DEAP 4.2 INPUTS

Add New Item To Library

Create Library Item

BASIC PROPERTIES | HEAT PUMP TEST DATA

Item Type *	**Item Name** *	**Keywords** *
Heat Source	LG R32 16kW 300L	LG Therma V R32
Manufacturer *		**Model** *
LG		HM161M.U33
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 [%]** *
124		105.3

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)	9.70	5.90	6.70	8.10	11.00
Coefficient of Performance (KW/KW)	2.90	4.38	6.24	8.30	2.50

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)	10.60	6.50	6.30	7.70	10.00
Coefficient of Performance (KW/KW)	1.93	3.00	4.80	7.00	1.65

Heating System Test Data: I.S. EN16147

Source of Data *: Water Heating Efficiency

Coefficient of Performance (KW/KW):

Water Heating Efficiency, ηwh [%]: 105.3

Reference Hot Water Temperature (°C) *: 52

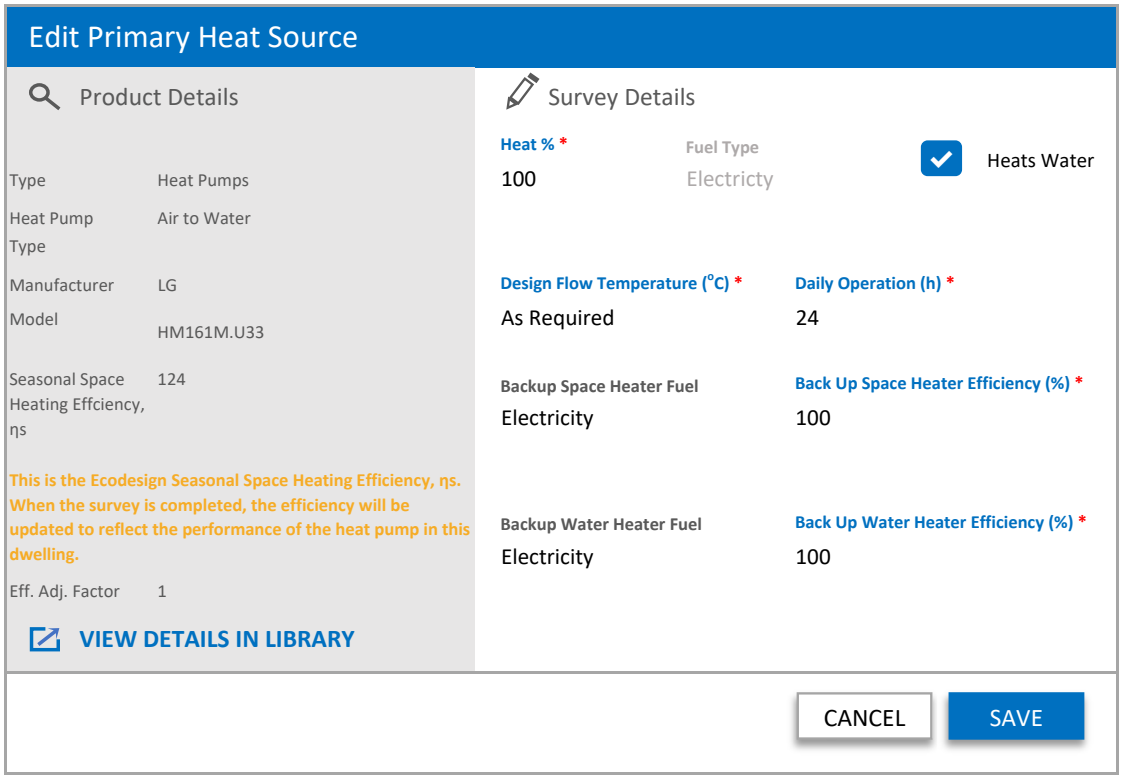
Capacity of Heat Pump (kW) *: 12

Declared Load Profile *: XL

Standby Heat Loss [kWh/day] *: 2.09

Voume of DHW accounted for in test (Litre) *: 300

CANCEL SAVE


Edit Primary Heat Source
Product Details
Type
Heat Pumps
Heat Pump Type
Air to Water
Manufacturer
LG
Model
HM161M.U33
Seasonal Space Heating Effciency, ηs
124
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
Electricity
Back Up Space Heater Efficiency (%) *
100
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: Cylinder, indirect

