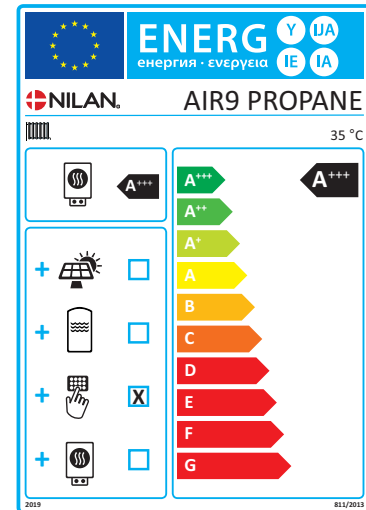


# AIR9 Propane

## Heat pump for space heating

Model	AIR9 Propane
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
<b>Temperature control:</b>	
Model	CTS602
Class	2
Contribution to seasonal space heating energy efficiency	2%



Item	Symbol	Value	Unit
Rated heat output	$P_{rated}$	4	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature of $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	3,41	kW
$T_j = +2\text{ °C}$	$P_{dh}$	1,99	kW
$T_j = +7\text{ °C}$	$P_{dh}$	1,30	kW
$T_j = +12\text{ °C}$	$P_{dh}$	1,51	kW
$T_j = \text{bivalent temperature}$	$P_{dh}$	4,00	kW
$T_j = \text{operation limit temperature}$	$P_{dh}$	4,00	kW
For air-water-heating pumps $T_j = -15\text{ °C}$ (if TOL < $-20\text{ °C}$ )	$P_{dh}$		kW
Bivalent temperature	$T_{div}$	-10	°C
Cycling interval capacity for heating	$P_{cyc}$		kW
Degradation co-efficient	$C_{dh}$	0,94	
Power consumption in modes other than active mode			
Off mode	$P_{OFF}$	0,011	kW
Thermostat off-mode	$P_{TD}$	0,011	kW
Standby mode	$P_{SB}$	0,011	kW
Crankcase heater mode	$P_{CK}$	0,011	kW
Other items			
Capacity control:	Variable compressor Variable indoor water flow		
	Variable indoor temperature adjustment		
Sound power level, outdoors	$L_{WA}$	49	dB
Annual energy consumption	$Q_{HE}$	1555	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	$\eta_s$	211,6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$COP_d$	3,66	
$T_j = +2\text{ °C}$	$COP_d$	5,38	
$T_j = +7\text{ °C}$	$COP_d$	6,72	
$T_j = +12\text{ °C}$	$COP_d$	8,49	
$T_j = \text{bivalent temperature}$	$COP_d$	3,16	
$T_j = \text{operation limit temperature}$	$COP_d$	3,16	
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < $-20\text{ °C}$ )	$COP_d$		
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	$COP_{cyc}$		
Heating water operating limit temperature	WTOL	45	°C
Supplementary heater			
Rated heat output	$P_{sup}$	6	kW
Type of energy input	Electrical		
For air-to-water heat pumps: Rated air flow rate, outdoors		3500	m <sup>3</sup> /h
For water-/ brine-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			m <sup>3</sup> /h