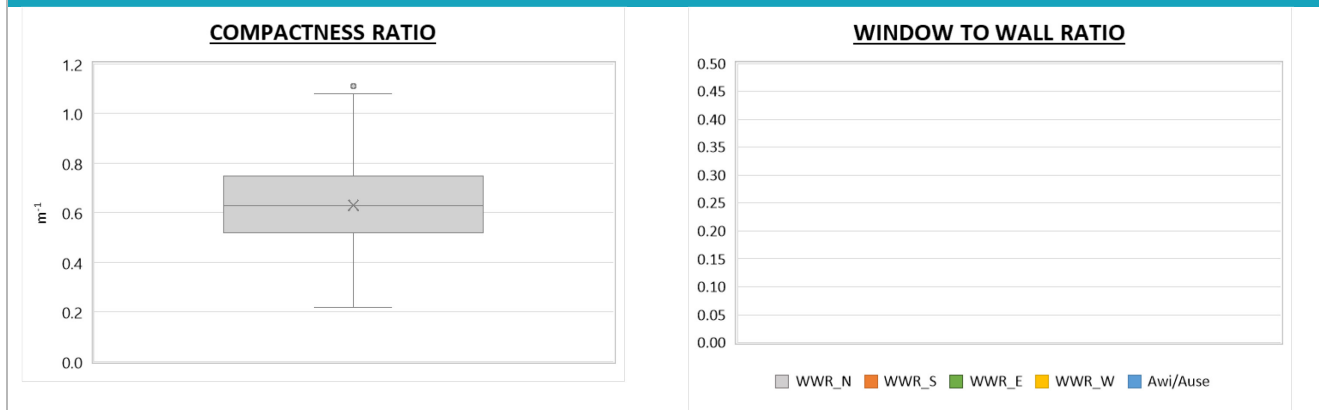


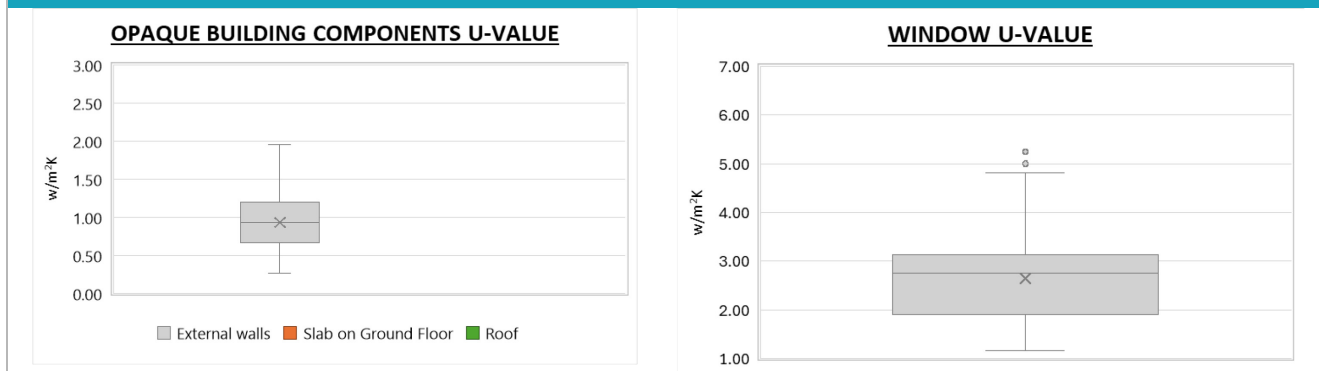
Region:	Lombardy						Archetype code: RES_APPBLOCK_1976-1990_E_LOM	
Building category:	Residential buildings – Apartments (in multifamily blocks)							
Period of construction:	1976-1990							
Climatic zone:	E	Number of records:		96				
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: double layer of hollow bricks (8 cm + 12 cm) with uninsulated air gap (cod. MCV01). Roof slabs: reinforced brick-concrete slab (22 cm) plus uninsulated concrete screed (4 cm) (cod. SOL04)							Data sources: CURIT database (32%) Municipal database (28%) Visual inspection (19%) Others (21%) #	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	7.44	2.92	5.00	7.00	10.00
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m ³	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.63	0.18	0.52	0.63	0.75
	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}	-	-	-	-	-	-
	ENVELOPE	Roof type	-					
U-value of the roof		$U_{\text{fl;up}}$	W/(m ² ·K)	-	-	-	-	-
External walls type		Prefabricated panels: 47%; Hollow brick masonry, medium insulation: 19%; Hollow brick masonry, low insulation: 12%; Hollow brick masonry, high insulation: 11%; Reinforced brick-concrete wall, low insulation: 11%						
U-value of the wall		U_{wl}	W/(m ² ·K)	0.93	0.34	0.66	0.93	1.20
Slab on ground floor type		-						
U-value of the floor		$U_{\text{fl;lw}}$	W/(m ² ·K)	-	-	-	-	-
Windows type		Double glazing, aluminum frame with thermal break: 100%						
U-value of the windows		U_W	W/(m ² ·K)	2.64	0.91	1.90	2.76	3.14
GAINS and VENTILATION	Shading system type	Roller blinds: 82%; Shutters 18%						
	Occupancy density *	O_c	person/m ²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Centralized: 57%; Autonomous: 43%						
	Heating generator	Traditional Boiler: 89%; Condensing Boiler: 11%						
	Daily operating time of the heating system *	t_H	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural Gas: 97%; Gas Oil: 3%						
	Heating emission sub-system	Radiators: 97%; Radiant Panels: 3%						
	Cooling system type	Air-cooled chiller: 100%						
	Daily operating time of the cooling system *	t_c	h	-	-	-	-	-
	Cooling emission sub-system	Multisplit: 100%						
	DHW system type	Autonomous, coupled with heating: 57%; Autonomous, detached from heating: 29%; Centralized, coupled with heating: 14%						
	DHW generator	Natural gas boiler: 90%; Electric water heater: 10%						
	# CENED database (ACE) (11%), Expert Assumption (4%), Standards (4%), Local database (1%), Energy audits (1%) * These values were not available in the considered sources, and are thus derived from UNI EN Standards							

