127.2	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.26	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.39	---
T_j = + 2 ºC	COP_d	3.70	---
T_j = + 7 ºC	COP_d	3.98	---
T_j = + 12 ºC	COP_d	5.67	---
T j = bivalent temperature	COP_d	2.03	---
T j = operational limit	COP_d	2.03	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	70.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	56.0	kW
T_j = + 2 ºC	**Pdh**	55.6	kW
T_j = + 7 ºC	**Pdh**	63.3	kW
T_j = + 12 ºC	**Pdh**	78.2	kW
T j = bivalent temperature	**Pdh**	70.0	kW
T j = operational limit	**Pdh**	70.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	125.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.23	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.33	---
T_j = + 2 ºC	COP_d	3.66	---
T_j = + 7 ºC	COP_d	3.99	---
T_j = + 12 ºC	COP_d	5.47	---
T j = bivalent temperature	COP_d	1.99	---
T j = operational limit	COP_d	1.99	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	86.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	69.0	kW
T_j = + 2 ºC	**Pdh**	71.2	kW
T_j = + 7 ºC	**Pdh**	81.6	kW
T_j = + 12 ºC	**Pdh**	98.1	kW
T j = bivalent temperature	**Pdh**	86.7	kW
T j = operational limit	**Pdh**	86.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	128.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.28	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.08	---
T_j = + 2 ºC	COP_d	3.82	---
T_j = + 7 ºC	COP_d	4.24	---
T_j = + 12 ºC	COP_d	5.61	---
T j = bivalent temperature	COP_d	2.03	---
T j = operational limit	COP_d	2.03	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

Contact information	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - C.P.: 14900 - Lucena, Córdoba (SPAIN) - Phone: +34 957 51 07 52

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	89.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	71.5	kW
T_j = + 2 ºC	**Pdh**	43.4	kW
T_j = + 7 ºC	**Pdh**	40.7	kW
T_j = + 12 ºC	**Pdh**	49.4	kW
T j = bivalent temperature	**Pdh**	89.3	kW
T j = operational limit	**Pdh**	89.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	136.6	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.50	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.41	---
T_j = + 2 ºC	COP_d	3.73	---
T_j = + 7 ºC	COP_d	3.92	---
T_j = + 12 ºC	COP_d	5.21	---
T j = bivalent temperature	COP_d	2.01	---
T j = operational limit	COP_d	2.01	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	120.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	97.2	kW
T_j = + 2 ºC	**Pdh**	58.9	kW
T_j = + 7 ºC	**Pdh**	53.5	kW
T_j = + 12 ºC	**Pdh**	66.3	kW
T j = bivalent temperature	**Pdh**	120.5	kW
T j = operational limit	**Pdh**	120.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	139.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.58	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.37	---
T_j = + 2 ºC	COP_d	3.74	---
T_j = + 7 ºC	COP_d	4.18	---
T_j = + 12 ºC	COP_d	5.73	---
T j = bivalent temperature	COP_d	2.01	---
T j = operational limit	COP_d	2.01	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	144.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	117.5	kW
T_j = + 2 ºC	**Pdh**	70.3	kW
T_j = + 7 ºC	**Pdh**	59.5	kW
T_j = + 12 ºC	**Pdh**	71.6	kW
T j = bivalent temperature	**Pdh**	144.9	kW
T j = operational limit	**Pdh**	144.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	135.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.47	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.37	---
T_j = + 2 ºC	COP_d	3.61	---
T_j = + 7 ºC	COP_d	4.02	---
T_j = + 12 ºC	COP_d	5.25	---
T j = bivalent temperature	COP_d	2.02	---
T j = operational limit	COP_d	2.02	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	176.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	142.9	kW
T_j = + 2 ºC	**Pdh**	86.5	kW
T_j = + 7 ºC	**Pdh**	83.0	kW
T_j = + 12 ºC	**Pdh**	100.6	kW
T j = bivalent temperature	**Pdh**	176.8	kW
T j = operational limit	**Pdh**	176.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	137.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.52	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.18	---
T_j = + 2 ºC	COP_d	3.51	---
T_j = + 7 ºC	COP_d	4.68	---
T_j = + 12 ºC	COP_d	6.20	---
T j = bivalent temperature	COP_d	2.04	---
T j = operational limit	COP_d	2.04	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Average climate 55/65ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	24.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	20.0	kW
T_j = + 2 ºC	**Pdh**	23.1	kW
T_j = + 7 ºC	**Pdh**	24.8	kW
T_j = + 12 ºC	**Pdh**	33.8	kW
T j = bivalent temperature	**Pdh**	24.9	kW
T j = operational limit	**Pdh**	24.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	129.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.33	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.38	---
T_j = + 2 ºC	COP_d	3.75	---
T_j = + 7 ºC	COP_d	3.44	---
T_j = + 12 ºC	COP_d	5.00	---
T j = bivalent temperature	COP_d	1.68	---
T j = operational limit	COP_d	1.68	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	40.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	32.6	kW
T_j = + 2 ºC	***Pdh***	35.8	kW
T_j = + 7 ºC	***Pdh***	39.9	kW
T_j = + 12 ºC	***Pdh***	50.4	kW
T j = bivalent temperature	***Pdh***	40.8	kW
T j = operational limit	***Pdh***	40.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	-10	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	118.9	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.06	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.64	---
T_j = + 2 ºC	COP_d	3.52	---
T_j = + 7 ºC	COP_d	3.60	---
T_j = + 12 ºC	COP_d	4.92	---
T j = bivalent temperature	COP_d	1.72	---
T j = operational limit	COP_d	1.72	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	54.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	43.5	kW
T_j = + 2 ºC	**Pdh**	45.3	kW
T_j = + 7 ºC	**Pdh**	52.4	kW
T_j = + 12 ºC	**Pdh**	67.2	kW
T j = bivalent temperature	**Pdh**	54.0	kW
T j = operational limit	**Pdh**	54.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	116.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.00	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.10	---
T_j = + 2 ºC	COP_d	3.46	---
T_j = + 7 ºC	COP_d	3.77	---
T_j = + 12 ºC	COP_d	5.39	---
T j = bivalent temperature	COP_d	1.74	---
T j = operational limit	COP_d	1.74	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	63.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	51.1	kW
T_j = + 2 ºC	**Pdh**	52.8	kW
T_j = + 7 ºC	**Pdh**	61.4	kW
T_j = + 12 ºC	**Pdh**	77.3	kW
T j = bivalent temperature	**Pdh**	63.6	kW
T j = operational limit	**Pdh**	63.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	115.2	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	2.96	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.05	---
T_j = + 2 ºC	COP_d	3.41	---
T_j = + 7 ºC	COP_d	3.77	---
T_j = + 12 ºC	COP_d	5.23	---
T j = bivalent temperature	COP_d	1.72	---
T j = operational limit	COP_d	1.72	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	79.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	63.2	kW
T_j = + 2 ºC	**Pdh**	67.5	kW
T_j = + 7 ºC	**Pdh**	79.2	kW
T_j = + 12 ºC	**Pdh**	96.9	kW
T j = bivalent temperature	**Pdh**	79.1	kW
T j = operational limit	**Pdh**	79.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	116.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	2.99	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	1.81	---
T_j = + 2 ºC	COP_d	3.52	---
T_j = + 7 ºC	COP_d	4.00	---
T_j = + 12 ºC	COP_d	5.38	---
T j = bivalent temperature	COP_d	1.75	---
T j = operational limit	COP_d	1.75	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	82.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	66.6	kW
T_j = + 2 ºC	**Pdh**	40.8	kW
T_j = + 7 ºC	**Pdh**	39.7	kW
T_j = + 12 ºC	**Pdh**	49.0	kW
T j = bivalent temperature	**Pdh**	82.4	kW
T j = operational limit	**Pdh**	82.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	125.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.23	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.10	---
T_j = + 2 ºC	COP_d	3.48	---
T_j = + 7 ºC	COP_d	3.70	---
T_j = + 12 ºC	COP_d	5.01	---
T j = bivalent temperature	COP_d	1.74	---
T j = operational limit	COP_d	1.74	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	108.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	87.7	kW
T_j = + 2 ºC	**Pdh**	53.4	kW
T_j = + 7 ºC	**Pdh**	51.9	kW
T_j = + 12 ºC	**Pdh**	65.6	kW
T j = bivalent temperature	**Pdh**	108.2	kW
T j = operational limit	**Pdh**	108.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	127.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.26	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.05	---
T_j = + 2 ºC	COP_d	3.46	---
T_j = + 7 ºC	COP_d	3.89	---
T_j = + 12 ºC	COP_d	5.48	---
T j = bivalent temperature	COP_d	1.72	---
T j = operational limit	COP_d	1.72	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	130.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	104.5	kW
T_j = + 2 ºC	**Pdh**	63.9	kW
T_j = + 7 ºC	**Pdh**	58.1	kW
T_j = + 12 ºC	**Pdh**	71.2	kW
T j = bivalent temperature	**Pdh**	130.8	kW
T j = operational limit	**Pdh**	130.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	123.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.17	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.06	---
T_j = + 2 ºC	COP_d	3.30	---
T_j = + 7 ºC	COP_d	3.77	---
T_j = + 12 ºC	COP_d	5.07	---
T j = bivalent temperature	COP_d	1.73	---
T j = operational limit	COP_d	1.73	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	162.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	129.8	kW
T_j = + 2 ºC	**Pdh**	79.1	kW
T_j = + 7 ºC	**Pdh**	80.2	kW
T_j = + 12 ºC	**Pdh**	99.3	kW
T j = bivalent temperature	**Pdh**	162.4	kW
T j = operational limit	**Pdh**	162.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	125.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.21	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	1.88	---
T_j = + 2 ºC	COP_d	3.23	---
T_j = + 7 ºC	COP_d	4.34	---
T_j = + 12 ºC	COP_d	5.94	---
T j = bivalent temperature	COP_d	1.76	---
T j = operational limit	COP_d	1.76	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Warmer climate 30/35ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	52.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	52.1	kW
T_j = + 7 ºC	***Pdh***	30.2	kW
T_j = + 12 ºC	***Pdh***	34.8	kW
T j = bivalent temperature	***Pdh***	52.1	kW
T j = operational limit	***Pdh***	52.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	208.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.39	---
T_j = + 7 ºC	COP_d	4.95	---
T_j = + 12 ºC	COP_d	6.90	---
T j = bivalent temperature	COP_d	3.39	---
T j = operational limit	COP_d	3.39	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	77.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	77.9	kW
T_j = + 7 ºC	**Pdh**	46.0	kW
T_j = + 12 ºC	**Pdh**	51.0	kW
T j = bivalent temperature	**Pdh**	77.9	kW
T j = operational limit	**Pdh**	77.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	193.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.22	---
T_j = + 7 ºC	COP_d	4.77	---
T_j = + 12 ºC	COP_d	6.13	---
T j = bivalent temperature	COP_d	3.22	---
T j = operational limit	COP_d	3.22	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	110.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	110.7	kW
T_j = + 7 ºC	**Pdh**	65.2	kW
T_j = + 12 ºC	**Pdh**	70.4	kW
T j = bivalent temperature	**Pdh**	110.7	kW
T j = operational limit	**Pdh**	110.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	207.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.33	---
T_j = + 7 ºC	COP_d	4.93	---
T_j = + 12 ºC	COP_d	6.80	---
T j = bivalent temperature	COP_d	3.33	---
T j = operational limit	COP_d	3.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	128.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	128.4	kW
T_j = + 7 ºC	**Pdh**	76.3	kW
T_j = + 12 ºC	**Pdh**	81.0	kW
T j = bivalent temperature	**Pdh**	128.4	kW
T j = operational limit	**Pdh**	128.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	201.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.33	---
T_j = + 7 ºC	COP_d	4.85	---
T_j = + 12 ºC	COP_d	6.47	---
T j = bivalent temperature	COP_d	3.33	---
T j = operational limit	COP_d	3.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	151.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	151.3	kW
T_j = + 7 ºC	**Pdh**	89.5	kW
T_j = + 12 ºC	**Pdh**	102.1	kW
T j = bivalent temperature	**Pdh**	151.3	kW
T j = operational limit	**Pdh**	151.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	205.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.30	---
T_j = + 7 ºC	COP_d	5.13	---
T_j = + 12 ºC	COP_d	6.48	---
T j = bivalent temperature	COP_d	3.30	---
T j = operational limit	COP_d	3.30	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	155.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	155.9	kW
T_j = + 7 ºC	**Pdh**	92.0	kW
T_j = + 12 ºC	**Pdh**	51.0	kW
T j = bivalent temperature	**Pdh**	155.9	kW
T j = operational limit	**Pdh**	155.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	205.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.26	---
T_j = + 7 ºC	COP_d	4.92	---
T_j = + 12 ºC	COP_d	6.04	---
T j = bivalent temperature	COP_d	3.26	---
T j = operational limit	COP_d	3.26	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	221.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	221.1	kW
T_j = + 7 ºC	**Pdh**	130.4	kW
T_j = + 12 ºC	**Pdh**	70.4	kW
T j = bivalent temperature	**Pdh**	221.1	kW
T j = operational limit	**Pdh**	221.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	212.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.34	---
T_j = + 7 ºC	COP_d	4.72	---
T_j = + 12 ºC	COP_d	6.70	---
T j = bivalent temperature	COP_d	3.34	---
T j = operational limit	COP_d	3.34	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	257.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	257.9	kW
T_j = + 7 ºC	**Pdh**	151.6	kW
T_j = + 12 ºC	**Pdh**	74.3	kW
T j = bivalent temperature	**Pdh**	257.9	kW
T j = operational limit	**Pdh**	257.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	195.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.37	---
T_j = + 7 ºC	COP_d	4.48	---
T_j = + 12 ºC	COP_d	5.83	---
T j = bivalent temperature	COP_d	3.37	---
T j = operational limit	COP_d	3.37	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	304.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	304.9	kW
T_j = + 7 ºC	**Pdh**	184.8	kW
T_j = + 12 ºC	**Pdh**	105.0	kW
T j = bivalent temperature	**Pdh**	304.9	kW
T j = operational limit	**Pdh**	304.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	225.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.32	---
T_j = + 7 ºC	COP_d	5.28	---
T_j = + 12 ºC	COP_d	6.90	---
T j = bivalent temperature	COP_d	3.32	---
T j = operational limit	COP_d	3.32	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Warmer climate 40/45ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	48.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	48.3	kW
T_j = + 7 ºC	**Pdh**	28.4	kW
T_j = + 12 ºC	**Pdh**	33.6	kW
T j = bivalent temperature	**Pdh**	48.3	kW
T j = operational limit	**Pdh**	48.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	176.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.84	---
T_j = + 7 ºC	COP_d	4.15	---
T_j = + 12 ºC	COP_d	5.99	---
T j = bivalent temperature	COP_d	2.84	---
T j = operational limit	COP_d	2.84	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

