DEAP 4.2 INPUTS

Add New Item To Library

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BASIC PROPERTIES | HEAT PUMP TEST DATA

Item Type *	Item Name *	Keywords *
Heat Source	LG R32 7kW 210L	LG Therma V R32
Manufacturer *		Model *
LG		HM071M.U43
Heating Source Type *		Heat Pump Type *
Heat Pumps		Air to Water
Space Heating Standard *		Water Heating Standard *
I.S. EN 14825		I.S. EN 16147
Season Space Heating Efficiencey, ηs[%] *		Water Heating Effiencey, ηwh [%] *
122		116

Temperature Control (Capacity Control) *
Variable Outlet

☐ Integrated Immersion

☐ Flow Temperature >=[60/65°C]

TOL *	WTOL *
-15	65

CANCEL SAVE

Create Library Item

BASIC PROPERTIES | HEAT PUMP TEST DATA

Heating System Test Data: I.S. EN14825

Test Condition Low (35°C)

	A(88%)	B(54%)	C(35%)	D(15%)	E*(100%)
	−7°C	2°C	7°C	12°C	TOL
Source	A-7	A2	A7	A12	A-10
Sink	W52	W42	W36	W30	W55
Heating Capacity (kW)	5.10	3.10	2.40	3.00	5.30
Coefficient of Performance (KW/KW)	2.70	4.30	6.35	9.00	1.90

Test Condition High (55°C) *

	A(88%)	B(54%)	C(35%)	D(15%)	E*(100%)
	−7°C	2°C	7°C	12°C	TOL
Source	A-7	A2	A7	A12	A-10
Sink	W52	W42	W36	W30	W55
Heating Capacity (kW)	4.90	3.00	3.10	3.80	5.00
Coefficient of Performance (KW/KW)	1.80	3.10	4.60	6.70	1.50

Heating System Test Data: I.S. EN16147

Source of Data *: Water Heating Efficiency

Coefficient of Performance (KW/KW):

