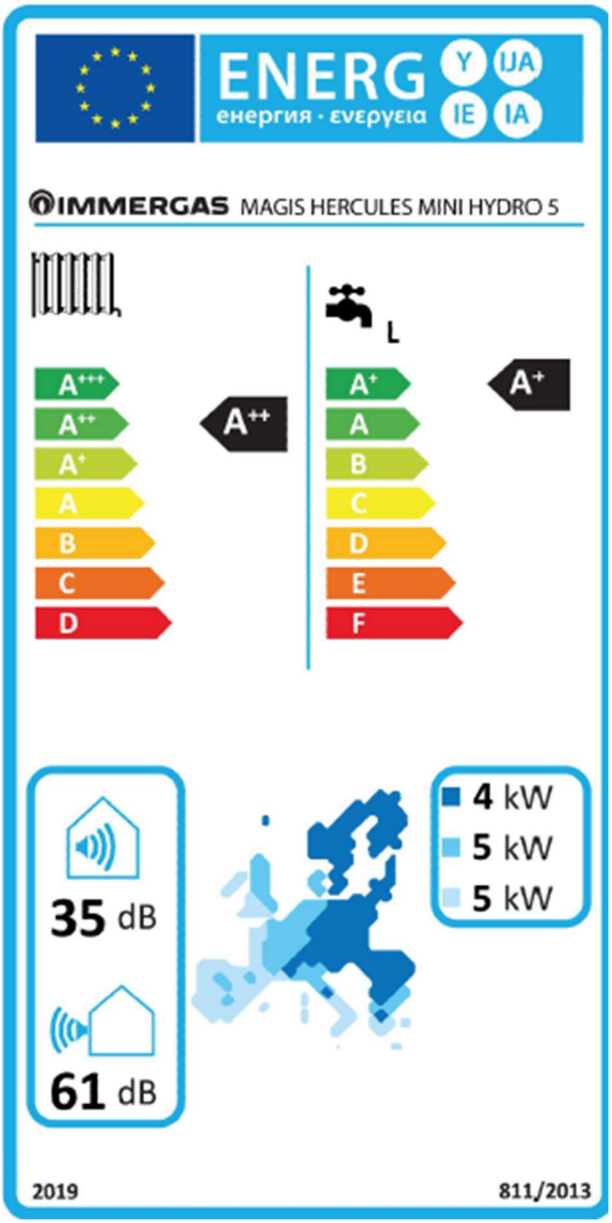
MAGIS HERCULES MINI HYDRO 5-8-12 – Product fiches

Summary

MAGIS HERCULES MINI HYDRO 5

Magis Hercules Mini Hydro 5 - Energetic labels



Magis Hercules Mini Hydro 5 - Low temperature table (30/35) average zones

Low temperature table (30/35) average zones

Model: **Magis Hercules Mini Hydro 5**							
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: no							
Heat pump combination heater: yes							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	6	kW		**Seasonal space heating energy efficiency**	η_S	175	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	4.9	kW		$T_j = -7$ °C	*COPd*	2.99	–
$T_j = +2$ °C	*Pdh*	3.0	kW		$T_j = +2$ °C	*COPd*	4.18	–
$T_j = +7$ °C	*Pdh*	1.9	kW		$T_j = +7$ °C	*COPd*	6.11	–
$T_j = +12$ °C	*Pdh*	1.9	kW		$T_j = +12$ °C	*COPd*	7.70	–
T_j = bivalent temperature	*Pdh*	4.9	kW		T_j = bivalent temperature	*COPd*	2.99	–
T_j = operation limit temperature	*Pdh*	4.6	kW		T_j = temperature operating limit	*COPd*	2.74	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-7	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	65	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	1.4	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	3060	m^3/h
Sound power level, indoors/outdoors	L_{WA}	35/61	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	2548	kWh or GJ					
For heat pump combination heater:								
Declared load profile	L				**Water heating energy efficiency**	η_{wh}	117	%
Daily electricity consumption	Q_{elec}	4.15	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	876	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Magis Hercules Mini Hydro 5 - Medium temperature table (47/55) average zones

Medium temperature table (47/55) average zones

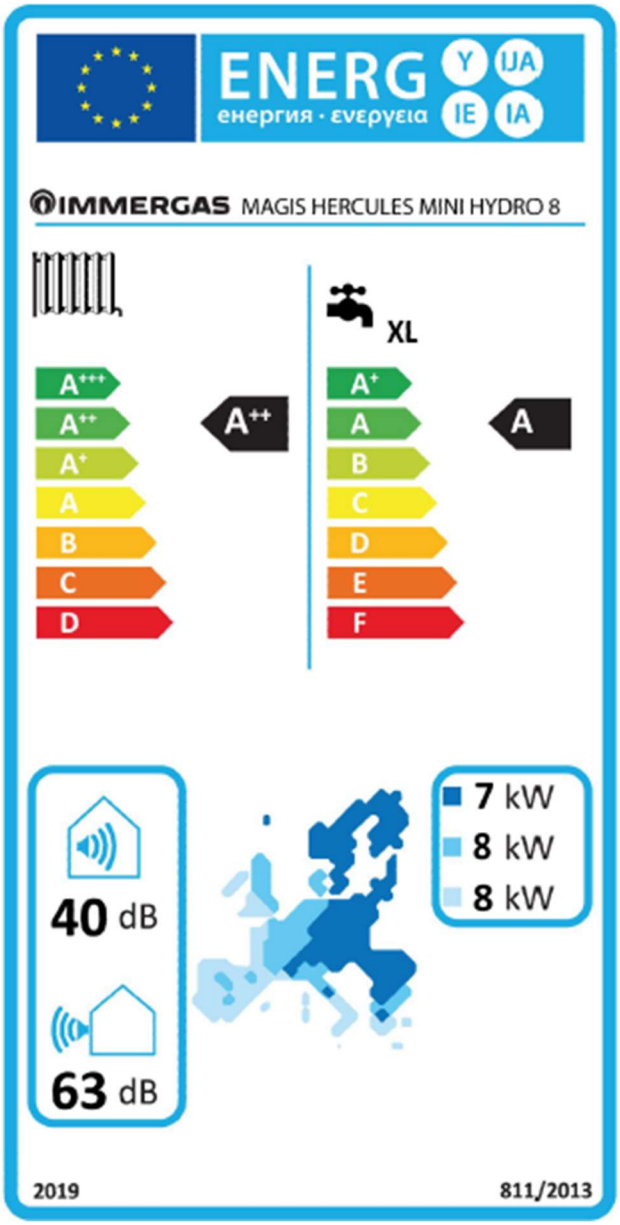
Model: **Magis Hercules Mini Hydro 5**							
Air-to-water heat pump: yes							
Water-to-water heat pump: no							
Brine-to-water heat pump: no							
Low-temperature heat pump: no							
Equipped with a supplementary heater: no							
Heat pump combination heater: yes							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	5	kW		**Seasonal space heating energy efficiency**	η_S	125	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	4.4	kW		$T_j = -7$ °C	*COPd*	2.16	–
$T_j = +2$ °C	*Pdh*	2.7	kW		$T_j = +2$ °C	*COPd*	3.17	–
$T_j = +7$ °C	*Pdh*	1.7	kW		$T_j = +7$ °C	*COPd*	4.03	–
$T_j = +12$ °C	*Pdh*	1.7	kW		$T_j = +12$ °C	*COPd*	4.73	–
T_j = bivalent temperature	*Pdh*	4.4	kW		T_j = bivalent temperature	*COPd*	2.16	–
T_j = operation limit temperature	*Pdh*	4.2	kW		T_j = temperature operating limit	*COPd*	2.00	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-7	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	65	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	0.8	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	3060	m^3/h
Sound power level, indoors/outdoors	L_{WA}	35 /61	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	3224	kWh or GJ					
For heat pump combination heater:								
Declared load profile	L				**Water heating energy efficiency**	η_{wh}	117	%
Daily electricity consumption	Q_{elec}	4.15	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	876	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Additional DHW data

