Region:	Piedmont			**Archetype code:** EDUC_-1930_E_PIE
Building category:	Non-residential buildings – Educational buildings			
Period of construction:	< 1930			
Climatic zone:	E	**Number of records:**	114	

Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014):

External walls: solid brick masonry (cod. MLP01).
Roof slabs: pitched wooden roof (cod. CIN05).

Data sources: EPC databases (100%)

	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	-	-	-	-	-
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{footprint}$	m²	-	-	-	-	-
	Heated gross floor area	$A_{H;g}$	m²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m²	2910.2	5791.2	697.9	1333.1	2859.0
	Heated gross volume	$V_{H;g}$	m³	15553.9	25628.4	3362.5	7187.9	16351.0
	Heated net volume	$V_{H;n}$	m³	-	-	-	-	-
	Compactness ratio	$A_{env}/V_{H;g}$	m⁻¹	0.44	0.14	0.34	0.42	0.50
	WWR – North orientation	WWR_N	-	-	-	-	-	-
	WWR – South orientation	WWR_S	-	-	-	-	-	-
	WWR – East orientation	WWR_E	-	-	-	-	-	-
	WWR – West orientation	WWR_W	-	-	-	-	-	-
	Window to useful floor area ratio	A_{wi}/A_{use}	-	0.19	0.07	0.14	0.17	0.22
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	-	-	-	-	-
	External walls type	Solid Brick masonry: 77%; Hollow brick masonry: 15%; Unknown: 8%						
	U-value of the wall	U_{wl}	W/(m²·K)	-	-	-	-	-
	Slab on ground floor type	-						
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	-	-	-	-	-
	Windows type	-						
	U-value of the windows	U_W	W/(m²·K)	3.21	1.13	2.49	3.25	3.91
	Shading system type	-						
GAINS and VENTILATION	Occupancy density *	O_C	person/m²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	-						
	Air exchange rate *	n	h⁻¹	-	-	-	-	-
THERMAL SYSTEMS	Heating system type	Autonomous: 100%						
	Heating generator	-						
	Daily operating time of the heating system *	t_H	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural Gas: 83%; Electricity: 9%; Solid biomass: 3%; LPG: 2%; Unknown: 2%; Gas Oil: 1%						
	Heating emission sub-system	-						
	Cooling system type	-						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, detached from heating: 54%; Centralized, coupled with heating: 26%; Centralized, detached from heating: 13%; Autonomous, coupled with heating: 7%						
	DHW generator	-						

* These values are derived from UNI EN ISO Standards

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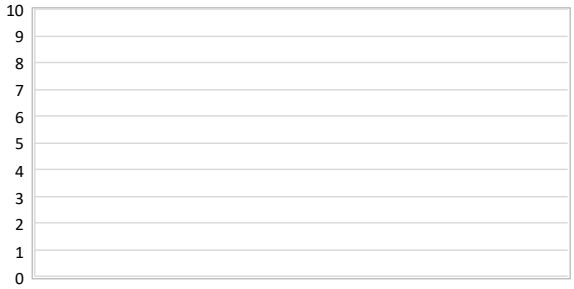
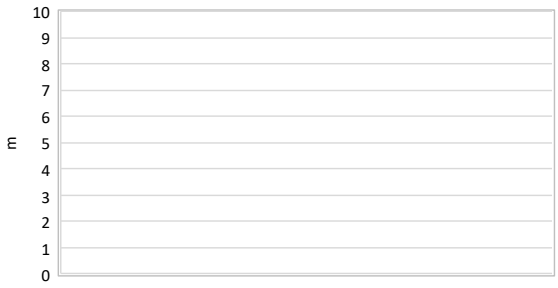
Numerical variables – GEOMETRY