Contact information	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - C.P.: 14900 - Lucena, Córdoba (SPAIN) - Phone: +34 957 51 07 52

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	73.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	73.4	kW
T_j = + 7 ºC	**Pdh**	42.6	kW
T_j = + 12 ºC	**Pdh**	50.2	kW
T j = bivalent temperature	**Pdh**	73.4	kW
T j = operational limit	**Pdh**	73.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	167.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.77	---
T_j = + 7 ºC	COP_d	4.10	---
T_j = + 12 ºC	COP_d	5.44	---
T j = bivalent temperature	COP_d	2.77	---
T j = operational limit	COP_d	2.77	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	102.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	102.8	kW
T_j = + 7 ºC	**Pdh**	59.9	kW
T_j = + 12 ºC	**Pdh**	69.0	kW
T j = bivalent temperature	**Pdh**	102.8	kW
T j = operational limit	**Pdh**	102.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	176.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.82	---
T_j = + 7 ºC	COP_d	4.18	---
T_j = + 12 ºC	COP_d	5.91	---
T j = bivalent temperature	COP_d	2.82	---
T j = operational limit	COP_d	2.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	119.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	119.7	kW
T_j = + 7 ºC	**Pdh**	70.4	kW
T_j = + 12 ºC	**Pdh**	79.5	kW
T j = bivalent temperature	**Pdh**	119.7	kW
T j = operational limit	**Pdh**	119.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	172.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.83	---
T_j = + 7 ºC	COP_d	4.13	---
T_j = + 12 ºC	COP_d	5.68	---
T j = bivalent temperature	COP_d	2.83	---
T j = operational limit	COP_d	2.83	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	141.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	141.9	kW
T_j = + 7 ºC	**Pdh**	85.0	kW
T_j = + 12 ºC	**Pdh**	100.2	kW
T j = bivalent temperature	**Pdh**	141.9	kW
T j = operational limit	**Pdh**	141.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	177.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.82	---
T_j = + 7 ºC	COP_d	4.35	---
T_j = + 12 ºC	COP_d	5.75	---
T j = bivalent temperature	COP_d	2.82	---
T j = operational limit	COP_d	2.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	147.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	147.1	kW
T_j = + 7 ºC	**Pdh**	85.2	kW
T_j = + 12 ºC	**Pdh**	50.2	kW
T j = bivalent temperature	**Pdh**	147.1	kW
T j = operational limit	**Pdh**	147.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	177.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.80	---
T_j = + 7 ºC	COP_d	4.20	---
T_j = + 12 ºC	COP_d	5.36	---
T j = bivalent temperature	COP_d	2.80	---
T j = operational limit	COP_d	2.80	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	205.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	205.3	kW
T_j = + 7 ºC	**Pdh**	119.7	kW
T_j = + 12 ºC	**Pdh**	68.9	kW
T j = bivalent temperature	**Pdh**	205.3	kW
T j = operational limit	**Pdh**	205.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	181.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.82	---
T_j = + 7 ºC	COP_d	4.00	---
T_j = + 12 ºC	COP_d	5.84	---
T j = bivalent temperature	COP_d	2.82	---
T j = operational limit	COP_d	2.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	241.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	241.8	kW
T_j = + 7 ºC	**Pdh**	144.8	kW
T_j = + 12 ºC	**Pdh**	73.0	kW
T j = bivalent temperature	**Pdh**	241.8	kW
T j = operational limit	**Pdh**	241.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	170.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.86	---
T_j = + 7 ºC	COP_d	3.85	---
T_j = + 12 ºC	COP_d	5.19	---
T j = bivalent temperature	COP_d	2.86	---
T j = operational limit	COP_d	2.86	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	287.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	287.7	kW
T_j = + 7 ºC	**Pdh**	173.6	kW
T_j = + 12 ºC	**Pdh**	102.3	kW
T j = bivalent temperature	**Pdh**	287.7	kW
T j = operational limit	**Pdh**	287.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	194.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.85	---
T_j = + 7 ºC	COP_d	4.46	---
T_j = + 12 ºC	COP_d	6.09	---
T j = bivalent temperature	COP_d	2.85	---
T j = operational limit	COP_d	2.85	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