Model: **Magis Hercules Mini Hydro 5**							
Heat pump with storage tank							
Declared Load Profile	L			**Water heating energy efficiency**	η_{wh}	117	%
Daily electrical energy consumption	Q_{elec}	4.15	kWh	COP (at 7°C)	COP	2.81	
Annual electrical energy consumption	AEC	876	kWh	Thermostat temperature	-	48	°C
Standby Heat Loss	P_{stby}	1.74	kWh /day	Reference hot water temperature	θ'_{WH}	49.70	°C
Storage volume	V_m	171	L	Volume of mixed water at 40°C	V_{40}	185.7	L
Test data as per EN16147:2017							
Contact information	Immergas S.p.A via Cisa Ligure n.95						

MAGIS HERCULES MINI HYDRO 8

Magis Hercules Mini Hydro 8 - Energetic labels



Magis Hercules Mini Hydro 8 - Low temperature table (30/35) average zones

Low temperature table (30/35) average zones

Model: **Magis Hercules Mini Hydro 8**							
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							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	8	kW		**Seasonal space heating energy efficiency**	η_S	175	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	7.1	kW		$T_j = -7$ °C	*COPd*	2.63	–
$T_j = +2$ °C	*Pdh*	4.3	kW		$T_j = +2$ °C	*COPd*	4.24	–
$T_j = +7$ °C	*Pdh*	3.1	kW		$T_j = +7$ °C	*COPd*	6.39	–
$T_j = +12$ °C	*Pdh*	2.6	kW		$T_j = +12$ °C	*COPd*	8.22	–
T_j = bivalent temperature	*Pdh*	7.1	kW		T_j = bivalent temperature	*COPd*	2.63	–
T_j = operation limit temperature	*Pdh*	7.0	kW		T_j = temperature operating limit	*COPd*	2.48	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-7	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	65	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	1.0	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	3960	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40/63	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	3718	kWh or GJ					
For heat pump combination heater:								
Declared load profile	XL				**Water heating energy efficiency**	η_{wh}	109	%
Daily electricity consumption	Q_{elec}	7.14	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	1530	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Magis Hercules Mini Hydro 8 - Medium temperature table (47/55) average zones