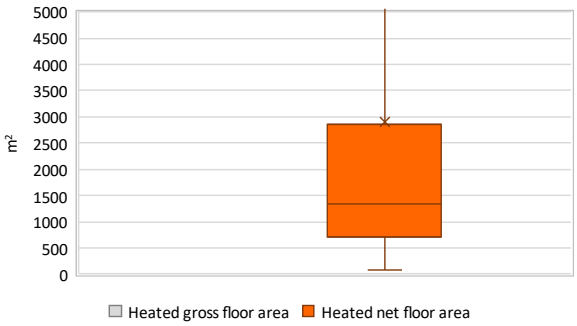
NUMBER OF FLOORS



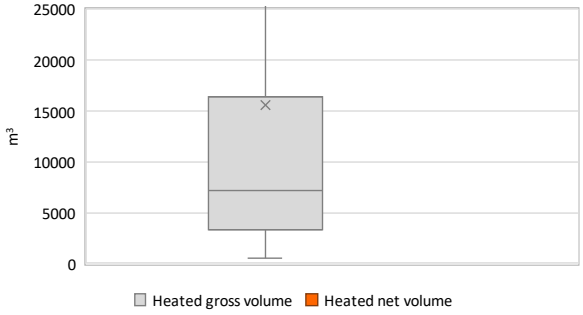
GROSS HEIGHT



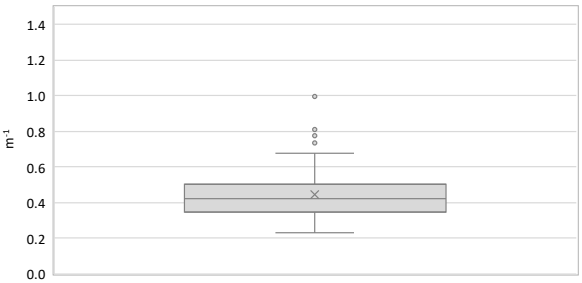
AREA



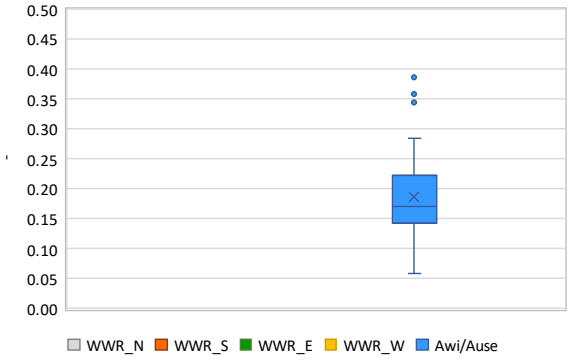
VOLUME



COMPACTNESS RATIO

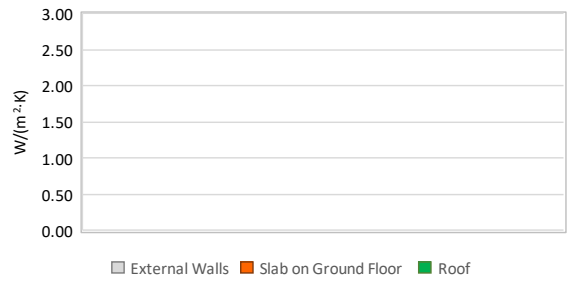


WINDOWS TO WALL RATIO

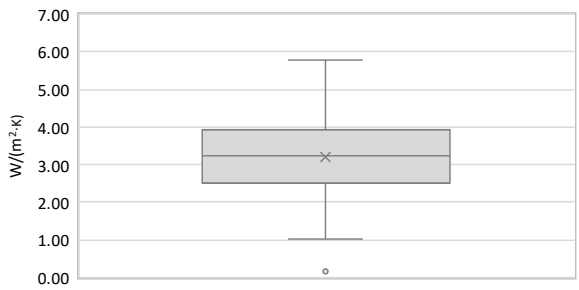


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



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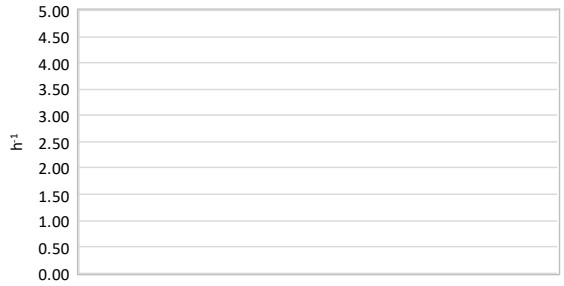
Building category:	Non-residential buildings - Educational buildings			EDUC_-1930_E_PIE
Period of construction:	< 1930			
Climatic zone:	E	**Number of records:**	114	