Contact information	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - C.P.: 14900 - Lucena, Córdoba (SPAIN) - Phone: +34 957 51 07 52

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Warmer climate 47/55ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	44.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	44.1	kW
T_j = + 7 ºC	**Pdh**	25.7	kW
T_j = + 12 ºC	**Pdh**	32.9	kW
T j = bivalent temperature	**Pdh**	44.1	kW
T j = operational limit	**Pdh**	44.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	157.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.03	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.41	---
T_j = + 7 ºC	COP_d	3.65	---
T_j = + 12 ºC	COP_d	5.60	---
T j = bivalent temperature	COP_d	2.41	---
T j = operational limit	COP_d	2.41	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	68.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	68.2	kW
T_j = + 7 ºC	**Pdh**	40.6	kW
T_j = + 12 ºC	**Pdh**	49.7	kW
T j = bivalent temperature	**Pdh**	68.2	kW
T j = operational limit	**Pdh**	68.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.92	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.39	---
T_j = + 7 ºC	COP_d	3.67	---
T_j = + 12 ºC	COP_d	5.21	---
T j = bivalent temperature	COP_d	2.39	---
T j = operational limit	COP_d	2.39	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	93.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	93.9	kW
T_j = + 7 ºC	**Pdh**	54.6	kW
T_j = + 12 ºC	**Pdh**	67.9	kW
T j = bivalent temperature	**Pdh**	93.9	kW
T j = operational limit	**Pdh**	93.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	160.2	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.09	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.41	---
T_j = + 7 ºC	COP_d	3.72	---
T_j = + 12 ºC	COP_d	5.62	---
T j = bivalent temperature	COP_d	2.41	---
T j = operational limit	COP_d	2.41	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	109.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	109.8	kW
T_j = + 7 ºC	**Pdh**	64.4	kW
T_j = + 12 ºC	**Pdh**	78.4	kW
T j = bivalent temperature	**Pdh**	109.8	kW
T j = operational limit	**Pdh**	109.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	158.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.04	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.43	---
T_j = + 7 ºC	COP_d	3.71	---
T_j = + 12 ºC	COP_d	5.46	---
T j = bivalent temperature	COP_d	2.43	---
T j = operational limit	COP_d	2.43	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	131.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	131.0	kW
T_j = + 7 ºC	**Pdh**	80.3	kW
T_j = + 12 ºC	**Pdh**	98.8	kW
T j = bivalent temperature	**Pdh**	131.0	kW
T j = operational limit	**Pdh**	131.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	163.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.16	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.44	---
T_j = + 7 ºC	COP_d	3.91	---
T_j = + 12 ºC	COP_d	5.57	---
T j = bivalent temperature	COP_d	2.44	---
T j = operational limit	COP_d	2.44	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	136.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	136.6	kW
T_j = + 7 ºC	**Pdh**	81.1	kW
T_j = + 12 ºC	**Pdh**	49.6	kW
T j = bivalent temperature	**Pdh**	136.6	kW
T j = operational limit	**Pdh**	136.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	161.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.13	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.40	---
T_j = + 7 ºC	COP_d	3.71	---
T_j = + 12 ºC	COP_d	5.13	---
T j = bivalent temperature	COP_d	2.40	---
T j = operational limit	COP_d	2.40	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	187.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	187.3	kW
T_j = + 7 ºC	**Pdh**	109.1	kW
T_j = + 12 ºC	**Pdh**	67.8	kW
T j = bivalent temperature	**Pdh**	187.3	kW
T j = operational limit	**Pdh**	187.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	165.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.23	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.40	---
T_j = + 7 ºC	COP_d	3.56	---
T_j = + 12 ºC	COP_d	5.64	---
T j = bivalent temperature	COP_d	2.40	---
T j = operational limit	COP_d	2.40	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	222.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	222.1	kW
T_j = + 7 ºC	**Pdh**	128.6	kW
T_j = + 12 ºC	**Pdh**	72.3	kW
T j = bivalent temperature	**Pdh**	222.1	kW
T j = operational limit	**Pdh**	222.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	156.9	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.00	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.45	---
T_j = + 7 ºC	COP_d	3.44	---
T_j = + 12 ºC	COP_d	5.09	---
T j = bivalent temperature	COP_d	2.45	---
T j = operational limit	COP_d	2.45	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	267.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	267.3	kW
T_j = + 7 ºC	**Pdh**	162.8	kW
T_j = + 12 ºC	**Pdh**	100.5	kW
T j = bivalent temperature	**Pdh**	267.3	kW
T j = operational limit	**Pdh**	267.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	178.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.53	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.45	---
T_j = + 7 ºC	COP_d	3.95	---
T_j = + 12 ºC	COP_d	5.92	---
T j = bivalent temperature	COP_d	2.45	---
T j = operational limit	COP_d	2.45	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Reversible Heat Pump (Heating Mode)

Warmer climate 55/65ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	39.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	39.8	kW
T_j = + 7 ºC	**Pdh**	23.2	kW
T_j = + 12 ºC	**Pdh**	31.6	kW
T j = bivalent temperature	**Pdh**	39.8	kW
T j = operational limit	**Pdh**	39.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	136.9	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.51	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.03	---
T_j = + 7 ºC	COP_d	3.19	---
T_j = + 12 ºC	COP_d	4.95	---
T j = bivalent temperature	COP_d	2.03	---
T j = operational limit	COP_d	2.03	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	62.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	62.8	kW
T_j = + 7 ºC	**Pdh**	38.2	kW
T_j = + 12 ºC	**Pdh**	48.5	kW
T j = bivalent temperature	**Pdh**	62.8	kW
T j = operational limit	**Pdh**	62.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	135.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.46	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.04	---
T_j = + 7 ºC	COP_d	3.23	---
T_j = + 12 ºC	COP_d	4.69	---
T j = bivalent temperature	COP_d	2.04	---
T j = operational limit	COP_d	2.04	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	84.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	84.8	kW
T_j = + 7 ºC	**Pdh**	49.3	kW
T_j = + 12 ºC	**Pdh**	65.8	kW
T j = bivalent temperature	**Pdh**	84.8	kW
T j = operational limit	**Pdh**	84.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	139.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.56	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.04	---
T_j = + 7 ºC	COP_d	3.26	---
T_j = + 12 ºC	COP_d	4.98	---
T j = bivalent temperature	COP_d	2.04	---
T j = operational limit	COP_d	2.04	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	99.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	99.6	kW
T_j = + 7 ºC	**Pdh**	58.3	kW
T_j = + 12 ºC	**Pdh**	76.2	kW
T j = bivalent temperature	**Pdh**	99.6	kW
T j = operational limit	**Pdh**	99.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	138.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.54	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.06	---
T_j = + 7 ºC	COP_d	3.27	---
T_j = + 12 ºC	COP_d	4.88	---
T j = bivalent temperature	COP_d	2.06	---
T j = operational limit	COP_d	2.06	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	119.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	119.6	kW
T_j = + 7 ºC	**Pdh**	75.1	kW
T_j = + 12 ºC	**Pdh**	96.0	kW
T j = bivalent temperature	**Pdh**	119.6	kW
T j = operational limit	**Pdh**	119.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	143.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.65	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.08	---
T_j = + 7 ºC	COP_d	3.43	---
T_j = + 12 ºC	COP_d	5.01	---
T j = bivalent temperature	COP_d	2.08	---
T j = operational limit	COP_d	2.08	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	125.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	125.6	kW
T_j = + 7 ºC	**Pdh**	76.5	kW
T_j = + 12 ºC	**Pdh**	48.4	kW
T j = bivalent temperature	**Pdh**	125.6	kW
T j = operational limit	**Pdh**	125.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	142.6	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.65	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.05	---
T_j = + 7 ºC	COP_d	3.26	---
T_j = + 12 ºC	COP_d	4.62	---
T j = bivalent temperature	COP_d	2.05	---
T j = operational limit	COP_d	2.05	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	169.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	169.1	kW
T_j = + 7 ºC	**Pdh**	98.4	kW
T_j = + 12 ºC	**Pdh**	65.7	kW
T j = bivalent temperature	**Pdh**	169.1	kW
T j = operational limit	**Pdh**	169.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	145.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.71	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.03	---
T_j = + 7 ºC	COP_d	3.13	---
T_j = + 12 ºC	COP_d	5.02	---
T j = bivalent temperature	COP_d	2.03	---
T j = operational limit	COP_d	2.03	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	201.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	201.8	kW
T_j = + 7 ºC	**Pdh**	121.3	kW
T_j = + 12 ºC	**Pdh**	70.6	kW
T j = bivalent temperature	**Pdh**	201.8	kW
T j = operational limit	**Pdh**	201.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	139.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.56	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.07	---
T_j = + 7 ºC	COP_d	3.05	---
T_j = + 12 ºC	COP_d	4.62	---
T j = bivalent temperature	COP_d	2.07	---
T j = operational limit	COP_d	2.07	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-IVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	247.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	247.0	kW
T_j = + 7 ºC	**Pdh**	151.1	kW
T_j = + 12 ºC	**Pdh**	97.1	kW
T j = bivalent temperature	**Pdh**	247.0	kW
T j = operational limit	**Pdh**	247.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	156.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.99	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.09	---
T_j = + 7 ºC	COP_d	3.45	---
T_j = + 12 ºC	COP_d	5.32	---
T j = bivalent temperature	COP_d	2.09	---
T j = operational limit	COP_d	2.09	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

