

How to Enter Multiple Compact Units in One PHPP

Use this methodology when you have multiple dwellings in one PHPP and they each have a compact unit

Components Sheet

In the example we want to use the unit Nilan Compact P (92 m³/h), highlighted in green. Make a user-defined row and copy all the specs from the green line, EXCEPT multiply the following by the number of units you have:

- * Measured thermal power heat pump heating
- * Measured thermal power DHW storage heating-up
- * Measured thermal power DHW storage reload
- * Specific heat loss storage incl. connections

In our example, we have 5 heat pump units, so we multiply by 5, as below:

Passive House compact unit with exhaust air heat pump											
Recommended specifications to start planning: Frost protection: Yes; Humidity recovery: Yes		Ventilation		Heating				Heating			
		75 %	0.45	Test point 1	Test point 2	Test point 3	Test point 4	Test point 1	Test point 2	Test point 3	Test point 4
ID	Description	Effective heat recovery efficiency (η_{er})	Electric efficiency	Exterior air temperature (T_{amb})				Measured thermal power heat pump heating ($P_{HP,Heat}$)			
			Wh/m ³	°C	°C	°C	°C	kW	kW	kW	kW
01ud	five units of: NILAN A/S - Compact P (operation point 92 m ³ /h)	77%	0.43	-7.0	2.1	7.1		2.45	3.10	3.35	
02ud											
03ud											
Certified Passive House components:											
(ch: compact heatpump) Compact units with heat pump, certified:											
0509ch03	Aerex PHK 180	80%	0.28	0.0	2.0	7.0		1.03	1.18	1.34	
0386ch03	Drexel und Weiss - aerosmart m	78%	0.29	-2.0	2.0	7.0		1.24	1.35		
0388ch03	Genvex A/S - Combi 185L (operation point 150 m ³ /h)	76%	0.31	4.0	8.0			1.24	1.35		
0389ch03	Genvex A/S - Combi 185L (operation point 200 m ³ /h)	76%	0.31	4.0	8.0			1.24	1.35		
0390ch03	NILAN A/S - Compact P (operation point 92 m ³ /h)	77%	0.43	-7.0	2.1	7.1		0.49	0.62	0.67	

x 5

Domestic hot water							
Test point 1	Test point 2	Test point 3	Test point 4	Test point 1	Test point 2	Test point 3	Test point 4
Measured thermal power DHW storage heating-up ($P_{DHW,Heat-up}$)				Measured thermal power DHW storage reload ($P_{DHW,Reload}$)			
kW	kW	kW	kW	kW	kW	kW	kW
2.55	3.60	4.45	5.10	2.70	3.55	4.15	4.75
1.12		1.41	1.54	1.10	1.02	1.17	1.27
0.92	1.13	1.28	1.49	0.88	1.10	1.28	1.41
1.00	1.13	1.56		0.90	1.07	1.48	
1.00	1.24	1.58		0.90	1.17	1.40	
0.51	0.72	0.89	1.02	0.54	0.71	0.83	0.95

x 5

Storage	
Specific heat loss storage incl. connections ($U \cdot A_{storage}$)	Average storage temperature in standby mode ($T_{DHW,standby}$)
W/K	°C
8.15	50.5
	36.5
1.60	47.1
1.90	46.4
1.90	46.4
1.63	50.5

x 5

Ventilation Sheet

Select "standard design":

Ventilation unit / Heat recovery efficiency design	
x	Standard design ('Ventilation' worksheet, see below)
	Multiple ventilation units, non-res ('Add vent' worksheet)

Ventilation unit selection:

* "Compact unit selected in Compact sheet"

* Add up all cold duct lengths in building & enter these here

Ventilation unit selection		Heat recovery efficiency Unit η_{WRG}
99ud-Compact unit selected in 'Compact' worksheet		0.77
Conductivity outdoor air duct	Y	W/(mK) 0.393
Length of outdoor air duct	m	17
Conductivity exhaust air duct	Y	W/(mK) 0.393
Length of exhaust air duct	m	17
Temperature of mechanical services room (Enter only if the central unit is outside of the thermal envelope)	°C	

Compact Sheet

Compact unit selection: select the user-defined unit you made in the Components sheet:

Compact unit selection:	
	Sort: AS LIST
	01ud-five units of: NILAN A/S - Compact P (operation point 92 m ³ /h)