

MA  
MAGIS  
USERS

Instructions and recommendations

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\*1.047742ENG\*



# MAGIS M4-6-8EH3

Block heat pumps  
Single-phase  
Technical Data



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## Dear Customer

*Congratulations for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas customer you can also count on a Qualified Authorised After-Sales Technical Assistance Centre, prepared and updated to guarantee constant efficiency of your appliance. Read the following pages carefully: you will be able to draw useful tips on the proper use of the device, compliance with which will confirm your satisfaction with the Immergas product.*

*For assistance and routine maintenance, contact Authorised Technical Service Centres: they have original spare parts and are specifically trained directly by the manufacturer.*

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The company **IMMERGAS S.p.A.**, with registered office in via Cisa Ligure 95 42041 Brescello (RE), declares that the design, manufacturing and after-sales assistance processes comply with the requirements of standard **UNIEN ISO 9001:2015**.

For further details on the product CE marking, request a copy of the Declaration of Conformity from the manufacturer, specifying the appliance model and the language of the country.

The manufacturer declines all liability due to printing or transcription errors, reserving the right to make any modifications to its technical and commercial documents without forewarning.



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## GENERAL RECOMMENDATIONS

- The instruction booklet is an integral and essential part of the product and must be given to the new user in the case of transfer or succession of ownership.
  - It must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.
  - In compliance with the legislation in force, the systems must be designed by qualified professionals, within the dimensional limits established by the Law. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, meaning staff with specific technical skills in the plant sector, as provided for by Law.
  - Improper installation or assembly of the Immergas device and/or components, accessories, kits and devices can cause unexpected problems for people, animals and objects. Read the instructions provided with the product carefully to ensure proper installation.
  - This instructions manual provides technical information for installing Immergas products. As for the other issues related to the installation of products (e.g. safety at the workplace, environmental protection, accident prevention), it is necessary to comply with the provisions of the standards in force and the principles of good practice.
  - All Immergas products are protected with suitable transport packaging.
  - The material must be stored in a dry place protected from the weather.
  - Maintenance must be carried out by skilled technical staff. For example, the Authorised Service Centre that represents a guarantee of qualifications and professionalism.
  - The appliance must only be destined for the use for which it has been expressly declared. Any other use will be considered improper and therefore potentially dangerous.
  - If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this booklet (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damages and the device warranty is invalidated.
  - This manual provides a detailed explanation on the precautions to be taken during use.
  - Read this manual carefully before using the wall-mounted control unit to guarantee its proper operation.
  - After you have read this manual, keep it for future consultation.
  - For further information regarding legislative and statutory provisions relative to the installation of heat pumps, consult the Immergas site at the following address: [www.immergas.com](http://www.immergas.com)
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# 1 TECHNICAL DATA

## 1.1 MEDIUM TEMPERATURE APPLICATIONS

Model	For medium temperature applications				
	Energy efficiency class	Sound power of unit	Medium zone temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A++	55,0	4,4	129,5	2744
MAGISM6EH3	A++	58,0	5,7	137,9	3345
MAGISM8EH3	A++	59,0	6,6	131,5	4056

Model	For medium temperature applications				
	Energy efficiency class	Sound power of unit	Cold zones temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A++	55,0	3,4	102,1	3159
MAGISM6EH3	A++	58,0	4,3	111,1	3681
MAGISM8EH3	A++	59,0	5,8	112,0	4950

Model	For medium temperature applications				
	Energy efficiency class	Sound power of unit	Hot zones temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A++	55,0	5,0	162,4	1621
MAGISM6EH3	A++	58,0	5,1	164,7	1640
MAGISM8EH3	A++	59,0	8,37	176,9	2485

## 1.2 LOW TEMPERATURE APPLICATIONS

Model	For low temperature applications				
	Energy efficiency class	Sound power of unit	Medium zone temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A+++	55,0	5,5	191,0	2351
MAGISM6EH3	A+++	58,0	6,8	195,0	2845
MAGISM8EH3	A+++	59,0	8,1	206,0	3218

Model	For low temperature applications				
	Energy efficiency class	Sound power of unit	Cold zones temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A+++	55,0	4,6	159,5	2769
MAGISM6EH3	A+++	58,0	5,6	165,3	3300
MAGISM8EH3	A+++	59,0	7,0	170,0	3976

Model	For low temperature applications				
	Energy efficiency class	Sound power of unit	Hot zones temperatures		
			Nominal heat output	Space heating seasonal energy efficiency	For space heating, annual power consumption
	-	dB	kW	%	kWh
MAGISM4EH3	A+++	55,0	5,5	255,4	1146
MAGISM6EH3	A+++	58,0	6,1	259,8	1244
MAGISM8EH3	A+++	59,0	8,1	276,6	1551

## 2 PRODUCT DATA SHEET

Space heating appliance with heat pump		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Sound power of unit	Low temperature medium weather application	dB	55,0	58,0	59,0
	Medium weather temperature application	dB	55,0	58,0	59,0
Space heating	Energy efficiency class 35°C (low temperature application)	-	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (medium temperature application)	-	A++	A++	A++

Medium weather (design temperature = -10°C)		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Space heating 35°C	$P_{rated}$ (declared heating capacity) @ -10°C	kW	5,5	6,8	8,1
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	191,0	195,0	206,0
	Annual power consumption	kWh	2351	2845	3218
Space heating 55°C	$P_{rated}$ (declared heating capacity) @ -10°C	kW	4,4	5,7	6,6
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	129,5	137,9	131,5
	Annual power consumption	kWh	2744	3345	4056

Low temperature application medium weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(A) Condition (-7°C)	$P_{dh}$ (Declared heating capacity)	kW	4,88	6,03	7,18
	$COP_d$ (Declared COP)	-	3,19	3,09	3,35
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(B) Condition (2°C)	$P_{dh}$ (Declared heating capacity)	kW	3,05	3,88	4,65
	$COP_d$ (Declared COP)	-	4,78	4,85	5,09
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	$P_{dh}$ (Declared heating capacity)	kW	1,93	2,39	2,9
	$COP_d$ (Declared COP)	-	6,13	6,63	6,82
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	$P_{dh}$ (Declared heating capacity)	kW	1,48	1,39	1,63
	$COP_d$ (Declared COP)	-	8,05	7,93	8,35
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9