Storage Volume (l): 300

Heat Pump Type of DHW *: Integral Hot Water Storage

- [x] Is manufacturers declared loss available

Kingspan HP300L | 2.09

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)	HM161M.U33
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
No of hours per day Heat Pump in operation	
Cut-out hours	24
Return Temperature at design conditions	8
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?	No
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	300

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)	9.7	5.9	6.7	8.1	11.0
	Coefficient of Performance (kW / kW)	2.90	4.38	6.24	8.3	2.50
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)	10.6	6.5	6.3	7.7	10.0
	Coefficient of Performance (kW / kW)	1.93	3.0	4.8	7.0	1.65

Test Condition EN 16147:2017

Source of data	Water heating energy efficiency, nwh
Water heating energy efficiency, nwh	105.3%
Equivalent Coefficient of Performance	
Reference Hot Water Temperature	52°C
Required Source Temperature	N/A
Capacity of Heat Pump	12
Declared Load Profile	XL
Standby Heat Loss (kW)	1.76
Volume of DHW accounted for in test	300

THERMA V AIR-TO-WATER HEAT PUMP

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

Model(s):	HM161M U33	
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}	11	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = – 7 °C	P_{dh}	9.7	kW
T j = + 2 °C	P_{dh}	5.9	kW
T j = + 7 °C	P_{dh}	6.7	kW
T j = + 12 °C	P_{dh}	8.1	kW
T j = bivalent temperature	P_{dh}	11.0	kW
T j = operation limit temperature	P_{dh}	11.0	kW
For air-to-water heat pumps: Tj=-15℃ (if TOL < -20℃)	P_{dh}	x,x	kW
Bivalent temperature	T_{biv}	-10	℃
Cycling interval capacity for heating	P_{cych}	x,x	kW
Degradation co-efficient(**)	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			
T j = – 7 °C	COPd or PERd	2.90	– or %
T j = + 2 °C	COPd or PERd	4.38	– or %
T j = + 7 °C	COPd or PERd	6.24	– or %
T j = + 12 °C	COPd or PERd	8.30	– or %
T j = bivalent temperature	COPd or PERd	2.50	– or %
T j = operation limit temperature	COPd or PERd	2.50	– or %
For air-to-water heat pumps: Tj=-15℃ (if TOL < -20℃)	COPd or PERd	x,xx	– or %
Cycling interval efficiency	COPcyc or PERcyc	x,xx	– or %
Heating water operating limit temperature	WTOL	65	℃

Medium temperature application

Item	Symbol	Value	Unit
Rated heat output (*)	P_{rated}	12	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
T j = – 7 °C	P_{dh}	10.6	kW
T j = + 2 °C	P_{dh}	6.5	kW
T j = + 7 °C	P_{dh}	6.3	kW
T j = + 12 °C	P_{dh}	7.7	kW
T j = bivalent temperature	P_{dh}	10.6	kW
T j = operation limit temperature	P_{dh}	10.0	kW
For air-to-water heat pumps: Tj=-15℃ (if TOL < -20℃)	P_{dh}	x,x	kW
Bivalent temperature	T_{biv}	-7	℃
Cycling interval capacity for heating	P_{cych}	x,x	kW
Degradation co-efficient(**)	C_{dh}	0.9	

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_S	124%	
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	COPd or PERd	1.93	– or %
T j = + 2 °C	COPd or PERd	3.00	– or %
T j = + 7 °C	COPd or PERd	4.80	– or %
T j = + 12 °C	COPd or PERd	7.00	– or %
T j = bivalent temperature	COPd or PERd	1.93	– or %
T j = operation limit temperature	COPd or PERd	1.65	– or %
For air-to-water heat pumps: Tj=-15℃ (if TOL < -20℃)	COPd or PERd	x,xx	– or %
For air -to-water heat pumps: Operation limit temperature	TOL	-15	℃
Cycling interval efficiency	COPcyc or PERcyc	x,xx	– or %
Heating water operating limit temperature	WTOL	65	℃

Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.060	kW
Thermostat-off mode	P_{TO}	0.060	kW
Standby mode	P_{SB}	0.060	kW
Crankcase heater mode	P_{CK}	0.050	kW

