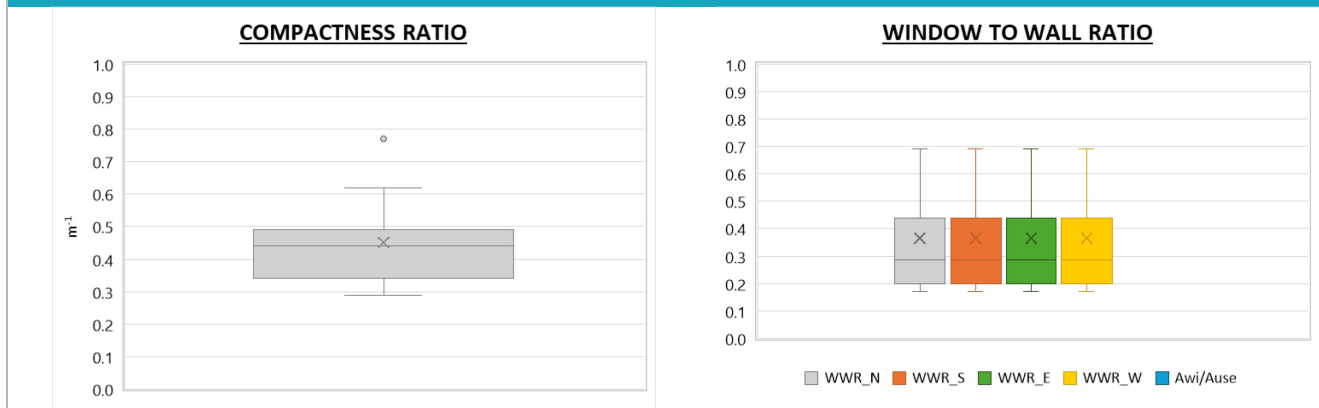


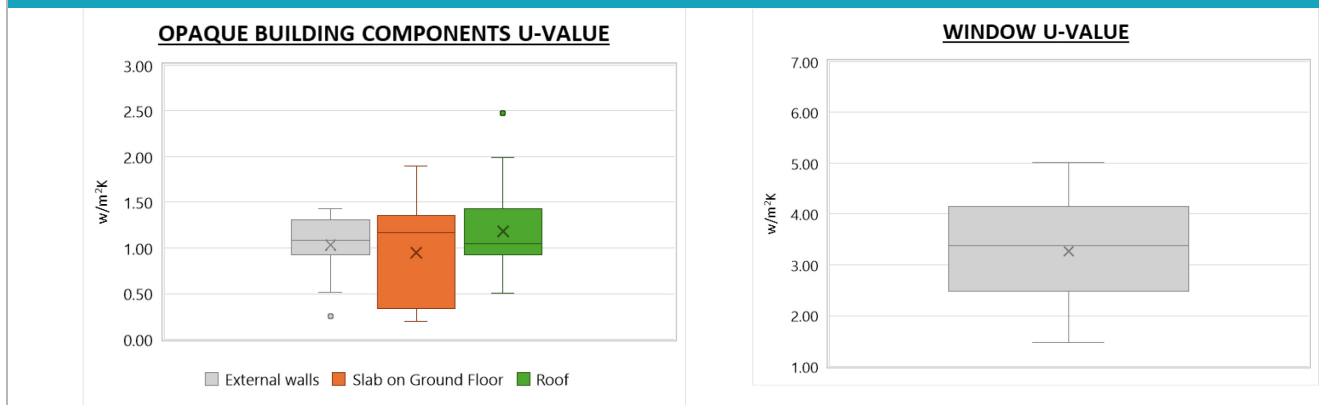
Region:	Lombardy						Archetype code: OFF_1971-1990_E_LOM	
Building category:	Office buildings							
Period of construction:	1971-1990							
Climatic zone:	E	Number of records:				17		
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): <u>External walls</u> : Reinforced brick-concrete wall, medium insulation (cod. MCO05). <u>Roof slabs</u> : reinforced brick-concrete slab (22 cm) plus uninsulated concrete screed (4 cm) (cod. SOL04)							Data sources: Local database (79%) Expert assumption (13%) Standards (8%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	3.27	1.67	2.00	3.00	5.00
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	4727.66	4227.75	816.56	3658.65	6911.68
	Heated net floor area	$A_{H,n}$	m ²	4388.90	3924.73	700.05	3450.93	6351.31
	Heated gross volume	$V_{H,g}$	m ³	17452.82	14512.56	4233.87	14026.81	25983.76
	Heated net volume	$V_{H,n}$	m ³	14137.81	12040.76	3150.23	10972.02	22746.54
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.44	0.13	0.32	0.42	0.49
	WWR – North orientation	WWR_N	-	0.37	0.24	0.20	0.29	0.44
	WWR – South orientation	WWR_S	-	0.37	0.24	0.20	0.29	0.44
	WWR – East orientation	WWR_E	-	0.37	0.24	0.20	0.29	0.44
	WWR – West orientation	WWR_W	-	0.37	0.24	0.20	0.29	0.44
	Window to useful floor area ratio	A_{wi}/A_{use}	-	-	-	-	-	-
ENVELOPE	Roof type	Reinforced brick-concrete slab medium insulation: 44%; Reinforced brick-concrete slab, high insulation: 22%; Reinforced brick-concrete slab low insulation: 22%; Prefabricated Insulation panels: 12%						
	U-value of the roof	$U_{f,\text{up}}$	W/(m ² ·K)	1.21	0.54	0.90	1.08	1.47
	External walls type	Reinforced brick-concrete wall, medium insulation: 38%; Hollow brick masonry, medium insulation: 25%; Solid Brick masonry: 19%; Concrete wall: 18%						
	U-value of the wall	U_{wl}	W/(m ² ·K)	1.02	0.34	0.91	1.07	1.35
	Slab on ground floor type	Masonry with lists of stones and concrete: 56%; Ventilated crawl space: 33%; Concrete floor: 11%						
	U-value of the floor	$U_{f,\text{lw}}$	W/(m ² ·K)	0.93	0.55	0.34	1.17	1.36
	Windows type	Double glazing, aluminum frame: 81%; Single glazing, aluminum frame: 19%						
	U-value of the windows	U_W	W/(m ² ·K)	3.21	1.08	2.50	3.38	4.15
	Shading system type	Roller blinds: 100%						
GAINS and VENTILATION	Occupancy density *	O_C	person/m ²	UNI EN 16798-1				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1				
	Type of ventilation	-						
	Air exchange rate *	n	h ⁻¹	0.50	0.00	0.50	0.50	0.50
THERMAL SYSTEMS	Heating system type	Centralized: 93%; Autonomous: 7%						
	Heating generator	Condensing boiler: 46%; Traditional boiler: 46%; Heat Exchanger Of District Heating/Cooling: 8%						
	Daily operating time of the heating system *	t_H	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural gas: 92%; District Heating: 8%						
	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 - Coupled With Heating: 47%; Autonomous - Detached From Heating: 27%; Centralized - Detached From Heating: 20%; Autonomous – Coupled With Heating: 6%						
	DHW generator	Electric boiler: 92%; Natural gas boiler: 8%						
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

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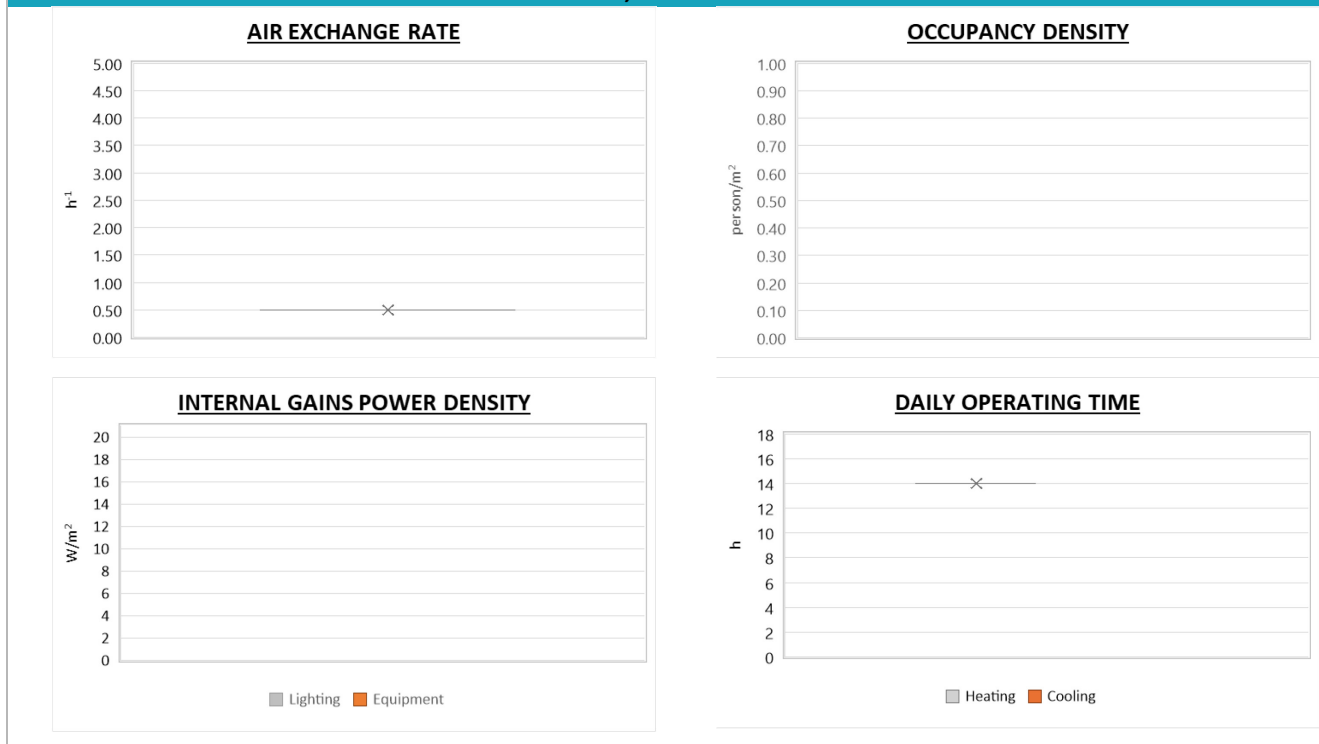
Numerical variables – GEOMETRY



Numerical variables – ENVELOPE

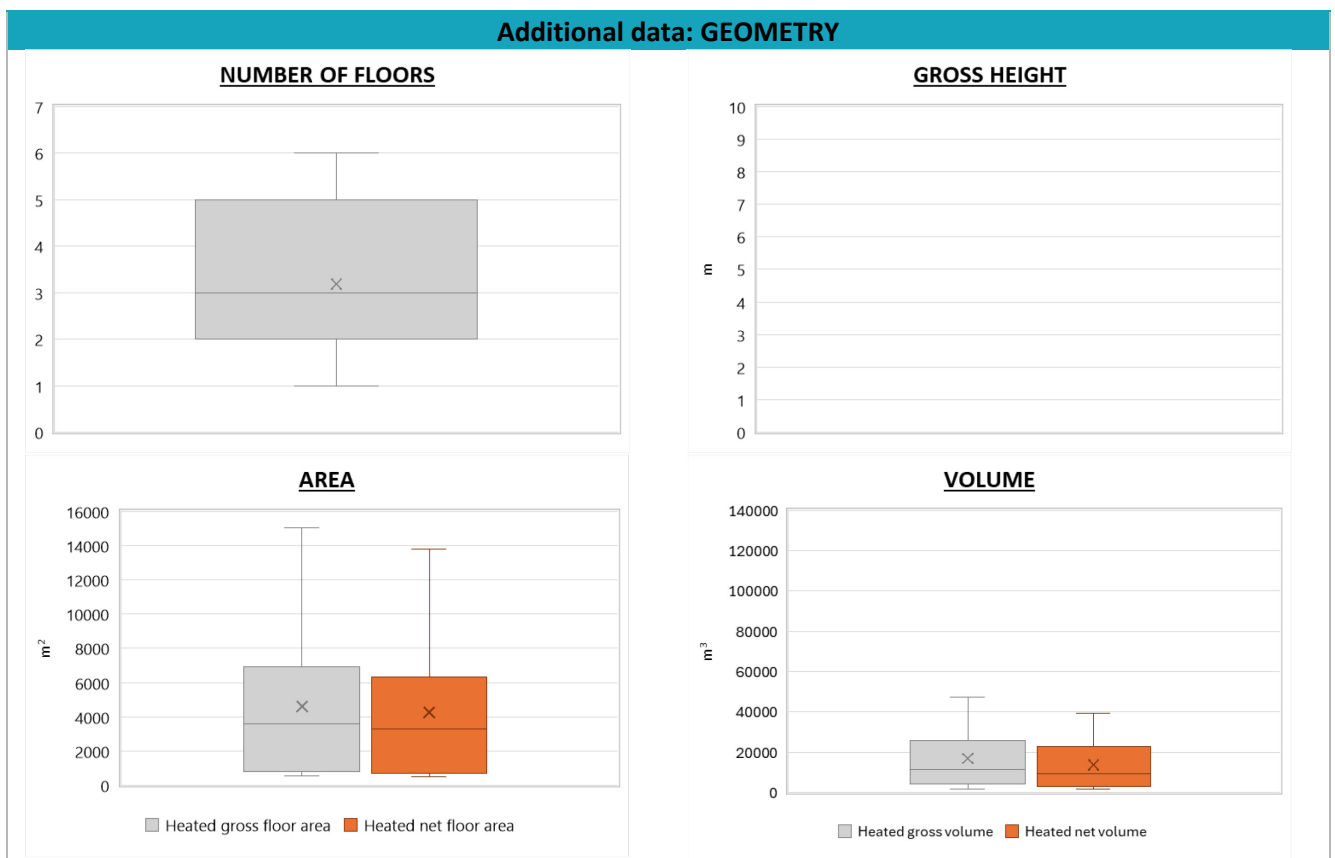


Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



Region:	Lombardy	Archetype code: OFF_1971-1990_E_LOM
Building category:	Office buildings	
Period of construction:	1971-1990	
Climatic zone:	E	
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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	936.52	531.90	555.00	832.00	1322.00
	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	ϑ_W	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power *	$P_{W,gen}$	kW	-	-	-	-	-