Low temperature application medium weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	-10	-10	-10
	P <sub>dh</sub> (Declared heating capacity)	kW	4,41	5,36	6,44
	COP <sub>d</sub> (Declared COP)	-	2,86	2,76	3,04
	W <sub>TOL</sub> (Water heating limit operation)	°C	65	65	65
(F) T <sub>bivalente</sub> temperature	T <sub>biv</sub>	°C	-7	-7	-7
	P <sub>dh</sub> (Declared heating capacity)	kW	4,88	6,03	7,18
	COP <sub>d</sub> (Declared COP)	-	3,19	3,09	3,35
Supplementary capacity to P <sub>design</sub>	P <sub>sup</sub> (@T <sub>designh</sub> : -10°C)	kW	1,11	1,45	1,68

Medium temperature application average weather temperature space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(A) Condition (-7°C)	P <sub>dh</sub> (Declared heating capacity)	kW	3,89	5,04	5,84
	COP <sub>d</sub> (Declared COP)	-	2,17	2,17	2,16
	C <sub>dh</sub> (Degradation coefficient)	-	0,9	0,9	0,9
(B) Condition (2°C)	P <sub>dh</sub> (Declared heating capacity)	kW	2,38	3,12	3,75
	COP <sub>d</sub> (Declared COP)	-	3,30	3,51	3,30
	C <sub>dh</sub> (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	P <sub>dh</sub> (Declared heating capacity)	kW	2,94	2,08	2,42
	COP <sub>d</sub> (Declared COP)	-	4,41	4,54	4,34
	C <sub>dh</sub> (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	P <sub>dh</sub> (Declared heating capacity)	kW	1,32	1,28	1,39
	COP <sub>d</sub> (Declared COP)	-	5,66	5,59	5,33
	C <sub>dh</sub> (Degradation coefficient)	-	0,9	0,9	0,9
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	-10	-10	-10
	P <sub>dh</sub> (Declared heating capacity)	kW	3,42	4,52	4,9
	COP <sub>d</sub> (Declared COP)	-	1,91	1,91	1,84
	W <sub>TOL</sub> (Water heating limit operation)	°C	65	65	65
(F) T <sub>bivalente</sub> temperature	T <sub>biv</sub>	°C	-7	-7	-7
	P <sub>dh</sub> (Declared heating capacity)	kW	3,89	5,04	5,84
	COP <sub>d</sub> (Declared COP)	-	2,17	2,17	2,16
Supplementary capacity to P <sub>design</sub>	P <sub>sup</sub> (@T <sub>designh</sub> : -10°C)	kW	0,98	1,18	1,69



Cold weather (Design temperature = -22°C)		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Space heating 35°C	$P_{rated}$ (declared heating capacity) @ -22°C	kW	4,6	5,6	7,0
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	159,5	165,3	170,0
	Annual power consumption	kWh	2769	3300	3976
Space heating 55°C	$P_{rated}$ (declared heating capacity) @ -22°C	kW	3,4	4,3	5,8
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	102,1	111,1	112,0
	Annual power consumption	kWh	3159	3681	4950

Low temperature application cold weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(A) Condition (-7°C)	$P_{dh}$ (Declared heating capacity)	kW	2,75	3,42	4,46
	$COP_d$ (Declared COP)	-	3,49	3,59	3,66
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(B) Condition (2°C)	$P_{dh}$ (Declared heating capacity)	kW	1,77	2,06	2,69
	$COP_d$ (Declared COP)	-	4,95	5,21	5,20
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	$P_{dh}$ (Declared heating capacity)	kW	1,17	1,46	1,65
	$COP_d$ (Declared COP)	-	5,53	6,24	6,53
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	$P_{dh}$ (Declared heating capacity)	kW	1,43	1,44	1,65
	$COP_d$ (Declared COP)	-	7,67	7,66	7,96
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	-22	-22	-22
	$P_{dh}$ (Declared heating capacity)	kW	2,8	3,48	4,06
	$COP_d$ (Declared COP)	-	1,97	1,96	1,95
	$W_{TOL}$ (Water heating limit operation)	°C	65	65	65
(F) $T_{bivalente}$ temperature	$T_{blv}$	°C	-15	-15	-15
	$P_{dh}$ (Declared heating capacity)	kW	3,72	4,59	5,69
	$COP_d$ (Declared COP)	-	2,57	2,53	2,83
Supplementary capacity to $P_{design}$	$P_{sup}$ (@ $T_{designh}$ : -22°C)	kW	1,76	2,15	2,91

Medium temperature application cold weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(A) Condition (-7°C)	$P_{dh}$ (Declared heating capacity)	kW	2,13	2,70	3,86
	$COP_d$ (Declared COP)	-	2,32	2,46	2,48
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(B) Condition (2°C)	$P_{dh}$ (Declared heating capacity)	kW	1,28	1,60	2,21
	$COP_d$ (Declared COP)	-	2,99	3,36	3,35
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	$P_{dh}$ (Declared heating capacity)	kW	1,01	1,02	1,44
	$COP_d$ (Declared COP)	-	3,86	3,94	4,11
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	$P_{dh}$ (Declared heating capacity)	kW	1,36	1,37	1,46
	$COP_d$ (Declared COP)	-	6,28	6,35	5,92
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	-22	-22	-22
	$P_{dh}$ (Declared heating capacity)	kW	1,64	2,09	2,8
	$COP_d$ (Declared COP)	-	1,02	1,13	1,22
	$W_{TOL}$ (Water heating limit operation)	°C	65	65	65
(F) $T_{bivalente}$ temperature	$T_{blv}$	°C	-15	-15	-15
	$P_{dh}$ (Declared heating capacity)	kW	2,74	3,47	4,71
	$COP_d$ (Declared COP)	-	1,74	1,86	1,9
Supplementary capacity to $P_{design}$	$P_{sup}$ (@ $T_{designh} : -22°C$ )	kW	1,72	2,17	2,97

Warm weather (Design temperature = 2°C)		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Space heating 35°C	$P_{rated}$ (declared heating capacity) @ -2°C	kW	5,5	6,1	8,1
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	255,4	259,8	276,6
	Annual power consumption	kWh	1146	1244	1551
Space heating 55°C	$P_{rated}$ (declared heating capacity) @ -2°C	kW	5,0	5,1	8,37
	Space heating seasonal energy efficiency ( $\eta_s$ )	%	162,4	164,7	176,9
	Annual power consumption	kWh	1621	1640	2485