EN

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EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Average climate 30/35ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	32.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	25.9	kW
T_j = + 2 ºC	**Pdh**	27.1	kW
T_j = + 7 ºC	**Pdh**	28.2	kW
T_j = + 12 ºC	**Pdh**	36.3	kW
T j = bivalent temperature	**Pdh**	32.4	kW
T j = operational limit	**Pdh**	32.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	154.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.00	---
T_j = + 2 ºC	COP_d	4.36	---
T_j = + 7 ºC	COP_d	4.29	---
T_j = + 12 ºC	COP_d	6.40	---
T j = bivalent temperature	COP_d	2.71	---
T j = operational limit	COP_d	2.71	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	51.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	41.1	kW
T_j = + 2 ºC	**Pdh**	40.4	kW
T_j = + 7 ºC	**Pdh**	43.3	kW
T_j = + 12 ºC	**Pdh**	52.1	kW
T j = bivalent temperature	**Pdh**	51.3	kW
T j = operational limit	**Pdh**	51.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.63	---
T_j = + 2 ºC	COP_d	4.27	---
T_j = + 7 ºC	COP_d	4.46	---
T_j = + 12 ºC	COP_d	6.09	---
T j = bivalent temperature	COP_d	2.68	---
T j = operational limit	COP_d	2.68	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	74.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	60.3	kW
T_j = + 2 ºC	**Pdh**	52.4	kW
T_j = + 7 ºC	**Pdh**	57.5	kW
T_j = + 12 ºC	**Pdh**	70.0	kW
T j = bivalent temperature	**Pdh**	74.2	kW
T j = operational limit	**Pdh**	74.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	161.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.22	---
T_j = + 2 ºC	COP_d	4.43	---
T_j = + 7 ºC	COP_d	4.86	---
T_j = + 12 ºC	COP_d	6.89	---
T j = bivalent temperature	COP_d	2.86	---
T j = operational limit	COP_d	2.86	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	86.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	71.0	kW
T_j = + 2 ºC	**Pdh**	60.5	kW
T_j = + 7 ºC	**Pdh**	66.9	kW
T_j = + 12 ºC	**Pdh**	80.3	kW
T j = bivalent temperature	**Pdh**	86.3	kW
T j = operational limit	**Pdh**	86.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	157.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.13	---
T_j = + 2 ºC	COP_d	4.34	---
T_j = + 7 ºC	COP_d	4.79	---
T_j = + 12 ºC	COP_d	6.45	---
T j = bivalent temperature	COP_d	2.77	---
T j = operational limit	COP_d	2.77	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	102.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	82.6	kW
T_j = + 2 ºC	**Pdh**	77.5	kW
T_j = + 7 ºC	**Pdh**	87.5	kW
T_j = + 12 ºC	**Pdh**	103.6	kW
T j = bivalent temperature	**Pdh**	102.9	kW
T j = operational limit	**Pdh**	102.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	159.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.75	---
T_j = + 2 ºC	COP_d	4.56	---
T_j = + 7 ºC	COP_d	5.14	---
T_j = + 12 ºC	COP_d	6.77	---
T j = bivalent temperature	COP_d	2.75	---
T j = operational limit	COP_d	2.75	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

Contact information	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - C.P.: 14900 - Lucena, Córdoba (SPAIN) - Phone: +34 957 51 07 52

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	106.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	85.6	kW
T_j = + 2 ºC	**Pdh**	52.3	kW
T_j = + 7 ºC	**Pdh**	42.5	kW
T_j = + 12 ºC	**Pdh**	50.2	kW
T j = bivalent temperature	**Pdh**	106.3	kW
T j = operational limit	**Pdh**	106.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	161.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.22	---
T_j = + 2 ºC	COP_d	4.19	---
T_j = + 7 ºC	COP_d	4.55	---
T_j = + 12 ºC	COP_d	5.83	---
T j = bivalent temperature	COP_d	2.75	---
T j = operational limit	COP_d	2.75	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	149.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	120.2	kW
T_j = + 2 ºC	**Pdh**	73.6	kW
T_j = + 7 ºC	**Pdh**	56.1	kW
T_j = + 12 ºC	**Pdh**	67.3	kW
T j = bivalent temperature	**Pdh**	149.8	kW
T j = operational limit	**Pdh**	149.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	165.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.23	---
T_j = + 2 ºC	COP_d	4.27	---
T_j = + 7 ºC	COP_d	4.71	---
T_j = + 12 ºC	COP_d	6.03	---
T j = bivalent temperature	COP_d	2.79	---
T j = operational limit	COP_d	2.79	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	175.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	141.5	kW
T_j = + 2 ºC	**Pdh**	85.2	kW
T_j = + 7 ºC	**Pdh**	65.6	kW
T_j = + 12 ºC	**Pdh**	77.7	kW
T j = bivalent temperature	**Pdh**	175.1	kW
T j = operational limit	**Pdh**	175.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	164.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.19	---
T_j = + 2 ºC	COP_d	4.21	---
T_j = + 7 ºC	COP_d	4.72	---
T_j = + 12 ºC	COP_d	5.91	---
T j = bivalent temperature	COP_d	2.75	---
T j = operational limit	COP_d	2.75	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	208.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	166.9	kW
T_j = + 2 ºC	**Pdh**	101.9	kW
T_j = + 7 ºC	**Pdh**	88.2	kW
T_j = + 12 ºC	**Pdh**	103.4	kW
T j = bivalent temperature	**Pdh**	208.2	kW
T j = operational limit	**Pdh**	208.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	158.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.92	---
T_j = + 2 ºC	COP_d	3.83	---
T_j = + 7 ºC	COP_d	5.27	---
T_j = + 12 ºC	COP_d	6.43	---
T j = bivalent temperature	COP_d	2.74	---
T j = operational limit	COP_d	2.74	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Average climate 40/45ºC