Medium temperature table (47/55) average zones

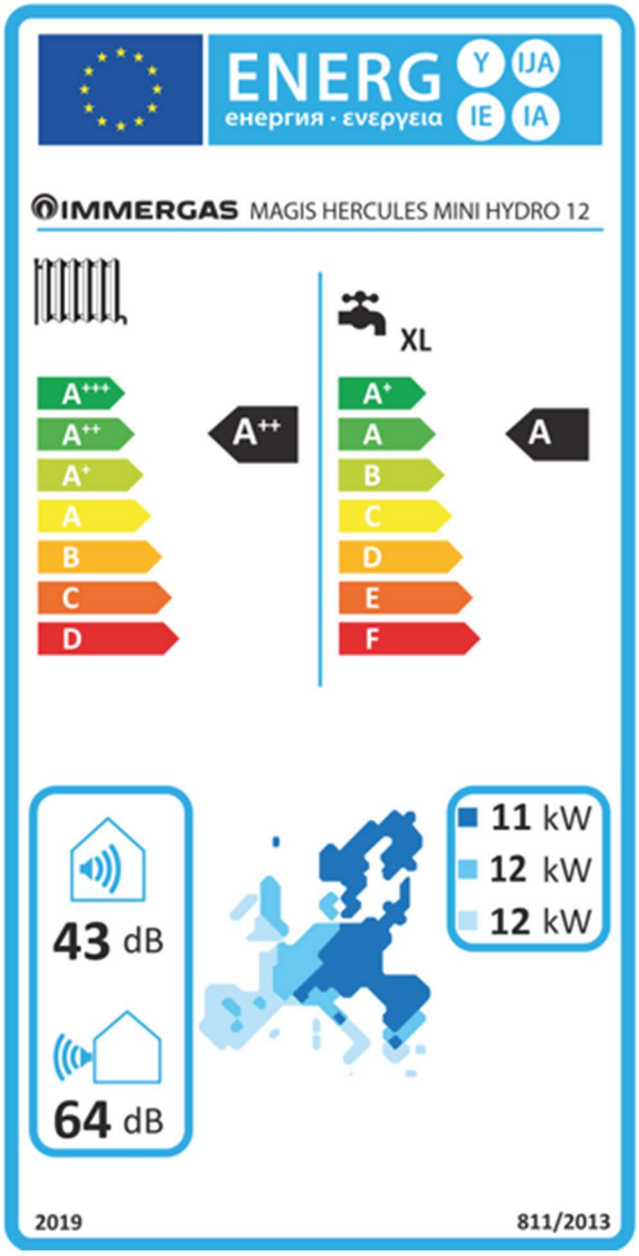
Model: **Magis Hercules Mini Hydro 8**							
Air-to-water heat pump: yes							
Water-to-water heat pump: no							
Brine-to-water heat pump: no							
Low-temperature heat pump: no							
Equipped with a supplementary heater: yes							
Heat pump combination heater: yes							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	8	kW		**Seasonal space heating energy efficiency**	η_S	126	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	7.1	kW		$T_j = -7$ °C	*COPd*	1.90	–
$T_j = +2$ °C	*Pdh*	4.3	kW		$T_j = +2$ °C	*COPd*	3.11	–
$T_j = +7$ °C	*Pdh*	2.8	kW		$T_j = +7$ °C	*COPd*	4.55	–
$T_j = +12$ °C	*Pdh*	2.4	kW		$T_j = +12$ °C	*COPd*	5.77	–
T_j = bivalent temperature	*Pdh*	7.1	kW		T_j = bivalent temperature	*COPd*	1.90	–
T_j = operation limit temperature	*Pdh*	6.8	kW		T_j = temperature operating limit	*COPd*	1.66	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-7	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	-	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	1.2	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	3960	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40/63	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	5114	kWh or GJ					
For heat pump combination heater:								
Declared load profile	XL				**Water heating energy efficiency**	η_{wh}	109	%
Daily electricity consumption	Q_{elec}	7.14	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	1530	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Additional DHW data

Model: **Magis Hercules Mini Hydro 8**							
Heat pump with storage tank							
Declared Load Profile	XL			**Water heating energy efficiency**	η_{wh}	109	%
Daily electrical energy consumption	Q_{elec}	7.14	kWh	COP (at 7°C)	COP	2.67	
Annual electrical energy consumption	AEC	1530	kWh	Thermostat temperature	-	48	°C
Standby Heat Loss	P_{stby}	1.86	kWh /day	Reference hot water temperature	θ'_{WH}	49.64	°C
Storage volume	V_m	171	L	Volume of mixed water at 40°C	V_{40}	184.9	L
Test data as per EN16147:2017							
Contact information	Immergas S.p.A via Cisa Ligure n.95						

MAGIS HERCULES MINI HYDRO 12

Magis Hercules Mini Hydro 12 - Energetic labels



Magis Hercules Mini Hydro 12 - Low temperature table (30/35) average zones

Low temperature table (30/35) average zones

Model: **Magis Hercules Mini Hydro 12**							
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: no							
Heat pump combination heater: yes							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	13	kW		**Seasonal space heating energy efficiency**	η_S	185	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	11.5	kW		$T_j = -7$ °C	*COPd*	2.71	–
$T_j = +2$ °C	*Pdh*	7.0	kW		$T_j = +2$ °C	*COPd*	4.48	–
$T_j = +7$ °C	*Pdh*	5.6	kW		$T_j = +7$ °C	*COPd*	6.86	–
$T_j = +12$ °C	*Pdh*	4.8	kW		$T_j = +12$ °C	*COPd*	8.95	–
T_j = bivalent temperature	*Pdh*	13.0	kW		T_j = bivalent temperature	*COPd*	2.71	–
T_j = operation limit temperature	*Pdh*	13.0	kW		T_j = temperature operating limit	*COPd*	2.37	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-10	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	65	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	5940	m^3/h
Sound power level, indoors/outdoors	L_{WA}	43/64	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	5725	kWh or GJ					
For heat pump combination heater:								
Declared load profile	XL				**Water heating energy efficiency**	η_{wh}	108	%
Daily electricity consumption	Q_{elec}	7.21	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	1547	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Magis Hercules Mini Hydro 12 - Medium temperature table (47/55) average zones