Low temperature application warm weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(B) Condition (2°C)	$P_{dh}$ (Declared heating capacity)	kW	5,34	5,93	7,56
	$COP_d$ (Declared COP)	-	3,94	3,91	3,98
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	$P_{dh}$ (Declared heating capacity)	kW	3,56	3,93	5,22
	$COP_d$ (Declared COP)	-	5,92	5,89	6,26
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	$P_{dh}$ (Declared heating capacity)	kW	1,63	1,79	2,62
	$COP_d$ (Declared COP)	-	7,91	8,20	9,23
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	2	2	2
	$P_{dh}$ (Declared heating capacity)	kW	5,34	5,93	7,56
	$COP_d$ (Declared COP)	-	3,94	3,91	3,98
	$W_{TOL}$ (Water heating limit operation)	°C	65	65	65
(F) $T_{bivalente}$ temperature	$T_{blv}$	°C	7	7	7
	$P_{dh}$ (Declared heating capacity)	kW	3,56	3,93	5,22
	$COP_d$ (Declared COP)	-	5,92	5,89	6,26
Supplementary capacity to $P_{design}$	$P_{sup}$ (@ $T_{designh}$ : 2°C)	kW	0,18	0,18	0,55

Medium temperature application warm weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(B) Condition (2°C)	$P_{dh}$ (Declared heating capacity)	kW	4,83	5,02	7,55
	$COP_d$ (Declared COP)	-	2,51	2,48	2,59
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(C) Condition (7°C)	$P_{dh}$ (Declared heating capacity)	kW	3,22	3,31	5,38
	$COP_d$ (Declared COP)	-	3,68	3,67	4,01
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9
(D) Condition (12°C)	$P_{dh}$ (Declared heating capacity)	kW	1,47	1,60	2,31
	$COP_d$ (Declared COP)	-	5,15	5,29	5,55
	$C_{dh}$ (Degradation coefficient)	-	0,9	0,9	0,9

Medium temperature application warm weather space heating partial load conditions		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
(E) Tol (operation limit temperature)	Tol (operation limit temperature)	°C	2	2	2
	P <sub>dh</sub> (Declared heating capacity)	kW	4,83	5,02	7,55
	COP <sub>d</sub> (Declared COP)	-	2,51	2,48	2,59
	W <sub>TOL</sub> (Water heating limit operation)	°C	65	65	65
(F) T <sub>bivalente</sub> temperature	T <sub>blv</sub>	°C	7	7	7
	P <sub>dh</sub> (Declared heating capacity)	kW	3,22	3,31	5,38
	COP <sub>d</sub> (Declared COP)	-	3,68	3,67	4,01
Supplementary capacity to P <sub>design</sub>	P <sub>sup</sub> (@T <sub>designh</sub> : 2°C)	kW	0,18	0,12	0,82

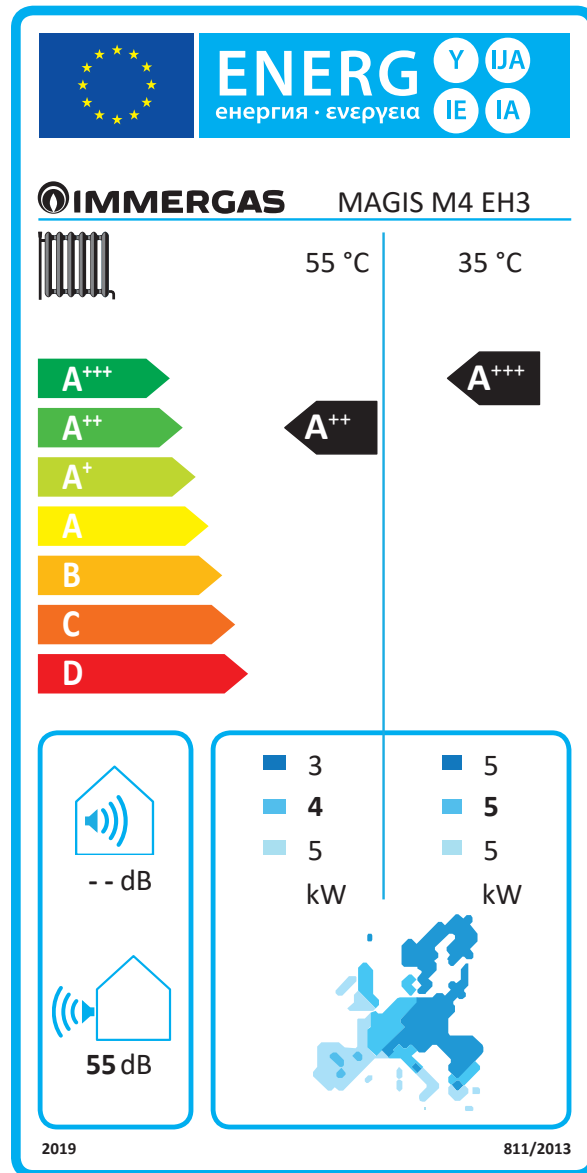
		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Description of the product	Air-water heat pump	Y/N	SI	SI	SI
	Water-water heat pump	Y/N	NO	NO	NO
	Brine to water heat pump	Y/N	NO	NO	NO
	Low temperature heat pump	Y/N	NO	NO	NO
	Equipped with additional heater	Y/N	SI	SI	SI
	Mixed central heating device with heat pump:	Y/N	NO	NO	NO
Air-water unit	Nominal air flow	m <sup>3</sup> /h	2770	2770	4030
Brine/water to water unit	Water/brine at nominal flow rate (H/E outdoor)		/	/	/

