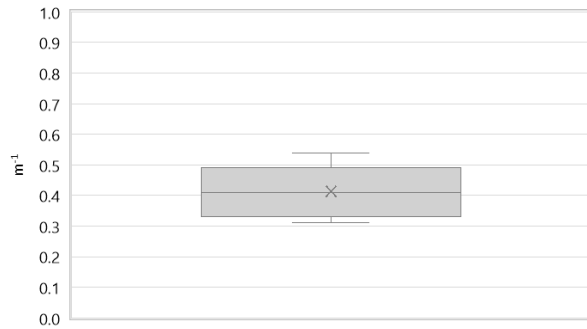


Region:	Lombardy						Archetype code:  OFF_-1930_E_LOM	
Building category:	Office buildings							
Period of construction:	< 1930							
Climatic zone:	E	Number of records:				27		
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: Solid Brick masonry (60 cm) (cod. MLP01) Roof slabs: Masonry with lists of bricks and concrete (6 cm + 24 cm) (cod. SOL03)							Data sources: Local database (85%) Expert assumption (6%) Standards (9%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	$n_f$	-	3.17	1.29	2.00	3.00	4.00
	Gross height	$H_g$	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	4438.58	3351.89	1604.45	2780.35	8429.85
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	3903.69	2981.21	1375.02	2494.36	7153.31
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	18594.68	16188.64	4997.28	9488.98	35374.87
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	16425.03	12913.08	4988.995	12295.8	28463.91
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m <sup>-1</sup>	0.41	0.08	0.33	0.41	0.49
	WWR – North orientation	$WWR_N$	-	0.22	0.10	0.16	0.20	0.26
	WWR – South orientation	$WWR_S$	-	0.22	0.10	0.16	0.20	0.26
	WWR – East orientation	$WWR_E$	-	0.22	0.10	0.16	0.20	0.26
	WWR – West orientation	$WWR_W$	-	0.22	0.10	0.16	0.20	0.26
	Window to useful floor area ratio	$A_{w_i}/A_{\text{use}}$	-	-	-	-	-	-
ENVELOPE	Roof type	Reinforced brick-concrete slab: 33%; Wood structure and planking with tiles: 21%; Reinforced brick-concrete slab low insulation: 20%; Prefabricated Insulation panels: 13%; Brick-concrete slab: 13%						
	U-value of the roof	$U_{f_i,up}$	W/(m <sup>2</sup> ·K)	1.67	0.63	1.29	1.56	1.77
	External walls type	Solid Brick masonry: 84%; Hollow brick masonry: 11%; Prefabricated panels: 5%						
	U-value of the wall	$U_{w_i}$	W/(m <sup>2</sup> ·K)	1.26	0.54	0.93	1.08	1.44
	Slab on ground floor type	Reinforced brick-concrete slab: 33%; Concrete floor: 25%; Brick-concrete slab: 17%; Ventilated crawl space: 17%; Vault floor with bricks and steel beams: 8%						
	U-value of the floor	$U_{f_i,lw}$	W/(m <sup>2</sup> ·K)	0.56	0.42	0.31	0.34	1.11
	Windows type	Single glazing, wooden frame: 50%; Double glazing, aluminum frame with thermal break: 29%; Double glazing, wooden frame: 14%; Double glazing, aluminum frame, no thermal break: 7%						
	U-value of the windows	$U_w$	W/(m <sup>2</sup> ·K)	3.59	0.85	3.08	3.53	4.22
GAINS and VENTILATION	Shading system type	-						
	Occupancy density *	$O_c$	person/m <sup>2</sup>	UNI EN 16798-1				
	Lighting power density *	$W_L$	W/m <sup>2</sup>	UNI EN 16798-1				
	Equipment power density *	$W_A$	W/m <sup>2</sup>	UNI EN 16798-1				
	Type of ventilation	Natural: 100%						
THERMAL SYSTEMS	Air exchange rate *	$n$	h <sup>-1</sup>	0.50	0.00	0.50	0.50	0.50
	Heating system type	Centralized: 100%						
	Heating generator	Condensing boiler: 47%; Traditional boiler: 35%; Heat Exchanger Of District Heating/Cooling: 18%						
	Daily operating time of the heating system *	$t_H$	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural gas: 82%; District Heating: 18%						
	Heating emission sub-system	Radiators: 100%						
	Cooling system type	Air-cooled chiller: 100%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	Fan coil: 55%; Multisplit: 45%						
	DHW system type	Centralized - Detached From Heating: 69%; Centralized - Coupled With Heating: 16%; Autonomous - Detached From Heating: 15%						
DHW generator	Electric boiler: 100%							
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