Water Heating Efficiency, ηwh [%]: 116

Reference Hot Water Temperature (°C) *: 52

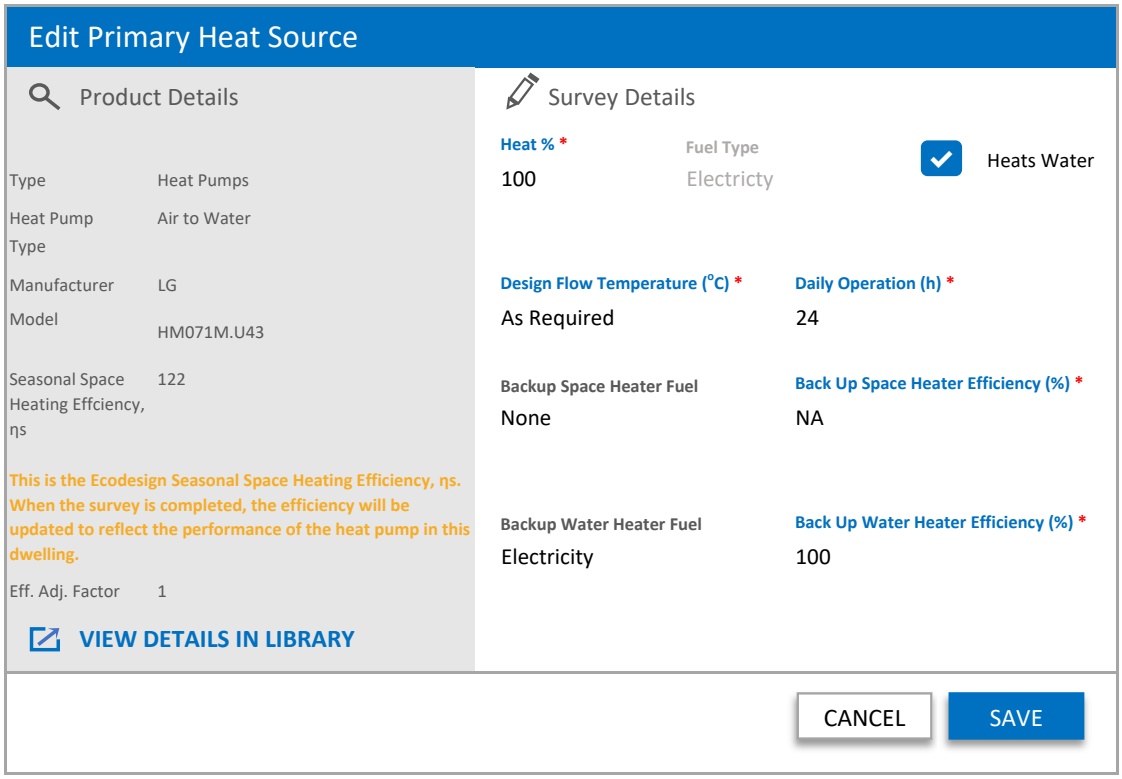
Capacity of Heat Pump (kW) *: 5

Declared Load Profile *: L

Standby Heat Loss [kWh/day] *: 1.76

Voume of DHW accounted for in test (Litre) *: 210

CANCEL SAVE


Edit Primary Heat Source
Product Details
Type
Heat Pumps
Heat Pump Type
Air to Water
Manufacturer
LG
Model
HM071M.U43
Seasonal Space Heating Effciency, ηs
122
This is the Ecodesign Seasonal Space Heating Efficiency, ηs. When the survey is completed, the efficiency will be updated to reflect the performance of the heat pump in this dwelling.
Eff. Adj. Factor
1
VIEW DETAILS IN LIBRARY
Survey Details
Heat % *
100
Fuel Type
Electricty
Heats Water
Design Flow Temperature (°C) *
As Required
Daily Operation (h) *
24
Backup Space Heater Fuel
None
Back Up Space Heater Efficiency (%) *
NA
Backup Water Heater Fuel
Electricity
Back Up Water Heater Efficiency (%) *
100
CANCEL
SAVE

Hot Water Tab

Options & Storage | Solar | Heat Source

Options

- [x] Distribution Losses
- [x] Storage Losses
- [ ] Is supplementary electric water heating used in summer
- [ ] Is there a combi boiler

Storage

- [x] Is hot water storage indoors or in group heating scheme?

Storage Type	Storage Volume (l)	Heat Pump Type of DHW *
Cylinder, indirect	210	Integral Hot Water Storage

- [x] Is manufacturers declared loss available

Kingspan HP210L	1.76

Insulation Type	Insulation Thickness (mm)

Primary Circuit Loss Type

Boiler with insulated primary pipework and with cylinder thermostat

- [x] Is there a separate timer for heating the store

THERMA V AIR-TO-WATER HEAT PUMP

Please find below the required data for the SEAI Heat Pump Tool for DEAP 2016:
*Where information is blank, please enter project specific information.
LG declares compliance to the following EU Directives:

811/2013/EU
812/2013/EU
813/2013/EU

Section 4 – Heat Pump Data

Manufacturer of the installed heat pump(s)	LG Electronics
Model of the installed heat pump(s)	**HM071M.U43**
Type of Heat Pump	Air to water
Temperature control	Variable Outlet
Does the installation provide	Space Heating & Domestic Hot water
Space Heating Test Standard	I.S. EN 14825
Water Heating Test Standard	I.S. EN 16147
Operation Limit Temperature	-15.00
Heating water operating Limit Temperature	65°C

Section 5 – Heating

Annual space heating requirement taken from DEAP	
Is there a fixed secondary heater present?	
Is there a CHP present?	
Fraction of main space and water from CHP	
Annual space heating provided by Heat Pump	
Design Outdoor Temperature	-3
Indoor Design Temperature (Mean internal Temperature)	
Heat emission type served by Heat Pump within the dwelling	Select all that apply:
1 or more Radiators	
1 or more Fan Coil Units	
Underfloor Heating	
Air used as Emitter (to Air Units)	No
Design Flow Temperature	
Use "Default Supply Temperature" unless other evidence available	
Exponent n, characterising type of emission system	1.2
Emitter Temperature Drop	10
Return Temperature at design conditions	
No of hours per day Heat Pump in operation	
Cut-out hours	
Electricity Primary Energy Factor	2.08
Is a Back Up Space Heater Present within Dwelling	No
Back Up Space Heater Fuel	
Primary Energy Factor for Back Up Space Heater	
Efficiency of Back Up Space Heater	
Adjusted efficiency of Back Up Space Heater relative to Direct Electric Heating	
Is there a water heater installed as back up for the Heat Pump?	
Back up Water Heater Fuel	
Primary Energy Factor for Back Up Water Heater	
Efficiency of Back up Water Heater	
Adjusted efficiency of Back Up Water Heater relative to Direct Electric Heating	

Section 6 – Domestic Hot Water

Output from Main Water Heater	
Type of DHW	Integral
Annual water heating provided by main water heating system	
Cold Water Inlet Temperature	10
Required Flow Temperature from Heat Pump to Hot Water Storage	60
Volume of DHW Storage	210