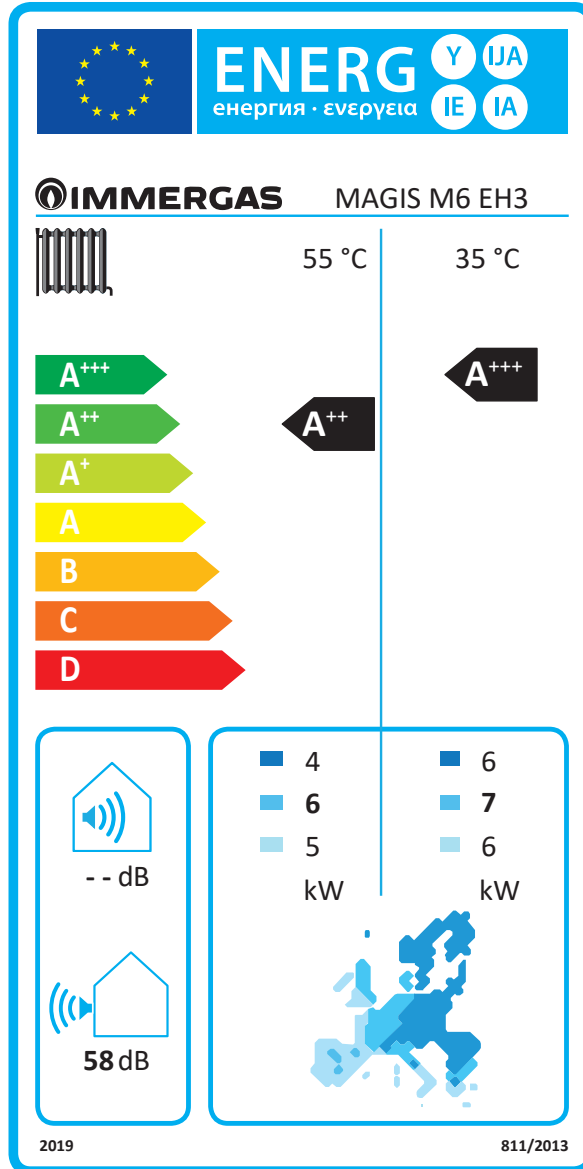
Space heating appliance with heat pump		Unit	MAGISM4 EH3	MAGISM6 EH3	MAGISM8 EH3
Other	Capacity control	-	VARIABLE	VARIABLE	VARIABLE
	P <sub>off</sub> (Power consumption OFF Mode)	kW	0,014	0,014	0,014
	P <sub>to</sub> (Power consumption with thermostat at OFF Mode)	kW	0,024	0,024	0,024
	P <sub>sb</sub> (Power consumption in Standby Mode)	kW	0,014	0,014	0,014
	P <sub>CK</sub> (Electric crankcase heater model)	kW	0,000	0,000	0,000
	Q <sub>elec</sub> (Daily electricity consumption)	kWh	/	/	/
	Q <sub>fuel</sub> (Daily fuel consumption)	kWh	/	/	/

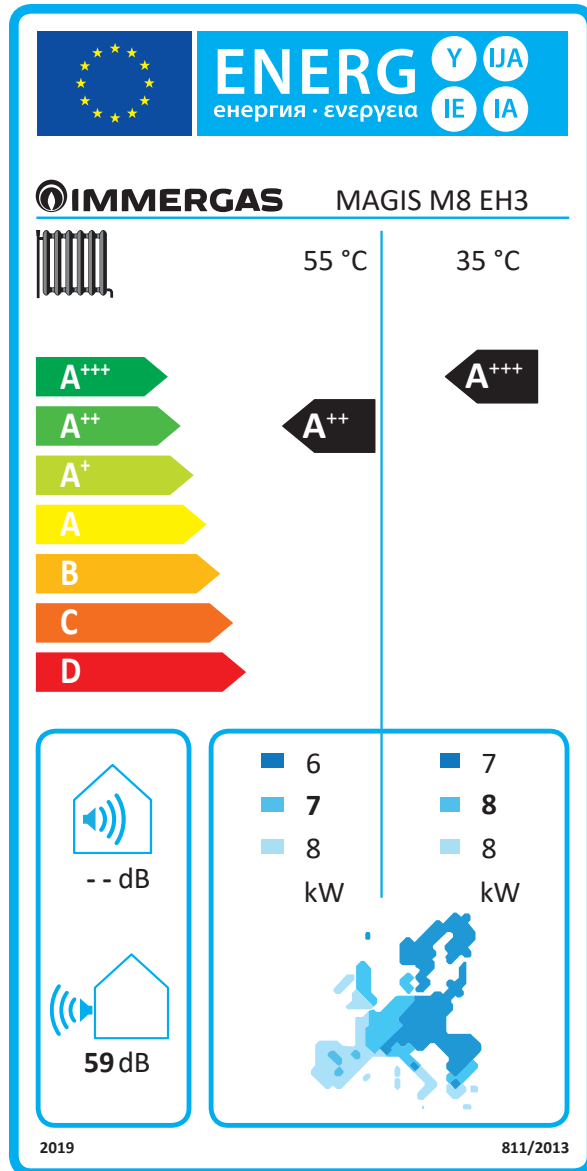
Details and precautions on installation, maintenance and assembly can be found in the use and installation manual. Data of the product data sheets according to the directive on energy labelling 2010/30/EC (EU) 811/2013.

## 2.1 PRODUCT LABELS

### Magis M4 EH3







### 3 TECHNICAL PARAMETERS

Model	MAGISM4EH3						
Air/water heat pump	SI	Low temperature heat pump				NO	
Water/water heat pump	NO	With Supplementary heater				SI	
Brine/water heat pump	NO	Mixed central heating device with heat pump:				NO	
Declared weather condition: MEDIUM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	4,4	kW	Room central heating seasonal energy efficiency	$\eta_s$	129,5	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	3,89	kW	$T_j = -7\text{ °C}$	$COP_d$	2,17	-
$T_j = +2\text{ °C}$	$P_{dh}$	2,38	kW	$T_j = +2\text{ °C}$	$COP_d$	3,30	-
$T_j = +7\text{ °C}$	$P_{dh}$	2,94	kW	$T_j = +7\text{ °C}$	$COP_d$	4,41	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,32	kW	$T_j = +12\text{ °C}$	$COP_d$	5,66	-
$T_j =$ bivalent temperature	$P_{dh}$	3,89	kW	$T_j =$ bivalent temperature	$COP_d$	2,17	-
$T_j =$ operating limit temperature	$P_{dh}$	3,42	kW	$T_j =$ operating limit temperature	$COP_d$	1,91	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	$COP_d$	-	-
Bivalent temperature	$T_{biv}$	-7	°C	For air/water heat pumps: Operating limit temperature	TOL	-10	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	0,98	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	$m^3/h$
Indoor/outdoor sound level	$L_{WA}$	-/55,0	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	$m^3/h$
Annual energy consumption	$Q_{HE}$	2744	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating. $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity sup( $T_j$ ).							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							



Model		MAGISM4EH3					
Air/water heat pump		SI	Low temperature heat pump			NO	
Water/water heat pump		NO	With Supplementary heater			SI	
Brine/water heat pump		NO	Mixed central heating device with heat pump:			NO	
Declared weather condition: COLD							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	3,4	kW	Room central heating seasonal energy efficiency	$\eta_s$	102,1	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	2,13	kW	$T_j = -7\text{ °C}$	$COP_d$	2,32	-
$T_j = +2\text{ °C}$	$P_{dh}$	1,28	kW	$T_j = +2\text{ °C}$	$COP_d$	2,99	-
$T_j = +7\text{ °C}$	$P_{dh}$	1,01	kW	$T_j = +7\text{ °C}$	$COP_d$	3,86	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,36	kW	$T_j = +12\text{ °C}$	$COP_d$	6,28	-
$T_j$ = bivalent temperature	$P_{dh}$	2,74	kW	$T_j$ = bivalent temperature	$COP_d$	1,74	-
$T_j$ = operating limit temperature	$P_{dh}$	1,64	kW	$T_j$ = operating limit temperature	$COP_d$	1,02	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	$COP_d$	-	-
Bivalent temperature	$T_{biv}$	-15	°C	For air/water heat pumps: Operating limit temperature	TOL	-22	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	1,72	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	m³/h
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	m³/h
Annual energy consumption	$Q_{HE}$	3159	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating. $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity sup( $T_j$ ).							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model	<b>MAGISM4EH3</b>						
Air/water heat pump	SI	Low temperature heat pump				NO	
Water/water heat pump	NO	With Supplementary heater				SI	
Brine/water heat pump	NO	Mixed central heating device with heat pump:				NO	
Declared weather condition: WARM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	5,0	kW	Room central heating seasonal energy efficiency	$\eta_s$	162,4	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	-	kW	$T_j = -7\text{ °C}$	$COP_d$	-	-
$T_j = +2\text{ °C}$	$P_{dh}$	4,83	kW	$T_j = +2\text{ °C}$	$COP_d$	2,51	-
$T_j = +7\text{ °C}$	$P_{dh}$	3,22	kW	$T_j = +7\text{ °C}$	$COP_d$	3,68	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,47	kW	$T_j = +12\text{ °C}$	$COP_d$	5,15	-
$T_j =$ bivalent temperature	$P_{dh}$	3,22	kW	$T_j =$ bivalent temperature	$COP_d$	3,68	-
$T_j =$ operating limit temperature	$P_{dh}$	4,83	kW	$T_j =$ operating limit temperature	$COP_d$	2,51	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	$COP_d$	-	-
Bivalent temperature	$T_{biv}$	7	°C	For air/water heat pumps: Operating limit temperature	TOL	2	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	0,18	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	$m^3/h$
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	$m^3/h$
Annual energy consumption	$Q_{HE}$	1621	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity $sup(T_j)$ .							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model		MAGISM6EH3					
Air/water heat pump		SI	Low temperature heat pump			NO	
Water/water heat pump		NO	With Supplementary heater			SI	
Brine/water heat pump		NO	Mixed central heating device with heat pump:			NO	
Declared weather condition: MEDIUM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	5,7	kW	Room central heating seasonal energy efficiency	$\eta_s$	137,9	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	5,04	kW	$T_j = -7\text{ °C}$	COPd	2,17	-
$T_j = +2\text{ °C}$	$P_{dh}$	3,12	kW	$T_j = +2\text{ °C}$	COPd	3,51	-
$T_j = +7\text{ °C}$	$P_{dh}$	2,08	kW	$T_j = +7\text{ °C}$	COPd	4,54	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,28	kW	$T_j = +12\text{ °C}$	COPd	5,59	-
$T_j$ = bivalent temperature	$P_{dh}$	5,04	kW	$T_j$ = bivalent temperature	COPd	2,17	-
$T_j$ = operating limit temperature	$P_{dh}$	4,52	kW	$T_j$ = operating limit temperature	COPd	1,91	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	COPd	-	-
Bivalent temperature	$T_{biv}$	-7	°C	For air/water heat pumps: Operating limit temperature	TOL	-10	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	COP <sub>cyc</sub>	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLP}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	1,18	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	m <sup>3</sup> /h
Indoor/outdoor sound level	$L_{WA}$	-/58,0	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	m <sup>3</sup> /h
Annual energy consumption	$Q_{HE}$	3345	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating. $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity sup( $T_j$ ).							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model	<b>MAGISM6EH3</b>						
Air/water heat pump	SI	Low temperature heat pump				NO	
Water/water heat pump	NO	With Supplementary heater				SI	
Brine/water heat pump	NO	Mixed central heating device with heat pump:				NO	
Declared weather condition: COLD							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	4,3	kW	Room central heating seasonal energy efficiency	$\eta_s$	111,1	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	2,70	kW	$T_j = -7\text{ °C}$	COPd	2,46	-
$T_j = +2\text{ °C}$	$P_{dh}$	1,60	kW	$T_j = +2\text{ °C}$	COPd	3,36	-
$T_j = +7\text{ °C}$	$P_{dh}$	1,02	kW	$T_j = +7\text{ °C}$	COPd	3,94	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,37	kW	$T_j = +12\text{ °C}$	COPd	6,35	-
$T_j =$ bivalent temperature	$P_{dh}$	3,47	kW	$T_j =$ bivalent temperature	COPd	1,86	-
$T_j =$ operating limit temperature	$P_{dh}$	2,09	kW	$T_j =$ operating limit temperature	COPd	1,13	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	COPd	-	-
Bivalent temperature	$T_{biv}$	-15	°C	For air/water heat pumps: Operating limit temperature	TOL	-22	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	2,17	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	$m^3/h$
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	$m^3/h$
Annual energy consumption	$Q_{HE}$	3681	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity $sup(T_j)$ .							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model		MAGISM6EH3					
Air/water heat pump		SI	Low temperature heat pump			NO	
Water/water heat pump		NO	With Supplementary heater			SI	
Brine/water heat pump		NO	Mixed central heating device with heat pump:			NO	
Declared weather condition: WARM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	5,1	kW	Room central heating seasonal energy efficiency	$\eta_s$	164,7	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	-	kW	$T_j = -7\text{ °C}$	$COP_d$	-	-
$T_j = +2\text{ °C}$	$P_{dh}$	5,02	kW	$T_j = +2\text{ °C}$	$COP_d$	2,48	-
$T_j = +7\text{ °C}$	$P_{dh}$	3,31	kW	$T_j = +7\text{ °C}$	$COP_d$	3,67	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,60	kW	$T_j = +12\text{ °C}$	$COP_d$	5,29	-
$T_j$ = bivalent temperature	$P_{dh}$	3,31	kW	$T_j$ = bivalent temperature	$COP_d$	3,67	-
$T_j$ = operating limit temperature	$P_{dh}$	5,02	kW	$T_j$ = operating limit temperature	$COP_d$	2,48	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	$COP_d$	-	-
Bivalent temperature	$T_{biv}$	7	°C	For air/water heat pumps: Operating limit temperature	TOL	2	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLP}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	0,12	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	2770	m <sup>3</sup> /h
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	m <sup>3</sup> /h
Annual energy consumption	$Q_{HE}$	1640	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating. $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity sup( $T_j$ ).							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model	<b>MAGISM8EH3</b>						
Air/water heat pump	SI	Low temperature heat pump				NO	
Water/water heat pump	NO	With Supplementary heater				SI	
Brine/water heat pump	NO	Mixed central heating device with heat pump:				NO	
Declared weather condition: MEDIUM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	6,6	kW	Room central heating seasonal energy efficiency	$\eta_s$	131,5	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	5,84	kW	$T_j = -7\text{ °C}$	COPd	2,16	-
$T_j = +2\text{ °C}$	$P_{dh}$	3,75	kW	$T_j = +2\text{ °C}$	COPd	3,30	-
$T_j = +7\text{ °C}$	$P_{dh}$	2,42	kW	$T_j = +7\text{ °C}$	COPd	4,34	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,39	kW	$T_j = +12\text{ °C}$	COPd	5,33	-
$T_j$ = bivalent temperature	$P_{dh}$	5,84	kW	$T_j$ = bivalent temperature	COPd	2,16	-
$T_j$ = operating limit temperature	$P_{dh}$	4,9	kW	$T_j$ = operating limit temperature	COPd	1,84	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	COPd	-	-
Bivalent temperature	$T_{biv}$	-7	°C	For air/water heat pumps: Operating limit temperature	TOL	-10	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	1,69	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	4030	$m^3/h$
Indoor/outdoor sound level	$L_{WA}$	-/59,0	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	$m^3/h$
Annual energy consumption	$Q_{HE}$	4056	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity $sup(T_j)$ .							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model		MAGISM8EH3					
Air/water heat pump		SI	Low temperature heat pump			NO	
Water/water heat pump		NO	With Supplementary heater			SI	
Brine/water heat pump		NO	Mixed central heating device with heat pump:			NO	
Declared weather condition: COLD							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	5,8	kW	Room central heating seasonal energy efficiency	$\eta_s$	112,0	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	3,86	kW	$T_j = -7\text{ °C}$	COPd	2,48	-
$T_j = +2\text{ °C}$	$P_{dh}$	2,21	kW	$T_j = +2\text{ °C}$	COPd	3,35	-
$T_j = +7\text{ °C}$	$P_{dh}$	1,44	kW	$T_j = +7\text{ °C}$	COPd	4,11	-
$T_j = +12\text{ °C}$	$P_{dh}$	1,46	kW	$T_j = +12\text{ °C}$	COPd	5,92	-
$T_j$ = bivalent temperature	$P_{dh}$	4,71	kW	$T_j$ = bivalent temperature	COPd	1,9	-
$T_j$ = operating limit temperature	$P_{dh}$	2,8	kW	$T_j$ = operating limit temperature	COPd	1,22	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	COPd	-	-
Bivalent temperature	$T_{biv}$	-15	°C	For air/water heat pumps: Operating limit temperature	TOL	-22	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	COP <sub>cyc</sub>	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLP}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	2,97	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	4030	m³/h
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	m³/h
Annual energy consumption	$Q_{HE}$	4950	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating. $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity sup( $T_j$ ).							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							