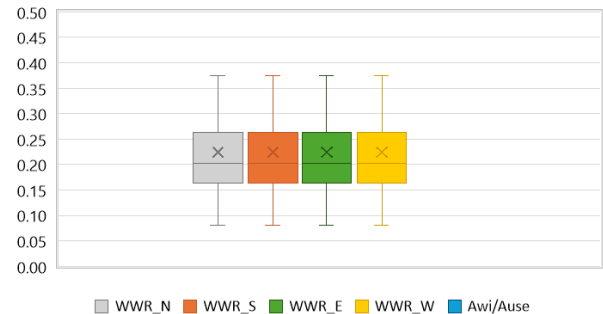
Region:	Lombardy	Archetype code: OFF_-1930_E_LOM
Building category:	Office buildings	
Period of construction:	Before 1930	
Climatic zone:	E	
Number of records:		27

### Numerical variables – GEOMETRY

**COMPACTNESS RATIO**

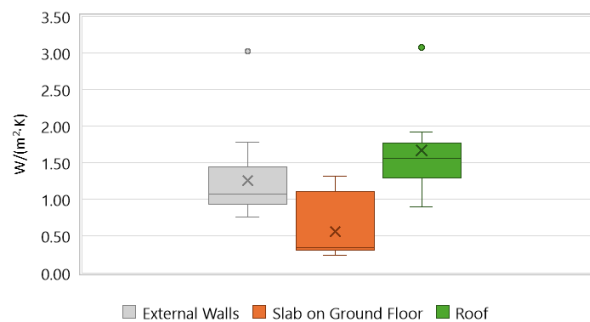


**WINDOW TO WALL RATIO**

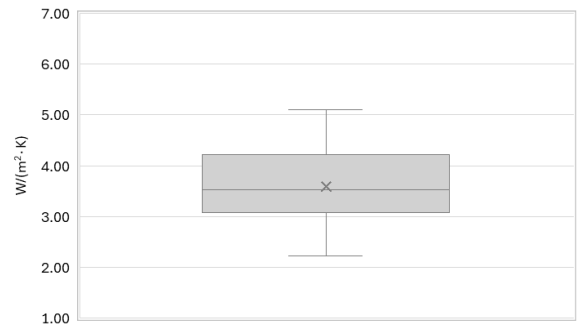


### Numerical variables – ENVELOPE

**OPAQUE BUILDING COMPONENTS U-VALUE**

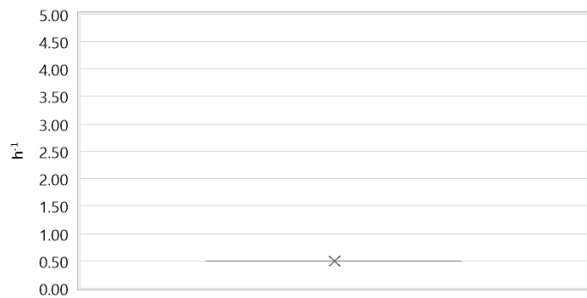


