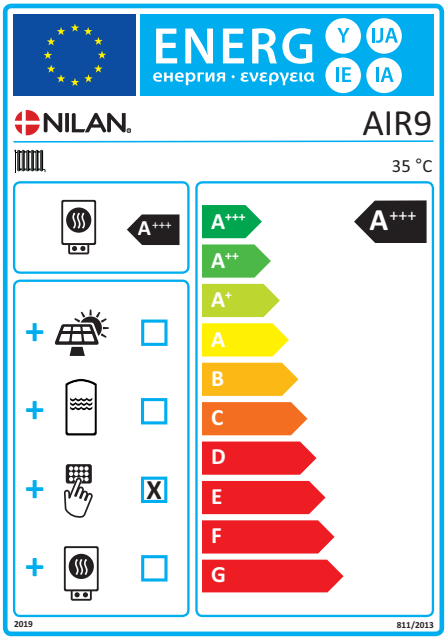
AIR9 (Low-temperature heat pump)

Heat pump for space heating

Model	AIR9
Air-to-water heat pump	Yes
Water-to-water heat pump	No
Brine-to-water heat pump	No
Low-temperature heat pump	Yes
Equipped with a supplementary heater	Yes
Heat pump combination heater	No
Temperature control:	
Model	CTS602
Class	2
Contribution to seasonal space heating energy efficiency	2%



Item	Symbol	Value	Unit
Rated heat output	*Prated*	5,21	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature of T_j			
T_j = -7 °C	*Pdh*	4,79	kW
T_j = +2 °C	*Pdh*	2,88	kW
T_j = +7 °C	*Pdh*	1,90	kW
T_j = +12 °C	*Pdh*	2,12	kW
T_j = bivalent temperature	*Pdh*	5,21	kW
T_j = operation limit temperature	*Pdh*	0	kW
For air-water-heating pumps Tj = -15 °C (if TOL < -20 °C)	*Pdh*		kW
Bivalent temperature	T_{biv}	-10	°C
Cycling interval capacity for heating	*Pcych*		kW
Degradation co-efficient	*Cdh*	0,94-0,99	
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0,01	kW
Thermostat off-mode	P_{TO}	0,005	kW
Standby mode	P_{SB}	0,01	kW
Crankcase heater mode	P_{CK}	0	kW
Other items			
Capacity control:	Variable compressor Variable indoor water flow		
	Variable indoor temperature adjustment		
Sound power level, outdoors	L_{WA}	46	dB
Annual energy consumption	Q_{HE}	1464	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	206	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j			
T_j = -7 °C	*COPd*	3,20	
T_j = +2 °C	*COPd*	4,95	
T_j = +7 °C	*COPd*	6,53	
T_j = +12 °C	*COPd*	9,69	
T_j = bivalent temperature	*COPd*	2,83	
T_j = operation limit temperature	*COPd*	0	
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	*COPd*		
For air-to-water heat pumps: Operation limit temperature	*TOL*	-22	°C
Cycling interval efficiency	*COPcyc*		
Heating water operating limit temperature	*WTOL*	45	°C
Supplementary heater			
Rated heat output	*Psup*	6	kW
Type of energy input	Electrical		
For air-to-water heat pumps: Rated air flow rate, outdoors		3000	m^3/h
For water-/ brine-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			m^3/h

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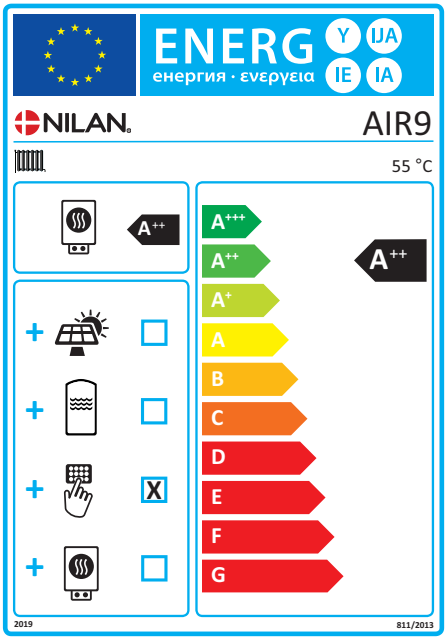
AIR9 (Average-temperature heat pump)

Heat pump for space heating

Model	AIR9
Air-to-water heat pump	Yes
Water-to-water heat pump	No
Brine-to-water heat pump	No
Low-temperature heat pump	No
Equipped with a supplementary heater	Yes
Heat pump combination heater	Yes
Temperature control:	
Model	CTS602
Class	2
Contribution to seasonal space heating energy efficiency	2%



Item	Symbol	Value	Unit
Rated heat output	*Prated*	4,7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature of T_j			
T_j = -7 °C	*Pdh*	4,01	kW
T_j = +2 °C	*Pdh*	2,44	kW
T_j = +7 °C	*Pdh*	1,64	kW
T_j = +12 °C	*Pdh*	1,83	kW
T_j = bivalent temperature	*Pdh*	4,66	kW
T_j = operation limit temperature	*Pdh*	4,66	kW
For air-water-heating pumps Tj = -15 °C (if TOL < -20 °C)	*Pdh*		kW
Bivalent temperature	T_{biv}	-10	°C
Cycling interval capacity for heating	*Pcych*		kW
Degradation co-efficient	*Cdh*	0,99	
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0,002	kW
Thermostat off-mode	P_{TO}	0,002	kW
Standby mode	P_{SB}	0,002	kW
Crankcase heater mode	P_{CK}	0,002	kW
Other items			
Capacity control:	Variable compressor Variable indoor water flow		
	Variable indoor temperature adjustment		
Sound power level, outdoors	L_{WA}	50	dB
Annual energy consumption	Q_{HE}	2597	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	146,6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j			
T_j = -7 °C	*COPd*	2,28	
T_j = +2 °C	*COPd*	3,65	
T_j = +7 °C	*COPd*	4,79	
T_j = +12 °C	*COPd*	5,92	
T_j = bivalent temperature	*COPd*	2,07	
T_j = operation limit temperature	*COPd*	2,07	
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	*COPd*		
For air-to-water heat pumps: Operation limit temperature	*TOL*	-10	°C
Cycling interval efficiency	*COPcyc*		
Heating water operating limit temperature	*WTOL*	-	°C
Supplementary heater			
Rated heat output	*Psup*	0,00	kW
Type of energy input	Electrical		
For air-to-water heat pumps: Rated air flow rate, outdoors		3000	m^3/h
For water-/ brine-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			m^3/h

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