Model	<b>MAGISM8EH3</b>						
Air/water heat pump	SI	Low temperature heat pump				NO	
Water/water heat pump	NO	With Supplementary heater				SI	
Brine/water heat pump	NO	Mixed central heating device with heat pump:				NO	
Declared weather condition: WARM							
The parameters are declared for the medium temperature application.							
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated heat output (*)	$P_{rated}$	8,37	kW	Room central heating seasonal energy efficiency	$\eta_s$	176,9	%
Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$				Central heating capacity declared for a partial load at indoor temperature of 20°C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	$P_{dh}$	-	kW	$T_j = -7\text{ °C}$	$COP_d$	-	-
$T_j = +2\text{ °C}$	$P_{dh}$	7,55	kW	$T_j = +2\text{ °C}$	$COP_d$	2,59	-
$T_j = +7\text{ °C}$	$P_{dh}$	5,38	kW	$T_j = +7\text{ °C}$	$COP_d$	4,01	-
$T_j = +12\text{ °C}$	$P_{dh}$	2,31	kW	$T_j = +12\text{ °C}$	$COP_d$	5,55	-
$T_j =$ bivalent temperature	$P_{dh}$	5,38	kW	$T_j =$ bivalent temperature	$COP_d$	4,01	-
$T_j =$ operating limit temperature	$P_{dh}$	7,55	kW	$T_j =$ operating limit temperature	$COP_d$	2,59	-
For air-water heat pumps: $T_j = -15\text{ °C}$	$P_{dh}$	-	kW	For air-water heat pumps: $T_j = -15\text{ °C}$	$COP_d$	-	-
Bivalent temperature	$T_{biv}$	7	°C	For air/water heat pumps: Operating limit temperature	TOL	2	°C
Capacity of the cycle range for central heating	$P_{cyc}$	-	kW	Efficiency of cycle range	$COP_{cyc}$	-	-
Degradation coefficient (**)	$C_{dh}$	0,9	-	Heating water operation limit temperature	$W_{TOLp}$	65	°C
Power consumption in modes other than active mode				Additional heater			
OFF mode	$P_{OFF}$	0,014	kW	Rated heat output (*)	$P_{sup}$	0,82	kW
Standby Mode	$P_{TO}$	0,014	kW	Type of energy supplied	electrical		
Thermostat OFF mode	$P_{SB}$	0,024	kW				
Crankcase heater mode electrical	$P_{CK}$	0,000	kW				
Other items							
Capacity control	VARIABLE			For air-water heat pumps: Rated air flow rate outdoors	-	4030	$m^3/h$
Indoor/outdoor sound level	$L_{WA}$	-/-	dB	For water or brine-water heat pumps: Rated water or brine flow rate, heat exchanger outdoors	-	-	$m^3/h$
Annual energy consumption	$Q_{HE}$	2485	kWh				
For mixed central heating appliances with a heat pump							
Stated load profile	-			Water central heating energy efficiency	$\eta_{wh}$	-	%
Daily electrical power consumption	$Q_{elec}$	-	kWh	Daily fuel consumption	$Q_{fuel}$	-	kWh
Annual electrical power consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) For heat pump appliances for space heating and heating appliances mixed with heat pump, the rated heat output $P_{rated}$ is equal to the design load for heating $P_{designh}$ and the rated heat output of an additional heater $P_{sup}$ is equal to the supplementary heating capacity $sup(T_j)$ .							
(**) If $C_{dh}$ is not determined by measuring, the default degradation coefficient is $C_{dh} = 0.9$ .							