ADDITIONAL DATA

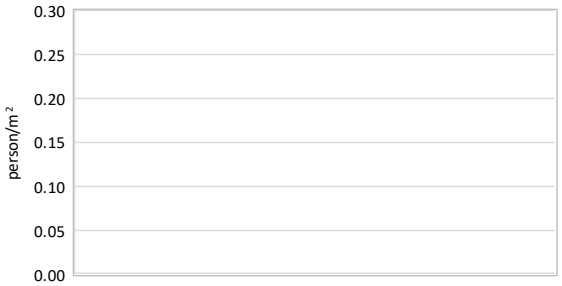
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
THERMAL SYSTEMS	Heating efficiency or *COP*	$\eta_{H;gen}$ or $COP_{H;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power	$P_{H;gen}$	kW	342.0	649.6	104.0	170.0	434.0
	Cooling efficiency or *EER*	$\eta_{C;gen}$ or $EER_{C;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power	$P_{C;gen}$	kW	47.3	68.2	5.6	13.8	59.0
	Temperature of DHW	ϑ_W	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power	$P_{W;gen}$	kW	98.6	224.6	2.4	8.2	88.7

Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

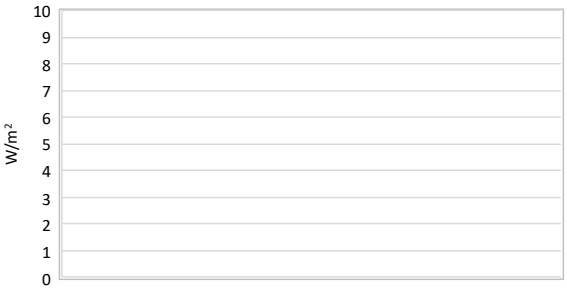
AIR CHANGE RATE



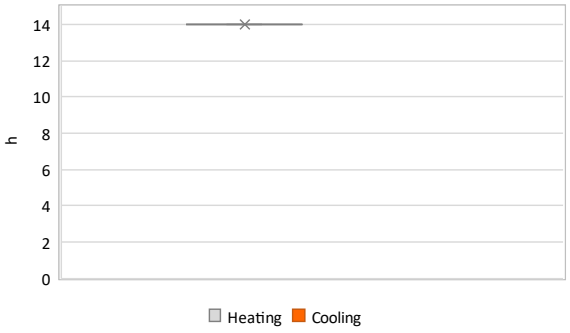
OCCUPACY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME



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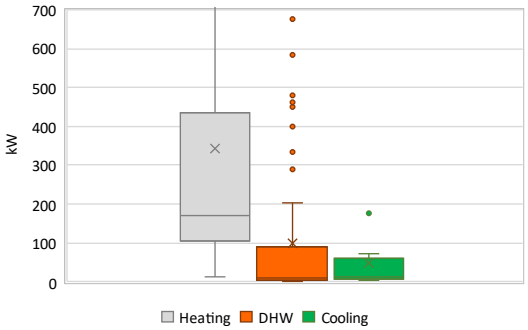
Climatic zone:	E	**Number of records:**	114	

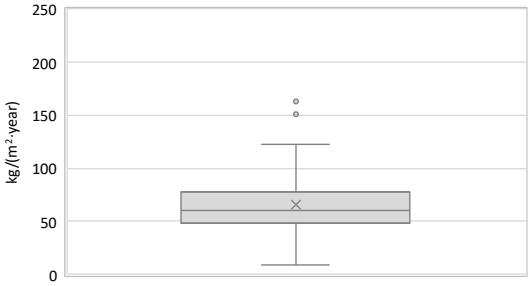
Additional data: other numerical variables that are not included in the archetype

DHW SUPPLY TEMPERATURE

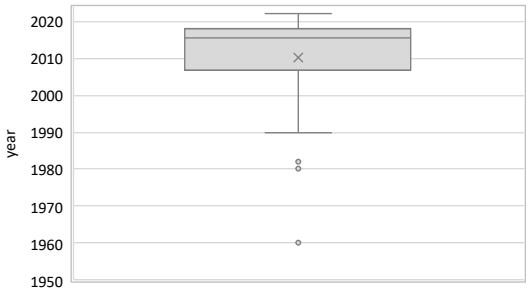
SYSTEM POWER



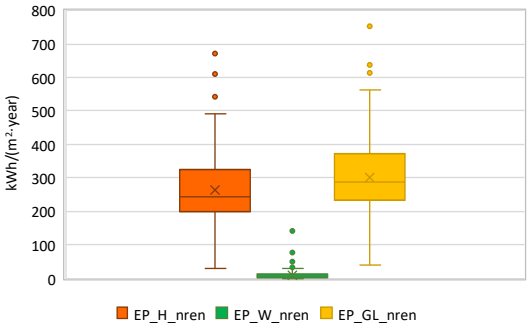
CO_2 EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE