Technical parameters

Model(s):	**SHP-140ICA + SHP-140ECA**
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 supplementary heater:	YES
Heat pump combination heater:	NO

Average climate - medium-temperature application

Item	Symbol	Value	Unit		Item	Symbol	Value	Unit
Rated heat output	$Prated$	12	kW		Seasonal space heating energy efficiency	η_s	127	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j					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	Pdh	10,2	kW		T_j = -7 °C	$COPd$	2,56	%
T_j = +2 °C	Pdh	8,5	kW		T_j = +2 °C	$COPd$	3,01	%
T_j = +7 °C	Pdh	14,0	kW		T_j = +7 °C	$COPd$	4,01	%
T_j = +12 °C	Pdh	16,1	kW		T_j = +12 °C	$COPd$	4,99	%
T_j = bivalent temperature	Pdh	10,2	kW		T_j = bivalent temperature	$COPd$	2,56	%
T_j = operation limit temperature	Pdh	9,4	kW		T_j = operation limit temperature	$COPd$	2,25	%
T_j = -15 °C	Pdh	-	kW		T_j = -15 °C	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C		Operation limit temperature (for air-to-water heat pumps)	TOL	-10	°C
Cycling interval capacity for heating	$Pcych$	-	kW		Cycling interval efficiency	$COPcyc$	-	%
Degradation coefficient	Cdh	0,9	-		Heating water operating limit temperature	$WTOL$	60	°C

Power consumption in modes other than active mode					Supplementary heater			
Off mode	P_{OFF}	0,0055	kW		Rated heat output	$Psup$	3,0	kW
Thermostat-off mode	P_{TO}	0,0062	kW		Type of energy input	resistive		
Standby mode	P_{SB}	0,0055	kW					
Crankcase heater mode	P_{CK}	0,00	kW					

Other items								
Capacity control	fixed				Rated air flow rate, outdoors (for air-to-water heat pumps)	-	4500	m^3/h
Sound power level, indoors / outdoors	L_{WA}	55 / 60	dB					
Annual energy consumption	Q_{HE}	7 327	kWh		Rated brine or water flow rate, outdoor heat exchanger (for water- or brine-to-water heat pumps)	-	-	m^3/h

Colder climate - medium-temperature application								
Item	Symbol	Value	Unit		Item	Symbol	Value	Unit
Rated heat output	$Prated$	9	kW		Seasonal space heating energy efficiency	η_s	115	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j					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	Pdh	10,5	kW		T_j = -7 °C	$COPd$	2,6	%
T_j = +2 °C	Pdh	11,5	kW		T_j = +2 °C	$COPd$	3,2	%
T_j = +7 °C	Pdh	14,1	kW		T_j = +7 °C	$COPd$	4,3	%
T_j = +12 °C	Pdh	16,3	kW		T_j = +12 °C	$COPd$	5,2	%
T_j = bivalent temperature	Pdh	7,7	kW		T_j = bivalent temperature	$COPd$	2,1	%
T_j = operation limit temperature	Pdh	7,5	kW		T_j = operation limit temperature	$COPd$	1,82	%
T_j = -15 °C	Pdh	-	kW		T_j = -15 °C	Pdh	-	kW
Bivalent temperature	T_{biv}	-16	°C		Operation limit temperature (for air-to-water heat pumps)	TOL	-20	°C
Cycling interval capacity for heating	$Pcych$	-	kW		Cycling interval efficiency	$COPcyc$	-	%
Degradation coefficient	Cdh	0,9	-		Heating water operating limit temperature	$WTOL$	60	°C
Power consumption in modes other than active mode					Supplementary heater			
Off mode	P_{OFF}	0,0055	kW		Rated heat output	$Psup$	3,0	kW
Thermostat-off mode	P_{TO}	0,0062	kW		Type of energy input	resistive		
Standby mode	P_{SB}	0,0055	kW					
Crankcase heater mode	P_{CK}	0,00	kW					
Other items								
Capacity control	fixed				Rated air flow rate, outdoors (for air-to-water heat pumps)	-	4500	m^3/h
Sound power level, indoors / outdoors	L_{WA}	55 / 60	dB					
Annual energy consumption	Q_{HE}	7708	kWh		Rated brine or water flow rate, outdoor heat exchanger (for water- or brine-to-water heat pumps)	-	-	m^3/h

Warmer climate - medium-temperature application								
Item	Symbol	Value	Unit		Item	Symbol	Value	Unit
Rated heat output	*Prated*	9	kW		Seasonal space heating energy efficiency	η_s	153	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j					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	*Pdh*	-	kW		T_j = -7 °C	*COPd*	-	%
T_j = +2 °C	*Pdh*	8,9	kW		T_j = +2 °C	*COPd*	2,6	%
T_j = +7 °C	*Pdh*	14,4	kW		T_j = +7 °C	*COPd*	3,4	%
T_j = +12 °C	*Pdh*	16,3	kW		T_j = +12 °C	*COPd*	4,7	%
T_j = bivalent temperature	*Pdh*	8,9	kW		T_j = bivalent temperature	*COPd*	2,6	%
T_j = operation limit temperature	*Pdh*	8,9	kW		T_j = operation limit temperature	*COPd*	2,6	%
T_j = -15 °C	*Pdh*	-	kW		T_j = -15 °C	*Pdh*	-	kW
Bivalent temperature	T_{biv}	2	°C		Operation limit temperature (for air-to-water heat pumps)	*TOL*	2	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc*	-	%
Degradation coefficient	*Cdh*	0,9	-		Heating water operating limit temperature	*WTOL*	60	°C
Power consumption in modes other than active mode					Supplementary heater			
Off mode	P_{OFF}	0,0055	kW		Rated heat output	*Psup*	3,0	kW
Thermostat-off mode	P_{TO}	0,0062	kW		Type of energy input	resistive		
Standby mode	P_{SB}	0,0055	kW					
Crankcase heater mode	P_{CK}	0,00	kW					
Other items								
Capacity control	fixed				Rated air flow rate, outdoors (for air-to-water heat pumps)	-	4500	m^3/h
Sound power level, indoors / outdoors	L_{WA}	55 / 60	dB					
Annual energy consumption	Q_{HE}	3051	kWh		Rated brine or water flow rate, outdoor heat exchanger (for water- or brine-to-water heat pumps)	-	-	m^3/h
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