EN

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	29.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	23.9	kW
T_j = + 2 ºC	**Pdh**	25.8	kW
T_j = + 7 ºC	**Pdh**	27.0	kW
T_j = + 12 ºC	**Pdh**	35.4	kW
T j = bivalent temperature	**Pdh**	29.9	kW
T j = operational limit	**Pdh**	29.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	142.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.40	---
T_j = + 2 ºC	COP_d	3.98	---
T_j = + 7 ºC	COP_d	3.81	---
T_j = + 12 ºC	COP_d	5.79	---
T j = bivalent temperature	COP_d	2.28	---
T j = operational limit	COP_d	2.28	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	47.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	38.3	kW
T_j = + 2 ºC	**Pdh**	39.1	kW
T_j = + 7 ºC	**Pdh**	42.2	kW
T_j = + 12 ºC	**Pdh**	51.6	kW
T j = bivalent temperature	**Pdh**	47.6	kW
T j = operational limit	**Pdh**	47.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	137.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.30	---
T_j = + 2 ºC	COP_d	3.88	---
T_j = + 7 ºC	COP_d	3.98	---
T_j = + 12 ºC	COP_d	5.53	---
T j = bivalent temperature	COP_d	2.30	---
T j = operational limit	COP_d	2.30	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	67.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	53.9	kW
T_j = + 2 ºC	**Pdh**	50.2	kW
T_j = + 7 ºC	**Pdh**	55.8	kW
T_j = + 12 ºC	**Pdh**	69.2	kW
T j = bivalent temperature	**Pdh**	67.7	kW
T j = operational limit	**Pdh**	67.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	141.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.80	---
T_j = + 2 ºC	COP_d	3.97	---
T_j = + 7 ºC	COP_d	4.28	---
T_j = + 12 ºC	COP_d	6.14	---
T j = bivalent temperature	COP_d	2.43	---
T j = operational limit	COP_d	2.43	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	78.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	63.2	kW
T_j = + 2 ºC	**Pdh**	58.1	kW
T_j = + 7 ºC	**Pdh**	65.0	kW
T_j = + 12 ºC	**Pdh**	79.3	kW
T j = bivalent temperature	**Pdh**	78.8	kW
T j = operational limit	**Pdh**	78.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	138.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.71	---
T_j = + 2 ºC	COP_d	3.89	---
T_j = + 7 ºC	COP_d	4.24	---
T_j = + 12 ºC	COP_d	5.81	---
T j = bivalent temperature	COP_d	2.36	---
T j = operational limit	COP_d	2.36	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	94.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	75.8	kW
T_j = + 2 ºC	**Pdh**	74.2	kW
T_j = + 7 ºC	**Pdh**	84.8	kW
T_j = + 12 ºC	**Pdh**	102.3	kW
T j = bivalent temperature	**Pdh**	94.5	kW
T j = operational limit	**Pdh**	94.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	139.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.39	---
T_j = + 2 ºC	COP_d	4.06	---
T_j = + 7 ºC	COP_d	4.53	---
T_j = + 12 ºC	COP_d	6.10	---
T j = bivalent temperature	COP_d	2.36	---
T j = operational limit	COP_d	2.36	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	99.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	79.5	kW
T_j = + 2 ºC	**Pdh**	48.3	kW
T_j = + 7 ºC	**Pdh**	41.5	kW
T_j = + 12 ºC	**Pdh**	49.7	kW
T j = bivalent temperature	**Pdh**	99.5	kW
T j = operational limit	**Pdh**	99.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	146.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.86	---
T_j = + 2 ºC	COP_d	3.87	---
T_j = + 7 ºC	COP_d	4.12	---
T_j = + 12 ºC	COP_d	5.39	---
T j = bivalent temperature	COP_d	2.41	---
T j = operational limit	COP_d	2.41	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	137.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	111.9	kW
T_j = + 2 ºC	**Pdh**	67.9	kW
T_j = + 7 ºC	**Pdh**	54.5	kW
T_j = + 12 ºC	**Pdh**	66.3	kW
T j = bivalent temperature	**Pdh**	137.8	kW
T j = operational limit	**Pdh**	137.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	148.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.83	---
T_j = + 2 ºC	COP_d	3.86	---
T_j = + 7 ºC	COP_d	4.25	---
T_j = + 12 ºC	COP_d	5.56	---
T j = bivalent temperature	COP_d	2.43	---
T j = operational limit	COP_d	2.43	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	161.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	132.1	kW
T_j = + 2 ºC	**Pdh**	78.9	kW
T_j = + 7 ºC	**Pdh**	63.8	kW
T_j = + 12 ºC	**Pdh**	76.7	kW
T j = bivalent temperature	**Pdh**	161.7	kW
T j = operational limit	**Pdh**	161.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	147.3	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.81	---
T_j = + 2 ºC	COP_d	3.83	---
T_j = + 7 ºC	COP_d	4.27	---
T_j = + 12 ºC	COP_d	5.47	---
T j = bivalent temperature	COP_d	2.41	---
T j = operational limit	COP_d	2.41	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	193.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	154.6	kW
T_j = + 2 ºC	**Pdh**	94.7	kW
T_j = + 7 ºC	**Pdh**	85.8	kW
T_j = + 12 ºC	**Pdh**	102.0	kW
T j = bivalent temperature	**Pdh**	193.6	kW
T j = operational limit	**Pdh**	193.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	145.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.66	---
T_j = + 2 ºC	COP_d	3.59	---
T_j = + 7 ºC	COP_d	4.79	---
T_j = + 12 ºC	COP_d	6.00	---
T j = bivalent temperature	COP_d	2.41	---
T j = operational limit	COP_d	2.41	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Average climate 47/55ºC

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	28.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	22.6	kW
T_j = + 2 ºC	**Pdh**	25.1	kW
T_j = + 7 ºC	**Pdh**	26.6	kW
T_j = + 12 ºC	**Pdh**	35.2	kW
T j = bivalent temperature	**Pdh**	28.3	kW
T j = operational limit	**Pdh**	28.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	142.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.65	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.53	---
T_j = + 2 ºC	COP_d	4.04	---
T_j = + 7 ºC	COP_d	3.76	---
T_j = + 12 ºC	COP_d	5.73	---
T j = bivalent temperature	COP_d	2.04	---
T j = operational limit	COP_d	2.04	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	44.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	36.1	kW
T_j = + 2 ºC	**Pdh**	38.3	kW
T_j = + 7 ºC	**Pdh**	41.8	kW
T_j = + 12 ºC	**Pdh**	51.4	kW
T j = bivalent temperature	**Pdh**	44.9	kW
T j = operational limit	**Pdh**	44.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	133.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.42	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	3.06	---
T_j = + 2 ºC	COP_d	3.86	---
T_j = + 7 ºC	COP_d	3.93	---
T_j = + 12 ºC	COP_d	5.48	---
T j = bivalent temperature	COP_d	2.06	---
T j = operational limit	COP_d	2.06	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	62.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	50.2	kW
T_j = + 2 ºC	**Pdh**	49.1	kW
T_j = + 7 ºC	**Pdh**	55.3	kW
T_j = + 12 ºC	**Pdh**	68.9	kW
T j = bivalent temperature	**Pdh**	62.2	kW
T j = operational limit	**Pdh**	62.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	135.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.46	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.50	---
T_j = + 2 ºC	COP_d	3.91	---
T_j = + 7 ºC	COP_d	4.23	---
T_j = + 12 ºC	COP_d	6.11	---
T j = bivalent temperature	COP_d	2.14	---
T j = operational limit	COP_d	2.14	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	72.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	58.0	kW
T_j = + 2 ºC	**Pdh**	56.9	kW
T_j = + 7 ºC	**Pdh**	64.4	kW
T_j = + 12 ºC	**Pdh**	78.9	kW
T j = bivalent temperature	**Pdh**	72.6	kW
T j = operational limit	**Pdh**	72.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	133.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.41	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.45	---
T_j = + 2 ºC	COP_d	3.85	---
T_j = + 7 ºC	COP_d	4.20	---
T_j = + 12 ºC	COP_d	5.82	---
T j = bivalent temperature	COP_d	2.09	---
T j = operational limit	COP_d	2.09	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	87.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	70.7	kW
T_j = + 2 ºC	**Pdh**	72.6	kW
T_j = + 7 ºC	**Pdh**	83.9	kW
T_j = + 12 ºC	**Pdh**	101.7	kW
T j = bivalent temperature	**Pdh**	87.4	kW
T j = operational limit	**Pdh**	87.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	134.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.43	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.14	---
T_j = + 2 ºC	COP_d	4.00	---
T_j = + 7 ºC	COP_d	4.50	---
T_j = + 12 ºC	COP_d	6.12	---
T j = bivalent temperature	COP_d	2.09	---
T j = operational limit	COP_d	2.09	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	93.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	74.9	kW
T_j = + 2 ºC	**Pdh**	45.9	kW
T_j = + 7 ºC	**Pdh**	41.2	kW
T_j = + 12 ºC	**Pdh**	49.6	kW
T j = bivalent temperature	**Pdh**	93.8	kW
T j = operational limit	**Pdh**	93.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	141.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.63	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.58	---
T_j = + 2 ºC	COP_d	3.81	---
T_j = + 7 ºC	COP_d	4.06	---
T_j = + 12 ºC	COP_d	5.36	---
T j = bivalent temperature	COP_d	2.16	---
T j = operational limit	COP_d	2.16	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	127.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	102.2	kW
T_j = + 2 ºC	**Pdh**	62.6	kW
T_j = + 7 ºC	**Pdh**	53.9	kW
T_j = + 12 ºC	**Pdh**	66.0	kW
T j = bivalent temperature	**Pdh**	127.1	kW
T j = operational limit	**Pdh**	127.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	144.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.68	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.54	---
T_j = + 2 ºC	COP_d	3.82	---
T_j = + 7 ºC	COP_d	4.26	---
T_j = + 12 ºC	COP_d	5.64	---
T j = bivalent temperature	COP_d	2.17	---
T j = operational limit	COP_d	2.17	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	149.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	120.9	kW
T_j = + 2 ºC	**Pdh**	72.8	kW
T_j = + 7 ºC	**Pdh**	63.2	kW
T_j = + 12 ºC	**Pdh**	76.4	kW
T j = bivalent temperature	**Pdh**	149.7	kW
T j = operational limit	**Pdh**	149.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	143.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.65	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.52	---
T_j = + 2 ºC	COP_d	3.77	---
T_j = + 7 ºC	COP_d	4.27	---
T_j = + 12 ºC	COP_d	5.55	---
T j = bivalent temperature	COP_d	2.15	---
T j = operational limit	COP_d	2.15	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	180.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	144.8	kW
T_j = + 2 ºC	**Pdh**	88.0	kW
T_j = + 7 ºC	**Pdh**	85.0	kW
T_j = + 12 ºC	**Pdh**	101.6	kW
T j = bivalent temperature	**Pdh**	180.5	kW
T j = operational limit	**Pdh**	180.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	144.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.69	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.40	---
T_j = + 2 ºC	COP_d	3.68	---
T_j = + 7 ºC	COP_d	4.80	---
T_j = + 12 ºC	COP_d	6.10	---
T j = bivalent temperature	COP_d	2.16	---
T j = operational limit	COP_d	2.16	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Average climate 55/65ºC

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ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	26.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	21.3	kW
T_j = + 2 ºC	**Pdh**	24.0	kW
T_j = + 7 ºC	**Pdh**	25.7	kW
T_j = + 12 ºC	**Pdh**	34.8	kW
T j = bivalent temperature	**Pdh**	26.4	kW
T j = operational limit	**Pdh**	26.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	141.4	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.62	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	4.69	---
T_j = + 2 ºC	COP_d	4.05	---
T_j = + 7 ºC	COP_d	3.73	---
T_j = + 12 ºC	COP_d	5.53	---
T j = bivalent temperature	COP_d	1.81	---
T j = operational limit	COP_d	1.81	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	42.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	33.8	kW
T_j = + 2 ºC	**Pdh**	36.8	kW
T_j = + 7 ºC	**Pdh**	40.9	kW
T_j = + 12 ºC	**Pdh**	51.0	kW
T j = bivalent temperature	**Pdh**	42.2	kW
T j = operational limit	**Pdh**	42.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	126.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.25	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.80	---
T_j = + 2 ºC	COP_d	3.73	---
T_j = + 7 ºC	COP_d	3.82	---
T_j = + 12 ºC	COP_d	5.29	---
T j = bivalent temperature	COP_d	1.82	---
T j = operational limit	COP_d	1.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	56.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	45.5	kW
T_j = + 2 ºC	**Pdh**	47.0	kW
T_j = + 7 ºC	**Pdh**	53.9	kW
T_j = + 12 ºC	**Pdh**	68.3	kW
T j = bivalent temperature	**Pdh**	56.5	kW
T j = operational limit	**Pdh**	56.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	125.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.22	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.24	---
T_j = + 2 ºC	COP_d	3.71	---
T_j = + 7 ºC	COP_d	4.05	---
T_j = + 12 ºC	COP_d	5.89	---
T j = bivalent temperature	COP_d	1.86	---
T j = operational limit	COP_d	1.86	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	66.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	53.3	kW
T_j = + 2 ºC	**Pdh**	54.6	kW
T_j = + 7 ºC	**Pdh**	62.9	kW
T_j = + 12 ºC	**Pdh**	78.3	kW
T j = bivalent temperature	**Pdh**	66.1	kW
T j = operational limit	**Pdh**	66.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	123.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.15	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.17	---
T_j = + 2 ºC	COP_d	3.62	---
T_j = + 7 ºC	COP_d	4.01	---
T_j = + 12 ºC	COP_d	5.62	---
T j = bivalent temperature	COP_d	1.82	---
T j = operational limit	COP_d	1.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	80.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	64.1	kW
T_j = + 2 ºC	**Pdh**	69.3	kW
T_j = + 7 ºC	**Pdh**	81.9	kW
T_j = + 12 ºC	**Pdh**	100.8	kW
T j = bivalent temperature	**Pdh**	80.1	kW
T j = operational limit	**Pdh**	80.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	123.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.16	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	1.88	---
T_j = + 2 ºC	COP_d	3.72	---
T_j = + 7 ºC	COP_d	4.28	---
T_j = + 12 ºC	COP_d	5.91	---
T j = bivalent temperature	COP_d	1.82	---
T j = operational limit	COP_d	1.82	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	86.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	69.3	kW
T_j = + 2 ºC	**Pdh**	42.9	kW
T_j = + 7 ºC	**Pdh**	40.5	kW
T_j = + 12 ºC	**Pdh**	49.4	kW
T j = bivalent temperature	**Pdh**	86.9	kW
T j = operational limit	**Pdh**	86.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	133.2	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.41	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.29	---
T_j = + 2 ºC	COP_d	3.64	---
T_j = + 7 ºC	COP_d	3.89	---
T_j = + 12 ºC	COP_d	5.23	---
T j = bivalent temperature	COP_d	1.89	---
T j = operational limit	COP_d	1.89	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	114.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	93.2	kW
T_j = + 2 ºC	**Pdh**	56.3	kW
T_j = + 7 ºC	**Pdh**	52.8	kW
T_j = + 12 ºC	**Pdh**	65.6	kW
T j = bivalent temperature	**Pdh**	114.9	kW
T j = operational limit	**Pdh**	114.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	134.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.43	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.22	---
T_j = + 2 ºC	COP_d	3.61	---
T_j = + 7 ºC	COP_d	4.06	---
T_j = + 12 ºC	COP_d	5.51	---
T j = bivalent temperature	COP_d	1.88	---
T j = operational limit	COP_d	1.88	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	135.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	108.3	kW
T_j = + 2 ºC	**Pdh**	67.1	kW
T_j = + 7 ºC	**Pdh**	62.1	kW
T_j = + 12 ºC	**Pdh**	75.9	kW
T j = bivalent temperature	**Pdh**	135.7	kW
T j = operational limit	**Pdh**	135.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	132.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.39	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.21	---
T_j = + 2 ºC	COP_d	3.52	---
T_j = + 7 ºC	COP_d	4.07	---
T_j = + 12 ºC	COP_d	5.42	---
T j = bivalent temperature	COP_d	1.87	---
T j = operational limit	COP_d	1.87	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

REVERSIBLE AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for average heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	164.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	132.8	kW
T_j = + 2 ºC	**Pdh**	79.9	kW
T_j = + 7 ºC	**Pdh**	83.5	kW
T_j = + 12 ºC	**Pdh**	101.1	kW
T j = bivalent temperature	**Pdh**	164.7	kW
T j = operational limit	**Pdh**	164.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	-10	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	137.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.52	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	2.10	---
T_j = + 2 ºC	COP_d	3.64	---
T_j = + 7 ºC	COP_d	4.58	---
T_j = + 12 ºC	COP_d	5.98	---
T j = bivalent temperature	COP_d	1.89	---
T j = operational limit	COP_d	1.89	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Warmer climate 30/35ºC

EN

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ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	53.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	53.1	kW
T_j = + 7 ºC	***Pdh***	31.8	kW
T_j = + 12 ºC	***Pdh***	35.2	kW
T j = bivalent temperature	***Pdh***	53.1	kW
T j = operational limit	***Pdh***	53.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	221.1	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.57	---
T_j = + 7 ºC	COP_d	5.21	---
T_j = + 12 ºC	COP_d	7.37	---
T j = bivalent temperature	COP_d	3.57	---
T j = operational limit	COP_d	3.57	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	78.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	78.5	kW
T_j = + 7 ºC	**Pdh**	46.4	kW
T_j = + 12 ºC	**Pdh**	51.2	kW
T j = bivalent temperature	**Pdh**	78.5	kW
T j = operational limit	**Pdh**	78.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	202.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.33	---
T_j = + 7 ºC	COP_d	4.98	---
T_j = + 12 ºC	COP_d	6.44	---
T j = bivalent temperature	COP_d	3.33	---
T j = operational limit	COP_d	3.33	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	112.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	112.2	kW
T_j = + 7 ºC	**Pdh**	65.9	kW
T_j = + 12 ºC	**Pdh**	70.7	kW
T j = bivalent temperature	**Pdh**	112.2	kW
T j = operational limit	**Pdh**	112.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	217.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.47	---
T_j = + 7 ºC	COP_d	5.16	---
T_j = + 12 ºC	COP_d	7.10	---
T j = bivalent temperature	COP_d	3.47	---
T j = operational limit	COP_d	3.47	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	129.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	129.9	kW
T_j = + 7 ºC	**Pdh**	77.0	kW
T_j = + 12 ºC	**Pdh**	81.2	kW
T j = bivalent temperature	**Pdh**	129.9	kW
T j = operational limit	**Pdh**	129.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	209.2	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.46	---
T_j = + 7 ºC	COP_d	5.04	---
T_j = + 12 ºC	COP_d	6.68	---
T j = bivalent temperature	COP_d	3.46	---
T j = operational limit	COP_d	3.46	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	152.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	152.6	kW
T_j = + 7 ºC	***Pdh***	91.3	kW
T_j = + 12 ºC	***Pdh***	105.3	kW
T j = bivalent temperature	***Pdh***	152.6	kW
T j = operational limit	***Pdh***	152.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	217.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.38	---
T_j = + 7 ºC	COP_d	5.37	---
T_j = + 12 ºC	COP_d	6.94	---
T j = bivalent temperature	COP_d	3.38	---
T j = operational limit	COP_d	3.38	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	156.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	156.9	kW
T_j = + 7 ºC	***Pdh***	92.6	kW
T_j = + 12 ºC	***Pdh***	50.8	kW
T j = bivalent temperature	***Pdh***	156.9	kW
T j = operational limit	***Pdh***	156.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	208.8	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.35	---
T_j = + 7 ºC	COP_d	5.08	---
T_j = + 12 ºC	COP_d	6.02	---
T j = bivalent temperature	COP_d	3.35	---
T j = operational limit	COP_d	3.35	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	222.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	222.4	kW
T_j = + 7 ºC	**Pdh**	130.5	kW
T_j = + 12 ºC	**Pdh**	69.6	kW
T j = bivalent temperature	**Pdh**	222.4	kW
T j = operational limit	**Pdh**	222.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	207.0	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.38	---
T_j = + 7 ºC	COP_d	4.74	---
T_j = + 12 ºC	COP_d	6.24	---
T j = bivalent temperature	COP_d	3.38	---
T j = operational limit	COP_d	3.38	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	258.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	258.0	kW
T_j = + 7 ºC	***Pdh***	152.8	kW
T_j = + 12 ºC	***Pdh***	80.1	kW
T j = bivalent temperature	***Pdh***	258.0	kW
T j = operational limit	***Pdh***	258.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	202.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.40	---
T_j = + 7 ºC	COP_d	4.67	---
T_j = + 12 ºC	COP_d	6.04	---
T j = bivalent temperature	COP_d	3.40	---
T j = operational limit	COP_d	3.40	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	30/35ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	302.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	302.8	kW
T_j = + 7 ºC	**Pdh**	186.5	kW
T_j = + 12 ºC	**Pdh**	106.5	kW
T j = bivalent temperature	**Pdh**	302.8	kW
T j = operational limit	**Pdh**	302.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	219.5	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	3.32	---
T_j = + 7 ºC	COP_d	5.30	---
T_j = + 12 ºC	COP_d	6.48	---
T j = bivalent temperature	COP_d	3.32	---
T j = operational limit	COP_d	3.32	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Warmer climate 40/45ºC