**WINDOW U-VALUE**

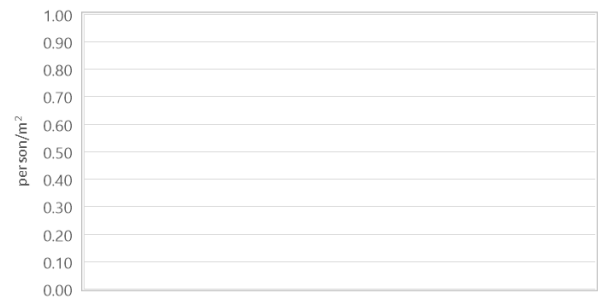


### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

**AIR EXCHANGE RATE**



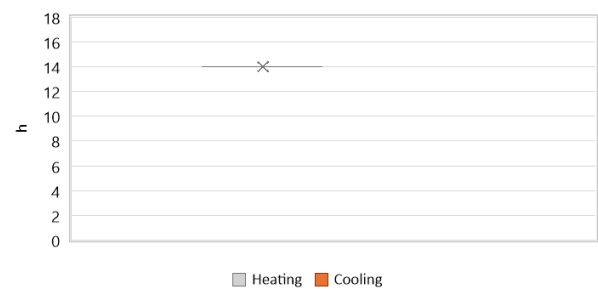
**OCCUPANCY DENSITY**



**INTERNAL GAINS POWER DENSITY**

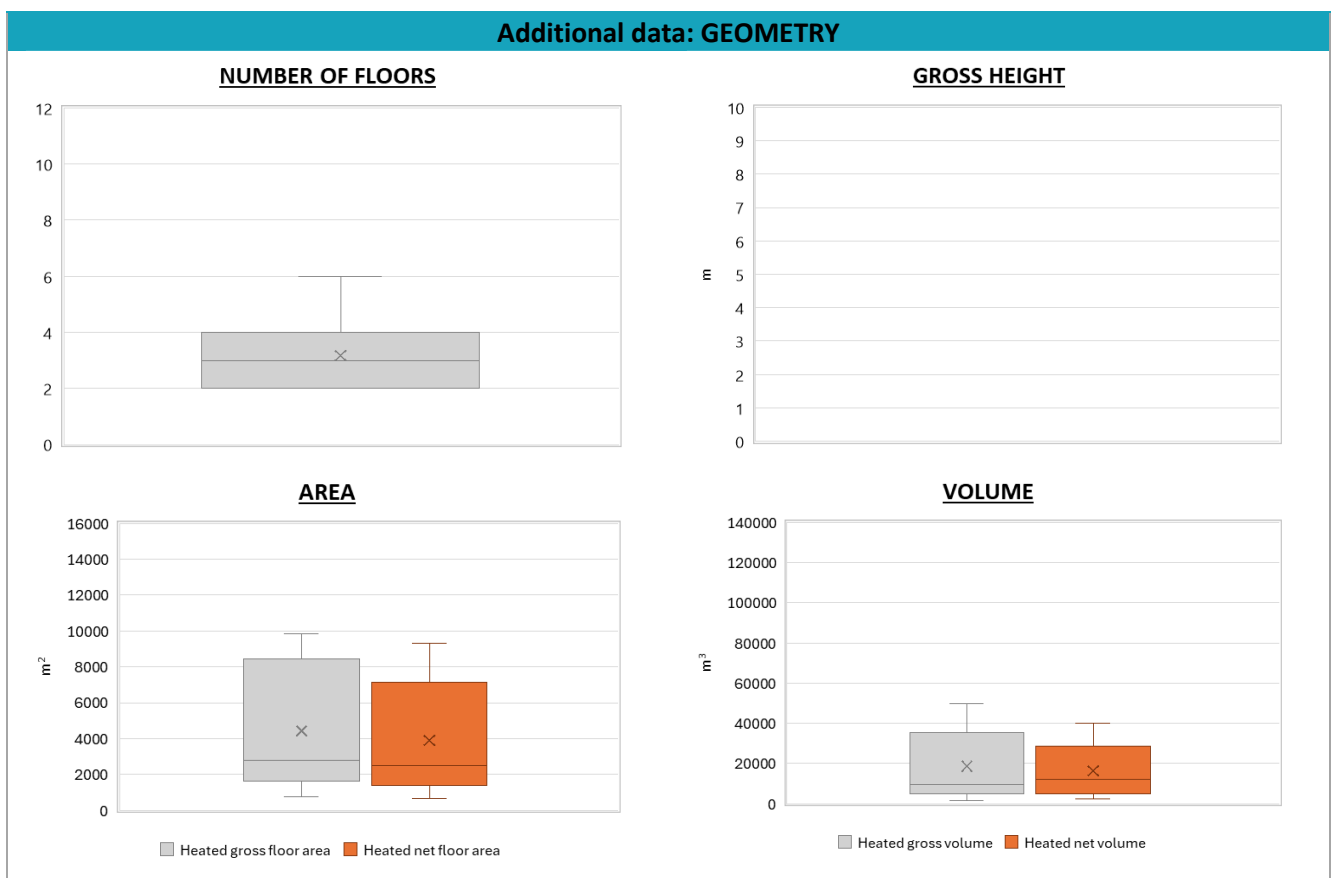


**DAILY OPERATING TIME**



Region:	Lombardy	Archetype code: OFF_-1930_E_LOM
Building category:	Office buildings	
Period of construction:	Before 1930	
Climatic zone:	E	
Number of records:		27

