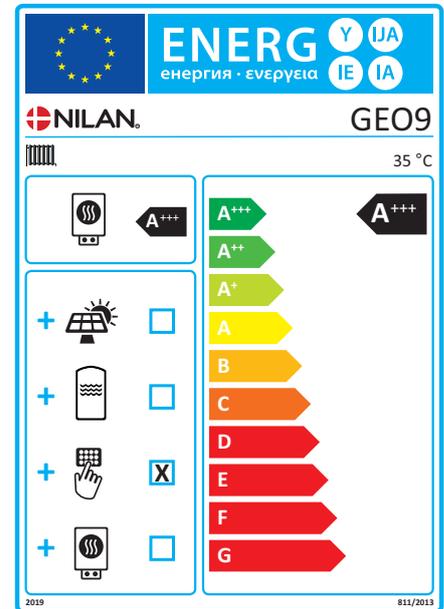


GEO9

Heating pump system for space heating

Model	GEO9
Air-to-water heat pump	No
Water-to-water heat pump	No
Brine-to-water heat pump	Yes
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	P_{rated}	9,05	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature of T_j			
$T_j = -7\text{ °C}$	P_{dh}	8,01	kW
$T_j = +2\text{ °C}$	P_{dh}	4,87	kW
$T_j = +7\text{ °C}$	P_{dh}	3,13	kW
$T_j = +12\text{ °C}$	P_{dh}	1,39	kW
$T_j = \text{bivalent temperature}$	P_{dh}	9,05	kW
$T_j = \text{operation limit temperature}$	P_{dh}		kW
For air-water-heating pumps $T_j = -15\text{ °C}$ (if TOL < -20 °C)	P_{dh}		kW
Bivalent temperature	T_{biv}	-10	°C
Cycling interval capacity for heating	P_{cyc}		kW
Degradation co-efficient	C_{dh}	0,94-0,99	
Power consumption in modes other than active mode			
Off mode	P_{off}	0,010	kW
Thermostat off-mode	P_{TD}	0,015	kW
Standby mode	P_{SB}	0,010	kW
Crankcase heater mode	P_{CK}	0,010	kW
Other items			
Capacity control:	Variable compressor Variable indoor temperature adjustment		
	Fixed indoor water flow Fixed outdoor water flow		
Sound power level, indoors	L_{WA}		dB
Emissions of nitrogen oxides	Q_{HE}		kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	232	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j			
$T_j = -7\text{ °C}$	COP_d	4,42	
$T_j = +2\text{ °C}$	COP_d	5,33	
$T_j = +7\text{ °C}$	COP_d	5,96	
$T_j = +12\text{ °C}$	COP_d	5,96	
$T_j = \text{bivalent temperature}$	COP_d	4,16	
$T_j = \text{operation limit temperature}$	COP_d		
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < -20 °C)	COP_d		
For air-to-water heat pumps: Operation limit temperature	TOL		°C
Cycling interval efficiency	COP_{cyc}		
Heating water operating limit temperature	WTOL		°C
Supplementary heater			
Rated heat output	P_{sup}		kW
Type of energy input	Electrical		
For air-to-water heat pumps: Rated air flow rate, outdoors			m ³ /h
For water-/ brine-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		1,53	m ³ /h