EN

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ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	49.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	49.4	kW
T_j = + 7 ºC	**Pdh**	29.0	kW
T_j = + 12 ºC	**Pdh**	34.1	kW
T j = bivalent temperature	**Pdh**	49.4	kW
T j = operational limit	**Pdh**	49.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	186.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.98	---
T_j = + 7 ºC	COP_d	4.37	---
T_j = + 12 ºC	COP_d	6.36	---
T j = bivalent temperature	COP_d	2.98	---
T j = operational limit	COP_d	2.98	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	74.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	74.3	kW
T_j = + 7 ºC	**Pdh**	43.1	kW
T_j = + 12 ºC	**Pdh**	50.6	kW
T j = bivalent temperature	**Pdh**	74.3	kW
T j = operational limit	**Pdh**	74.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	174.6	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.85	---
T_j = + 7 ºC	COP_d	4.25	---
T_j = + 12 ºC	COP_d	5.67	---
T j = bivalent temperature	COP_d	2.85	---
T j = operational limit	COP_d	2.85	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	104.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	104.8	kW
T_j = + 7 ºC	**Pdh**	60.8	kW
T_j = + 12 ºC	**Pdh**	69.4	kW
T j = bivalent temperature	**Pdh**	104.8	kW
T j = operational limit	**Pdh**	104.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	184.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.93	---
T_j = + 7 ºC	COP_d	4.35	---
T_j = + 12 ºC	COP_d	6.15	---
T j = bivalent temperature	COP_d	2.93	---
T j = operational limit	COP_d	2.93	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	121.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	121.7	kW
T_j = + 7 ºC	***Pdh***	71.3	kW
T_j = + 12 ºC	***Pdh***	79.8	kW
T j = bivalent temperature	***Pdh***	121.7	kW
T j = operational limit	***Pdh***	121.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	178.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.92	---
T_j = + 7 ºC	COP_d	4.28	---
T_j = + 12 ºC	COP_d	5.85	---
T j = bivalent temperature	COP_d	2.92	---
T j = operational limit	COP_d	2.92	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	143.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	143.6	kW
T_j = + 7 ºC	***Pdh***	87.0	kW
T_j = + 12 ºC	***Pdh***	103.4	kW
T j = bivalent temperature	***Pdh***	143.6	kW
T j = operational limit	***Pdh***	143.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	185.7	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.88	---
T_j = + 7 ºC	COP_d	4.54	---
T_j = + 12 ºC	COP_d	6.11	---
T j = bivalent temperature	COP_d	2.88	---
T j = operational limit	COP_d	2.88	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	150.2	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	150.2	kW
T_j = + 7 ºC	***Pdh***	89.5	kW
T_j = + 12 ºC	***Pdh***	50.3	kW
T j = bivalent temperature	***Pdh***	150.2	kW
T j = operational limit	***Pdh***	150.2	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	183.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.94	---
T_j = + 7 ºC	COP_d	4.40	---
T_j = + 12 ºC	COP_d	5.45	---
T j = bivalent temperature	COP_d	2.94	---
T j = operational limit	COP_d	2.94	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	210.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	210.0	kW
T_j = + 7 ºC	**Pdh**	125.3	kW
T_j = + 12 ºC	**Pdh**	68.3	kW
T j = bivalent temperature	**Pdh**	210.0	kW
T j = operational limit	**Pdh**	210.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	181.9	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.94	---
T_j = + 7 ºC	COP_d	4.13	---
T_j = + 12 ºC	COP_d	5.64	---
T j = bivalent temperature	COP_d	2.94	---
T j = operational limit	COP_d	2.94	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	244.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	244.6	kW
T_j = + 7 ºC	**Pdh**	142.4	kW
T_j = + 12 ºC	**Pdh**	78.8	kW
T j = bivalent temperature	**Pdh**	244.6	kW
T j = operational limit	**Pdh**	244.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	179.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.97	---
T_j = + 7 ºC	COP_d	4.09	---
T_j = + 12 ºC	COP_d	5.50	---
T j = bivalent temperature	COP_d	2.97	---
T j = operational limit	COP_d	2.97	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	40/45ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	288.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	288.7	kW
T_j = + 7 ºC	***Pdh***	179.3	kW
T_j = + 12 ºC	***Pdh***	104.8	kW
T j = bivalent temperature	***Pdh***	288.7	kW
T j = operational limit	***Pdh***	288.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	196.4	%
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.93	---
T_j = + 7 ºC	COP_d	4.65	---
T_j = + 12 ºC	COP_d	5.97	---
T j = bivalent temperature	COP_d	2.93	---
T j = operational limit	COP_d	2.93	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Warmer climate 47/55ºC

EN

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ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	45.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	45.9	kW
T_j = + 7 ºC	**Pdh**	26.6	kW
T_j = + 12 ºC	**Pdh**	33.6	kW
T j = bivalent temperature	**Pdh**	45.9	kW
T j = operational limit	**Pdh**	45.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	171.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.37	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.58	---
T_j = + 7 ºC	COP_d	3.91	---
T_j = + 12 ºC	COP_d	6.13	---
T j = bivalent temperature	COP_d	2.58	---
T j = operational limit	COP_d	2.58	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	69.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	69.8	kW
T_j = + 7 ºC	**Pdh**	41.4	kW
T_j = + 12 ºC	**Pdh**	50.2	kW
T j = bivalent temperature	**Pdh**	69.8	kW
T j = operational limit	**Pdh**	69.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	162.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.14	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.50	---
T_j = + 7 ºC	COP_d	3.86	---
T_j = + 12 ºC	COP_d	5.53	---
T j = bivalent temperature	COP_d	2.50	---
T j = operational limit	COP_d	2.50	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	97.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	97.0	kW
T_j = + 7 ºC	**Pdh**	56.1	kW
T_j = + 12 ºC	**Pdh**	68.8	kW
T j = bivalent temperature	**Pdh**	97.0	kW
T j = operational limit	**Pdh**	97.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	171.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.36	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.54	---
T_j = + 7 ºC	COP_d	3.94	---
T_j = + 12 ºC	COP_d	6.01	---
T j = bivalent temperature	COP_d	2.54	---
T j = operational limit	COP_d	2.54	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	112.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	112.9	kW
T_j = + 7 ºC	**Pdh**	65.9	kW
T_j = + 12 ºC	**Pdh**	79.2	kW
T j = bivalent temperature	**Pdh**	112.9	kW
T j = operational limit	**Pdh**	112.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	167.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.26	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.55	---
T_j = + 7 ºC	COP_d	3.91	---
T_j = + 12 ºC	COP_d	5.76	---
T j = bivalent temperature	COP_d	2.55	---
T j = operational limit	COP_d	2.55	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	133.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	133.9	kW
T_j = + 7 ºC	**Pdh**	83.0	kW
T_j = + 12 ºC	**Pdh**	102.5	kW
T j = bivalent temperature	**Pdh**	133.9	kW
T j = operational limit	**Pdh**	133.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	173.7	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.43	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.52	---
T_j = + 7 ºC	COP_d	4.14	---
T_j = + 12 ºC	COP_d	6.03	---
T j = bivalent temperature	COP_d	2.52	---
T j = operational limit	COP_d	2.52	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	142.5	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	142.5	kW
T_j = + 7 ºC	**Pdh**	83.7	kW
T_j = + 12 ºC	**Pdh**	50.0	kW
T j = bivalent temperature	**Pdh**	142.5	kW
T j = operational limit	**Pdh**	142.5	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	172.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.40	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.61	---
T_j = + 7 ºC	COP_d	4.01	---
T_j = + 12 ºC	COP_d	5.34	---
T j = bivalent temperature	COP_d	2.61	---
T j = operational limit	COP_d	2.61	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	196.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	196.6	kW
T_j = + 7 ºC	**Pdh**	116.5	kW
T_j = + 12 ºC	**Pdh**	67.7	kW
T j = bivalent temperature	**Pdh**	196.6	kW
T j = operational limit	**Pdh**	196.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	172.3	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.39	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.60	---
T_j = + 7 ºC	COP_d	3.79	---
T_j = + 12 ºC	COP_d	5.63	---
T j = bivalent temperature	COP_d	2.60	---
T j = operational limit	COP_d	2.60	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	229.7	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	229.7	kW
T_j = + 7 ºC	**Pdh**	137.2	kW
T_j = + 12 ºC	**Pdh**	78.2	kW
T j = bivalent temperature	**Pdh**	229.7	kW
T j = operational limit	**Pdh**	229.7	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	170.2	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.34	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.63	---
T_j = + 7 ºC	COP_d	3.77	---
T_j = + 12 ºC	COP_d	5.49	---
T j = bivalent temperature	COP_d	2.63	---
T j = operational limit	COP_d	2.63	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	47/55ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	272.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	272.8	kW
T_j = + 7 ºC	**Pdh**	172.6	kW
T_j = + 12 ºC	**Pdh**	104.0	kW
T j = bivalent temperature	**Pdh**	272.8	kW
T j = operational limit	**Pdh**	272.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	187.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.77	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.61	---
T_j = + 7 ºC	COP_d	4.29	---
T_j = + 12 ºC	COP_d	6.01	---
T j = bivalent temperature	COP_d	2.61	---
T j = operational limit	COP_d	2.61	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