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
THERMAL SYSTEMS	Heating efficiency or <i>COP</i>	$\eta_{H,gen}$ or $COP_{H,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power	$P_{H,gen}$	kW	893.46	812.54	289.50	697.00	1095.50
	Cooling efficiency or <i>EER</i>	$\eta_{C,gen}$ or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power	$P_{C,gen}$	kW	-	-	-	-	-
	Temperature of DHW	$\vartheta_W$	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power	$P_{W,gen}$	kW	-	-	-	-	-



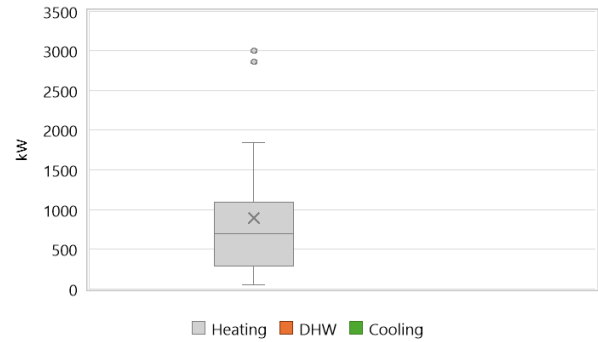
Region:	Lombardy	Archetype code: OFF_-1930_E_LOM
Building category:	Office buildings	
Period of construction:	Before 1930	
Climatic zone:	E	
Number of records:		27

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

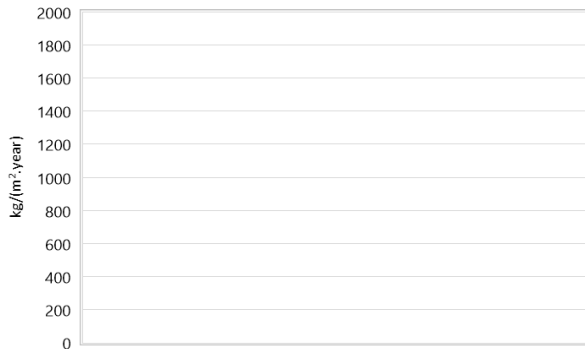
**DHW SUPPLY TEMPERATURE**



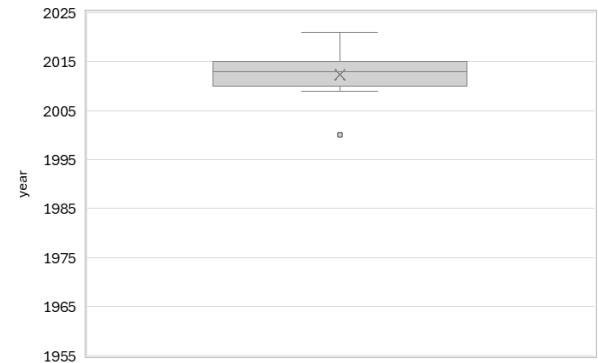
**SYSTEM POWER**



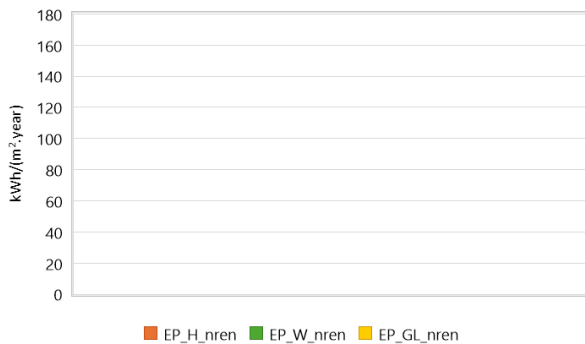
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