Section 6 – Product Perfromance Data

Test Condition EN 14825:2013						
Additional Test Points available at:				Low Temperature		Yes
				Medium Temperature		No
				Very High Temperature		No
Maximum Test Temperature allowed for in EN14825 testing						55
Low Temperature Application (35°C)	Test Conditions EN 14825:2013	A (88%)	B (54%)	C (35%)	D (15%)	E (100%)
	Source	A-7	A2	A7	A12	A-15
EN 14825:2013 – Table 12 (ASHP) or Table 24 (GSHP)	Sink	W34	W30	W27	W24	W35
	Heating Capacity (kW)	5.1	3.1	2.4	3.0	5.3
	Coefficient of Performance (kW/kW)	2.7	4.3	6.35	9.0	1.9
High Temperature Application (55°C)	Source	A-7	A2	A7	A12	A-15
	Sink	W52	W42	W36	W30	W55
EN 14825:2013 – Table 18 (ASHP) or Table 30 (GSHP)	Heating Capacity (kW)	4.9	3.0	3.1	3.8	5.0
	Coefficient of Performance (kW/kW)	1.8	3.1	4.6	6.7	1.50

Test Condition EN 16147:2017

Source of data	Water heating energy efficiency, nwh
Water heating energy efficiency, nwh	116%
Equivalent Coefficient of Performance	
Reference Hot Water Temperature	52°C
Required Source Temperature	N/A
Capacity of Heat Pump	5
Declared Load Profile	L
Standby Heat Loss (kW)	1.76
Volume of DHW accounted for in test	210

THERMA V AIR-TO-WATER HEAT PUMP

Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):	HM071M U43	
Air-to-water heat pump:	YES	~~NO~~
Water-to-water heat pump:	~~YES~~	NO
Brine-to-water heat pump:	~~YES~~	NO
Low-temperature heat pump:	~~YES~~	NO
Equipped with a supplementary heater:	~~YES~~	NO
Heat pump combination heater:	~~YES~~	NO

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps.
For low- temperature heat pumps, parameters shall be declared for low-temperature application.
Parameters shall be declared for average climate conditions.

Low temperature application

Item	Symbol	Value	Unit
Rated heat output (*)	P_{rated}	6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = – 7 °C	P_{dh}	5.1	kW
Tj = + 2 °C	P_{dh}	3.1	kW
Tj = + 7 °C	P_{dh}	2.4	kW
Tj = + 12 °C	P_{dh}	3.0	kW
Tj = bivalent temperature	P_{dh}	5.1	kW
T_{OL} = operation limit	P_{dh}	5.3	kW
For air-to-water heat pumps: Tj = – 15 °C (if TOL < – 20 °C)	P_{dh}	x,x	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	Pcych	x,x	kW
Degradation co-efficient heat pumps(**)	C_{dh}	0.9	

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_S	175	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = – 7 °C	COPd or PERd	2.70	– or %
Tj = + 2 °C	COPd or PERd	4.30	– or %
Tj = + 7 °C	COPd or PERd	6.35	– or %
Tj = + 12 °C	COPd or PERd	9.00	– or %
Tj = bivalent temperature	COPd or PERd	2.70	– or %
T_{OL} = operation limit	COPd or PERd	1.90	– or %
For water-to-air heat pumps: Tj = – 15 °C (if TOL < – 20 °C)	COPd or PERd	x,xx	– or %
For water-to-air heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COPcyc or PERcyc	x,xx	– or %
Heating water operating limit temperature	WTOL	65	°C

Medium temperature application

Item	Symbol	Value	Unit
Rated heat output (*)	P_{rated}	5	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = – 7 °C	P_{dh}	4.9	kW
Tj = + 2 °C	P_{dh}	3.0	kW
Tj = + 7 °C	P_{dh}	3.1	kW
Tj = + 12 °C	P_{dh}	3.8	kW
Tj = bivalent temperature	P_{dh}	4.9	kW
T_{OL} = operation limit	P_{dh}	5.0	kW
For air-to-water heat pumps: Tj = – 15 °C (if TOL < – 20 °C)	P_{dh}	x,x	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	Pcych	x,x	kW
Degradation co-efficient heat pumps(**)	C_{dh}	0.9	

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_S	122	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = – 7 °C	COPd or PERd	1.76	– or %
Tj = + 2 °C	COPd or PERd	3.09	– or %
Tj = + 7 °C	COPd or PERd	4.60	– or %
Tj = + 12 °C	COPd or PERd	6.72	– or %
Tj = bivalent temperature	COPd or PERd	1.76	– or %
T_{OL} = operation limit	COPd or PERd	1.50	– or %
For water-to-air heat pumps: Tj = – 15 °C (if TOL < – 20 °C)	COPd or PERd	x,xx	– or %
For water-to-air heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COPcyc or PERcyc	x,xx	– or %
Heating water operating limit temperature	WTOL	65	°C

Power consumption in modes other than 'active mode'