* These values refer to the apartment scale								



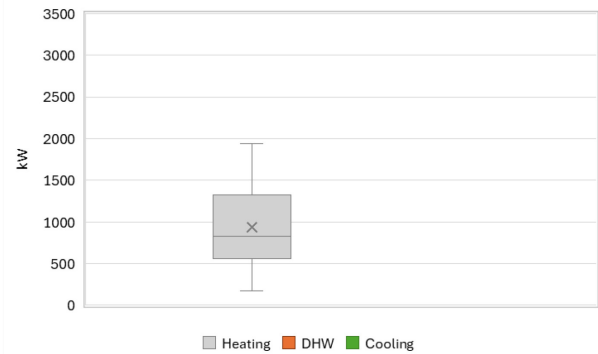
Region:	Lombardy	Archetype code: OFF_1971-1990_E_LOM
Building category:	Office buildings	
Period of construction:	1971-1990	
Climatic zone:	E	
Number of records:		17

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

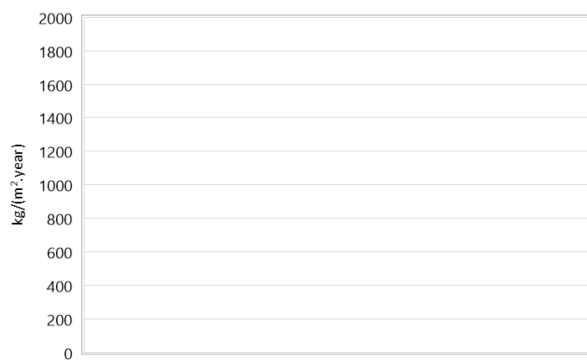
DHW SUPPLY TEMPERATURE



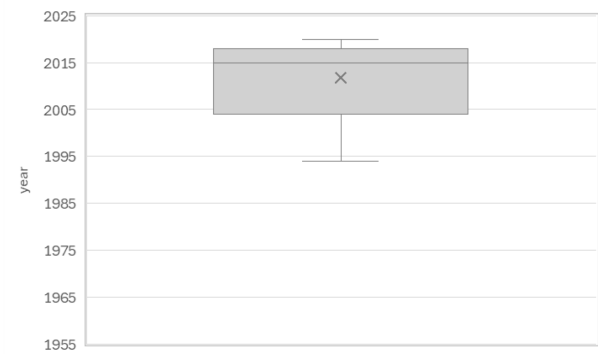
SYSTEM POWER



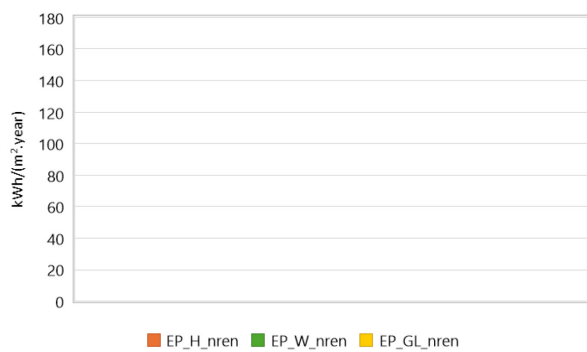
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