# 4 INFORMATION REQUIREMENTS FOR SPACE CHILLERS

Information requirements for space chillers							
Model				MAGIS M4 EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4,7	kW	Space heating seasonal energy efficiency	$\eta_{s,c}$	196,2	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	4,70	kW	$T_j = +35^\circ\text{C}$	$EER_d$	3,45	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	3,66	kW	$T_j = +30^\circ\text{C}$	$EER_d$	4,76	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	2,21	kW	$T_j = +25^\circ\text{C}$	$EER_d$	5,72	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	0,94	kW	$T_j = +20^\circ\text{C}$	$EER_d$	5,72	-
Degradation coefficient for chillers (*)							
	$C_{dc}$	0,9	-				
Power consumption in modes other than "active mode"							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
Other items							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	2770	$\text{m}^3\text{/h}$
Sound power level, indoors/outdoors	$L_{WA}$	-\ 56	dB				
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	$\text{mg}\backslash$ kWh input GCV	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3\text{/h}$
GWP of refrigerant	-	675	kg $CO_{2eq}$				
Standard rating conditions used	Low temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

Information requirements for space chillers							
Model				MAGISM4EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4,5	kW	Space heating seasonal energy efficiency	$\eta_{s,c}$	307,4	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	4,50	kW	$T_j = +35^\circ\text{C}$	$EER_d$	5,50	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	3,44	kW	$T_j = +30^\circ\text{C}$	$EER_d$	7,23	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	2,19	kW	$T_j = +25^\circ\text{C}$	$EER_d$	8,94	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	1,13	kW	$T_j = +20^\circ\text{C}$	$EER_d$	10,48	-
Degradation coefficient for chillers (*)							
	$C_{dc}$	0,9	-				
Power consumption in modes other than "active mode"							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
Other items							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	2770	$\text{m}^3/\text{h}$
Sound power level, indoors/outdoors	$L_{WA}$	-\56	dB	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3/\text{h}$
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x$ (**)	-	mg\ kWh input GCV				
GWP of refrigerant	-	675	kg $\text{CO}_{2eq}$				
Standard rating conditions used	Medium temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

Information requirements for space chillers							
Model				MAGIS M6EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	7,0	kW	Space heating seasonal energy efficiency	$\eta_{s,c}$	209,5	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	7,00	kW	$T_j = +35^\circ\text{C}$	$EER_d$	3,00	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	5,13	kW	$T_j = +30^\circ\text{C}$	$EER_d$	4,00	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	3,48	kW	$T_j = +25^\circ\text{C}$	$EER_d$	6,45	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	1,53	kW	$T_j = +20^\circ\text{C}$	$EER_d$	7,73	-
Degradation coefficient for chillers (*)							
	$C_{dc}$	0,9	-				
<b>Power consumption in modes other than "active mode"</b>							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
<b>Other items</b>							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	2770	$\text{m}^3\text{/h}$
Sound power level, indoors/outdoors	$L_{WA}$	- \60	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x$ (**)	-	$\frac{\text{mg}}{\text{kWh}}$ input GCV	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3\text{/h}$
GWP of refrigerant	-	675	$\frac{\text{kg}}{\text{CO}_{2eq}}$				
Standard rating conditions used	Low temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

Information requirements for space chillers							
Model				MAGISM6 EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6,5	kW	Space heating seasonal energy efficiency	$\eta_{s,c}$	325,9	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	6,50	kW	$T_j = +35^\circ\text{C}$	$EER_d$	4,80	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	4,84	kW	$T_j = +30^\circ\text{C}$	$EER_d$	7,16	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	3,26	kW	$T_j = +25^\circ\text{C}$	$EER_d$	9,64	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	1,41	kW	$T_j = +20^\circ\text{C}$	$EER_d$	11,48	-
Degradation coefficient for chillers (*)							
	$C_{dc}$	0,9	-				
Power consumption in modes other than "active mode"							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
Other items							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	2770	$\text{m}^3/\text{h}$
Sound power level, indoors/outdoors	$L_{WA}$	- \58	dB	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3/\text{h}$
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x$ (**)	-	mg\ kWh input GCV				
GWP of refrigerant	-	675	kg $\text{CO}_{2eq}$				
Standard rating conditions used	Medium temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

Information requirements for space chillers							
Model				MAGIS M8EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	7,45	kW	Space heating seasonal energy efficiency	$\eta_{s,c}$	229,9	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	7,45	kW	$T_j = +35^\circ\text{C}$	$EER_d$	3,35	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	5,72	kW	$T_j = +30^\circ\text{C}$	$EER_d$	4,71	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	3,62	kW	$T_j = +25^\circ\text{C}$	$EER_d$	6,65	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	1,64	kW	$T_j = +20^\circ\text{C}$	$EER_d$	8,55	-
Degradation coefficient for chillers (*)							
	$C_{dc}$	0,9	-				
<b>Power consumption in modes other than "active mode"</b>							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
<b>Other items</b>							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	4030	$\text{m}^3\text{/h}$
Sound power level, indoors/outdoors	$L_{WA}$	- \60	dB				
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x$ (**)	-	$\frac{\text{mg}}{\text{kWh}}$ input GCV	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3\text{/h}$
GWP of refrigerant	-	675	$\frac{\text{kg}}{\text{CO}_{2eq}}$				
Standard rating conditions used	Low temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