Power consumption in modes other than 'active mode'			
Off mode	P_{OFF}	0.030	kW
Thermostat-off mode	P_{TO}	0.030	kW
Standby mode	P_{SB}	0.030	kW
Crankcase heater mode	P_{CK}	0.020	kW

Supplementary heater

Rated heat output (*)	Psup	x	kW
Type of energy input			

Other Items

Capacity control	Variable		
Sound power level, indoors/outdoors	$L_{WA,Indoor}$	-	dB
	$L_{WA,Outdoor}$	60	dB
Emissions of nitrogen oxides (if applicable)	NOx(***)	x	mg/kWh

For air-to-air heat pumps: air flow rate, outdoor measured (Low Temp)		2388	m^3/h
For air-to-air heat pumps: air flow rate, outdoor measured (Mid. Temp)		3690	m^3/h
For water/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		x	m3/h

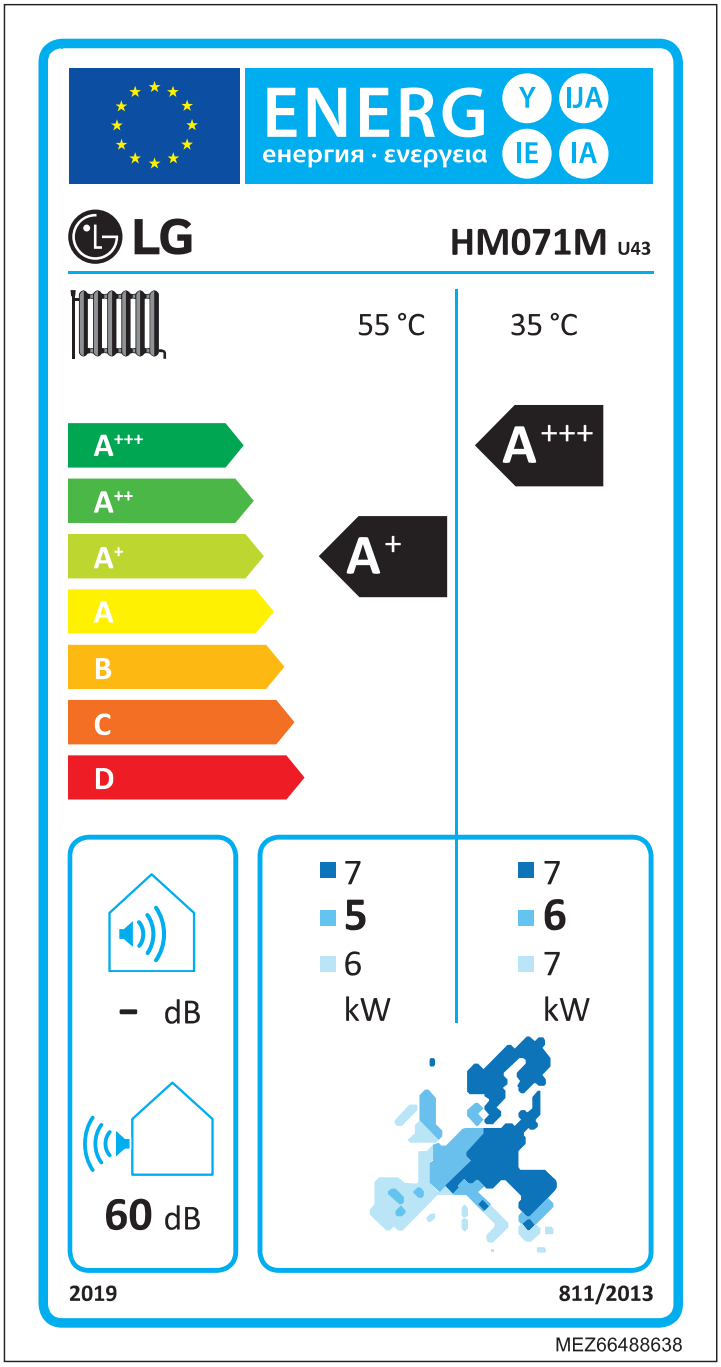
Declared load profile	x		
Daily electricity consumption	Q elec	x,xxx	kWh

Water heating energy efficiency	η wh	116	%
Daily fuel consumption	Q fuel	x,xxx	kWh

Contact details

Name : Christianna Papazahariou
Position : European Regulatory Manager
E-mail address : chris.papazahariou@lge.com Tel. 01 49 89 57 41 – 06 83 077 455
Postal address : Paris Nord II – 117 avenue des Nations BP 59372
Villepinte – 95942 Roissy CDG Cedex
www.lg.com

(*)For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.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Y
IJA
IE
IA
LG
HM071M U43
55 °C
35 °C
A+++
A++
A+
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– dB
60 dB
7
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