EcoDesign Manual

Heat pumps suitable for cold climates | water production up to 77ºC

ZIRAN PRO MAXIMA KWRH

COMFORT

Heating Only

Warmer climate 55/65ºC

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ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1030-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	41.8	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	41.8	kW
T_j = + 7 ºC	**Pdh**	25.1	kW
T_j = + 12 ºC	**Pdh**	32.6	kW
T j = bivalent temperature	**Pdh**	41.8	kW
T j = operational limit	**Pdh**	41.8	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	150.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.84	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.20	---
T_j = + 7 ºC	COP_d	3.45	---
T_j = + 12 ºC	COP_d	5.47	---
T j = bivalent temperature	COP_d	2.20	---
T j = operational limit	COP_d	2.20	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/93.3	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-1060-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	64.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	64.6	kW
T_j = + 7 ºC	**Pdh**	39.4	kW
T_j = + 12 ºC	**Pdh**	49.3	kW
T j = bivalent temperature	**Pdh**	64.6	kW
T j = operational limit	**Pdh**	64.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	143.9	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.68	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.15	---
T_j = + 7 ºC	COP_d	3.43	---
T_j = + 12 ºC	COP_d	5.01	---
T j = bivalent temperature	COP_d	2.15	---
T j = operational limit	COP_d	2.15	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/97.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	21 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2070-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	88.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	88.3	kW
T_j = + 7 ºC	**Pdh**	51.2	kW
T_j = + 12 ºC	**Pdh**	67.2	kW
T j = bivalent temperature	**Pdh**	88.3	kW
T j = operational limit	**Pdh**	88.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	150.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.84	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.17	---
T_j = + 7 ºC	COP_d	3.50	---
T_j = + 12 ºC	COP_d	5.38	---
T j = bivalent temperature	COP_d	2.17	---
T j = operational limit	COP_d	2.17	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/98.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	35 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2080-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	103.1	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	103.1	kW
T_j = + 7 ºC	**Pdh**	60.2	kW
T_j = + 12 ºC	**Pdh**	77.5	kW
T j = bivalent temperature	**Pdh**	103.1	kW
T j = operational limit	**Pdh**	103.1	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	148.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.78	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.18	---
T_j = + 7 ºC	COP_d	3.48	---
T_j = + 12 ºC	COP_d	5.21	---
T j = bivalent temperature	COP_d	2.18	---
T j = operational limit	COP_d	2.18	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-2100-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	123.0	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	123.0	kW
T_j = + 7 ºC	**Pdh**	78.2	kW
T_j = + 12 ºC	**Pdh**	100.2	kW
T j = bivalent temperature	**Pdh**	123.0	kW
T j = operational limit	**Pdh**	123.0	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.5	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.92	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.16	---
T_j = + 7 ºC	COP_d	3.66	---
T_j = + 12 ºC	COP_d	5.45	---
T j = bivalent temperature	COP_d	2.16	---
T j = operational limit	COP_d	2.16	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.065	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/102	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-3120-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	132.6	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	132.6	kW
T_j = + 7 ºC	**Pdh**	80.0	kW
T_j = + 12 ºC	**Pdh**	49.2	kW
T j = bivalent temperature	**Pdh**	132.6	kW
T j = operational limit	**Pdh**	132.6	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	155.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.96	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.26	---
T_j = + 7 ºC	COP_d	3.58	---
T_j = + 12 ºC	COP_d	4.92	---
T j = bivalent temperature	COP_d	2.26	---
T j = operational limit	COP_d	2.26	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/100.4	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	39 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4140-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	180.3	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	***Pdh***	N/A	kW
T_j = + 2 ºC	***Pdh***	180.3	kW
T_j = + 7 ºC	***Pdh***	106.9	kW
T_j = + 12 ºC	***Pdh***	66.2	kW
T j = bivalent temperature	***Pdh***	180.3	kW
T j = operational limit	***Pdh***	180.3	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	***Pdh***	N/A	kW
Bivalent temperature	***Tbiv***	2	ºC
Degradation coefficient of heat pumps	***Cdh***	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	155.0	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.96	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.24	---
T_j = + 7 ºC	COP_d	3.40	---
T_j = + 12 ºC	COP_d	5.17	---
T j = bivalent temperature	COP_d	2.24	---
T j = operational limit	COP_d	2.24	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	***TOL***	-10	ºC
Water heating limit temperature	***WTOL***	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	***Psup***	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/101.1	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	70 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesign,h, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4160-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	211.4	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	211.4	kW
T_j = + 7 ºC	**Pdh**	126.4	kW
T_j = + 12 ºC	**Pdh**	76.7	kW
T j = bivalent temperature	**Pdh**	211.4	kW
T j = operational limit	**Pdh**	211.4	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	153.8	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	3.92	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.27	---
T_j = + 7 ºC	COP_d	3.39	---
T_j = + 12 ºC	COP_d	5.08	---
T j = bivalent temperature	COP_d	2.27	---
T j = operational limit	COP_d	2.27	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/103	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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ZIRAN PRO MAXIMA

AIR TO WATER HEAT PUMP

Information requirements in accordance with Regulation (EU) 2016/2281

Model	**KWRH-4200-QVS4D**
Refrigerant fluid	R290
Outdoor heat exchanger of the heat pump:	Air
Indoor heat exchanger of the heat pump:	Water
Aplication temperatures	55/65ºC
Equipped with an auxiliary heater:	No
Combined heater and heat pump:	No

Heating Mode

Declared parameters for warmer heating season

Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated,h}$	252.9	kW
Declared heating capacity for part load at an indoor temperature of 20 ºC and an outdoor temperature T j			
T_j = - 7 ºC	**Pdh**	N/A	kW
T_j = + 2 ºC	**Pdh**	252.9	kW
T_j = + 7 ºC	**Pdh**	164.1	kW
T_j = + 12 ºC	**Pdh**	102.0	kW
T j = bivalent temperature	**Pdh**	252.9	kW
T j = operational limit	**Pdh**	252.9	kW
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	**Pdh**	N/A	kW
Bivalent temperature	**Tbiv**	2	ºC
Degradation coefficient of heat pumps	**Cdh**	0.9	---

Element	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_{s,h}$	170.1	%
Net seasonal coefficient of performance in active mode (**)	**SCOPnet**	4.33	---
Declared coefficient of performance or gas usage efficiency or auxiliary energy factor for part load at the given outdoor temperatures T j			
T_j = - 7 ºC	COP_d	N/A	---
T_j = + 2 ºC	COP_d	2.27	---
T_j = + 7 ºC	COP_d	3.86	---
T_j = + 12 ºC	COP_d	5.61	---
T j = bivalent temperature	COP_d	2.27	---
T j = operational limit	COP_d	2.27	---
Air-to-water heat pumps: T j = -15 ºC (if TOL < -20 ºC)	COP_d	N/A	---
Air-to-air heat pumps: operational limit temperature	**TOL**	-10	ºC
Water heating limit temperature	**WTOL**	65	ºC

Energy consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW
Standby mode	P_{SB}	0.024	kW
Crankcase heater mode	P_{CK}	0.130	kW

Backup heater

Rated heat output (*)	**Psup**	0.0	kW
Type of energy consumed	N/A		

Other elements

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (indoor/outdoor)	L_{WA}	0/105	dB
Nitrogen oxide emissions	NO_x	0	mg/kWh

Airflow (outdoor)	---	78 000	m^3/h
For water-to-air/brine-to-air heat pumps: nominal brine or water flow rate, outdoor heat exchanger	---	N/A	m^3/h

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