Medium temperature table (47/55) average zones

Model: **Magis Hercules Mini Hydro 12**							
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: no							
Heat pump combination heater: yes							
The parameters are declared for average climatic conditions							
Element	**Symbol**	**Value**	**Unit**		**Element**	**Symbol**	**Value**	**Unit**
Rated heat output	*Prated*	12	kW		**Seasonal space heating energy efficiency**	η_S	138	%
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj					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*	10.6	kW		$T_j = -7$ °C	*COPd*	2.16	–
$T_j = +2$ °C	*Pdh*	6.5	kW		$T_j = +2$ °C	*COPd*	3.45	–
$T_j = +7$ °C	*Pdh*	4.2	kW		$T_j = +7$ °C	*COPd*	4.57	–
$T_j = +12$ °C	*Pdh*	4.4	kW		$T_j = +12$ °C	*COPd*	6.12	–
T_j = bivalent temperature	*Pdh*	12.0	kW		T_j = bivalent temperature	*COPd*	2.16	–
T_j = operation limit temperature	*Pdh*	12.0	kW		T_j = temperature operating limit	*COPd*	1.96	–
for air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*Pdh*	-	kW		For air-to-water heat pumps: $T_j = -15$ °C (if TOL < – 20 °C)	*COPd*	-	–
Bivalent temperature	T_{biv}	-10	°C		For air/water heat pumps: temperature operating limit	*TOL*	-10	°C
Cycling interval capacity for heating	*Pcych*	-	kW		Cycling interval efficiency	*COPcyc or PERcyc*	-	–
Degradation co-efficient	*Cdh*	0.9	—		Heating water operating limit temperature	*WTOL*	-	°C
Power consumption in modes other than active mode					Supplementary heater			
OFF mode	P_{OFF}	0.022	kW		Rated heat output	*Psup*	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW		Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW					
Crankcase heater mode	P_{CK}	0.000	kW					
Other items								
Capacity control	Variable				For air-to-water heat pumps: Rated air flow rate, outdoors	—	5940	m^3/h
Sound power level, indoors/outdoors	L_{WA}	43/64	dB		For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	-	m^3/h
Annual energy consumption	Q_{HE}	7051	kWh or GJ					
For heat pump combination heater:								
Declared load profile	XL				**Water heating energy efficiency**	η_{wh}	108	%
Daily electricity consumption	Q_{elec}	7.21	kWh		Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	*AEC*	1547	kWh		Annual fuel consumption	*AFC*	-	GJ
Contact information	IMMERGAS S.p.A via Cisa Ligure n.95 - 42041 Brescello (RE) Italy							

Additional DHW data

Model: **Magis Hercules Mini Hydro 12**							
Heat pump with storage tank							
Declared Load Profile	XL			**Water heating energy efficiency**	η_{wh}	108	%
Daily electrical energy consumption	Q_{elec}	7.21	kWh	COP (at 7°C)	COP	2.65	
Annual electrical energy consumption	AEC	1547	kWh	Thermostat temperature	-	46	°C
Standby Heat Loss	P_{stby}	1.74	kWh /day	Reference hot water temperature	θ'_{WH}	48.73	°C
Storage volume	V_m	171	L	Volume of mixed water at 40°C	V_{40}	177.8	L
Test data as per EN16147:2017							
Contact information	Immergas S.p.A via Cisa Ligure n.95						