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

Other items			
Capacity control	Variable		
Sound power level, indoors/outdoors	$L_{WA,indoor}$	NA	dB
	$L_{WA,Outdoor}$	63	dB
Annual electricity consumption (Low Temp)	Q HE, (Low Temp)	5103	kWh
Annual electricity consumption (Mid Temp)	Q HE (Mid Temp)	7795	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors (Low Temp)		7200	m^3/h
For air-to-water heat pumps: Rated air flow rate, outdoors (Mid. Temp)		4800	m^3/h
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		x	
Water Pump EEI	≤	0.23	
"The benchmark for the most efficient circulators is EEI ≤ 0,20.";			

For heat pump combination heater			
Declared load profile		x	
Daily elecrictiy consumption	Qelec	x.xxx	kWh
Annual electricity consumption	AEC	x	kWh

Water heating energy efficiency	η_{wh}	x	%
Daily fuel consumption	Qfuel	x,xxx	kWh
Annual fuel consumption	AFC	x	GJ

Contact details

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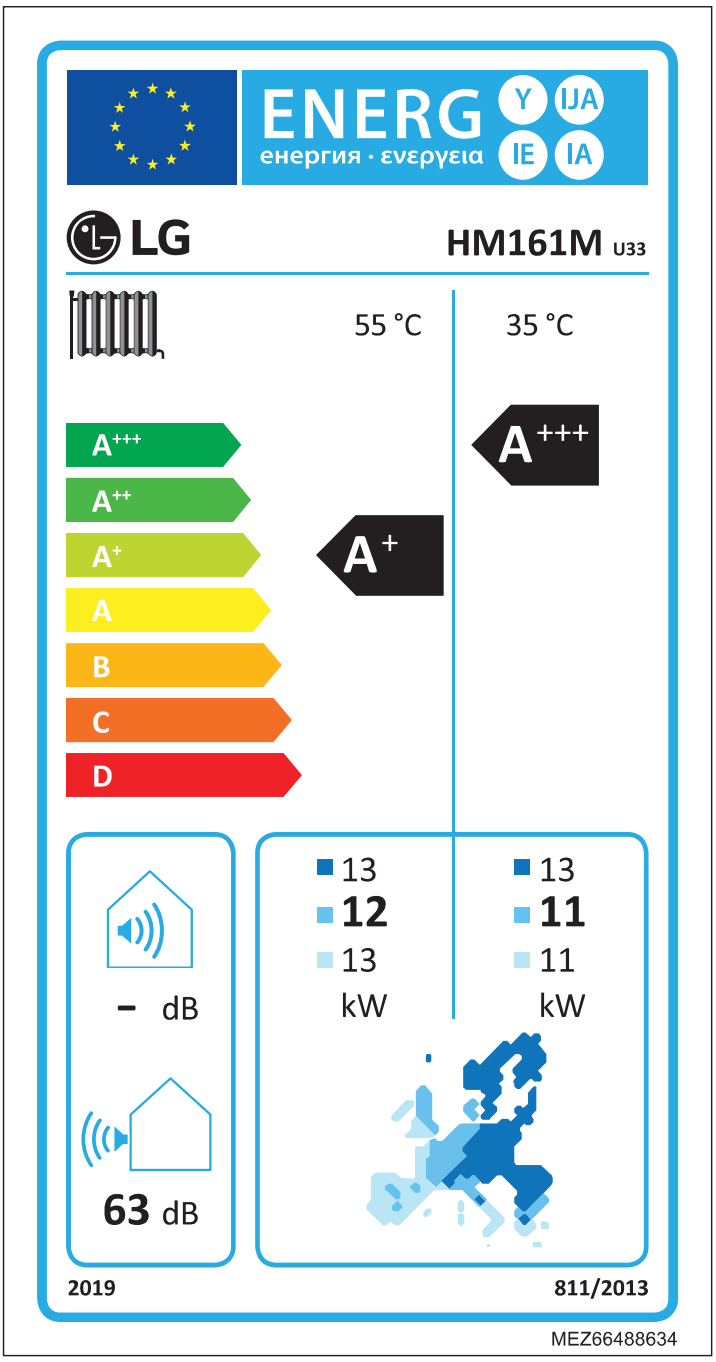
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.


ENERG Y IJA IE IA
енергия · ενεργεια
LG
HM161M U33
55 °C
35 °C
A+++
A++
A+
A
B
C
D
A+
A+++
– dB
63 dB
13
12
13
kW
13
11
11
kW
2019
811/2013
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