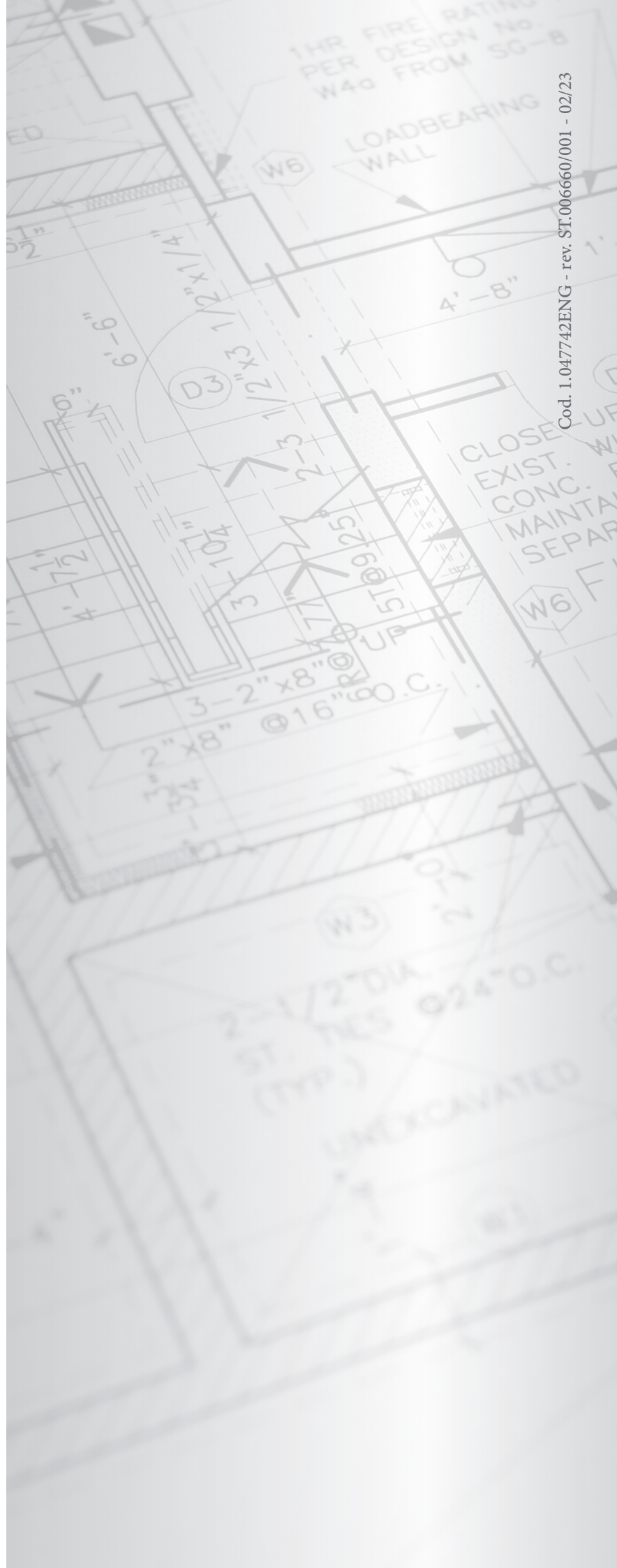
Information requirements for space chillers							
Model				MAGISM8 EH3			
Heat exchanger:				Air-Water			
Type:				Steam compression cycle			
Compressor start-up:				Electric motor			
Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8,3	kW	Space heating seasonal energy efficiency	$\eta_{s,e}$	354,7	%
Cooling capacity declared for partial load at a given outdoor temperature $T_j$				Cooling capacity declared for partial load at a given outdoor temperature $T_j$			
$T_j = +35^\circ\text{C}$	$P_{dc}$	8,30	kW	$T_j = +35^\circ\text{C}$	$EER_d$	5,05	-
$T_j = +30^\circ\text{C}$	$P_{dc}$	6,47	kW	$T_j = +30^\circ\text{C}$	$EER_d$	7,02	-
$T_j = +25^\circ\text{C}$	$P_{dc}$	4,31	kW	$T_j = +25^\circ\text{C}$	$EER_d$	10,67	-
$T_j = +20^\circ\text{C}$	$P_{dc}$	1,80	kW	$T_j = +20^\circ\text{C}$	$EER_d$	13,61	-
Degradation coefficient for chillers (*)	$C_{dc}$	0,9	-				
<b>Power consumption in modes other than “active mode”</b>							
OFF mode	$P_{OFF}$	0,014	kW	Crankcase heater mode electrical	$P_{CK}$	0,000	kW
Thermostat OFF mode	$P_{TO}$	0,010	kW	Standby Mode	$P_{SB}$	0,014	kW
<b>Other items</b>							
Capacity control	VARIABLE			For air-water emergency chillers: air flow rate, measured outdoors	-	4030	$\text{m}^3/\text{h}$
Sound power level, indoors/outdoors	$L_{WA}$	- \60	dB	For water / brine-water chillers: brine or rated brine water flow rate, outdoors side heat exchanger	-	-	$\text{m}^3/\text{h}$
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x$ (**)	-	$\text{mg}/\text{kWh}$ input GCV				
GWP of refrigerant	-	675	$\text{kg}$ $\text{CO}_{2eq}$				
Standard rating conditions used	Medium temperature application						
Contact information	Immergas S.p.A. via Cisa Ligure n.95						
(*) If $C_{dc}$ is not determined by measuring, the standard degradation coefficient of chillers must be 0.9.							
(**) Since September 26, 2018							

## 5 TECHNICAL DATA TABLE ON ENVIRONMENTAL CONDITIONS

Conditions (°C)		MAGISM4EH3	MAGISM6EH3	MAGISM8EH3
Room Temperature: 35/24 Water Temperature: 12/7	Capacity (kW)	4,7	7,0	7,45
	Absorbed power (kW)	1,36	2,33	2,22
	EER/COP (/)	3,45	3,0	3,35
Room Temperature: 35/24 Water Temperature: 23/18	Capacity (kW)	4,5	6,5	8,3
	Absorbed power (kW)	0,82	1,35	1,64
	EER/COP (/)	5,5	4,8	5,05
Room Temperature: 7/6 Water Temperature: 30/35	Capacity (kW)	4,2	6,35	8,4
	Absorbed power (kW)	0,82	1,28	1,63
	EER/COP (/)	5,1	4,95	5,15
Room Temperature: 2/1 Water Temperature: 30/35	Capacity (kW)	4,40	5,50	7,10
	Absorbed power (kW)	1,10	1,41	1,73
	EER/COP (/)	4,00	3,90	4,10
Room Temperature: -7/-8 Water Temperature: 30/35	Capacity (kW)	4,70	6,00	7,00
	Absorbed power (kW)	1,52	2,00	2,19
	EER/COP (/)	3,10	3,00	3,20
Room Temperature: 7/6 Water Temperature: 40/45	Capacity (kW)	4,3	6,3	8,1
	Absorbed power (kW)	1,13	1,7	2,1
	EER/COP (/)	3,8	3,7	3,85
Room Temperature: 2/1 Water Temperature: 40/45	Capacity (kW)	5,10	5,80	7,40
	Absorbed power (kW)	1,70	1,93	2,28
	EER/COP (/)	3,00	3,00	3,25
Room Temperature: -7/-8 Water Temperature: 40/45	Capacity (kW)	4,30	5,40	6,60
	Absorbed power (kW)	1,83	2,25	2,59
	EER/COP (/)	2,35	2,40	2,55
Room Temperature: 7/6 Water Temperature: 47/55	Capacity (kW)	4,4	6,0	7,5
	Absorbed power (kW)	1,49	2,03	2,36
	EER/COP (/)	2,95	2,95	3,18
Room Temperature: 2/1 Water Temperature: 47/55	Capacity (kW)	5,10	5,65	7,10
	Absorbed power (kW)	2,08	2,31	2,73
	EER/COP (/)	2,45	2,45	2,60
Room Temperature: -7/-8 Water Temperature: 47/55	Capacity (kW)	4,00	5,15	6,15
	Absorbed power (kW)	2,05	2,58	3,00
	EER/COP (/)	1,95	2,00	2,05



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