Region:	Lombardy	Archetype code: RES_APPBLOCK_1976- 1990_E_LOM
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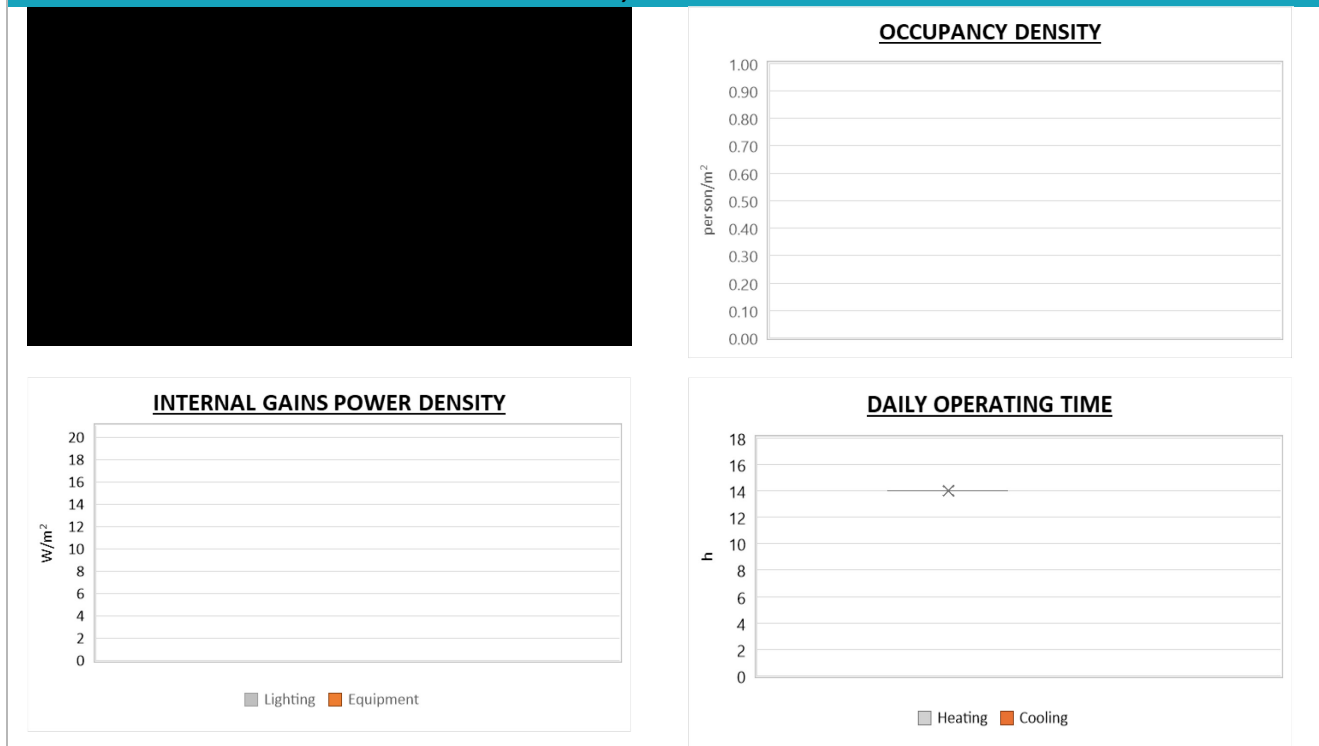
Numerical variables – GEOMETRY



Numerical variables – ENVELOPE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

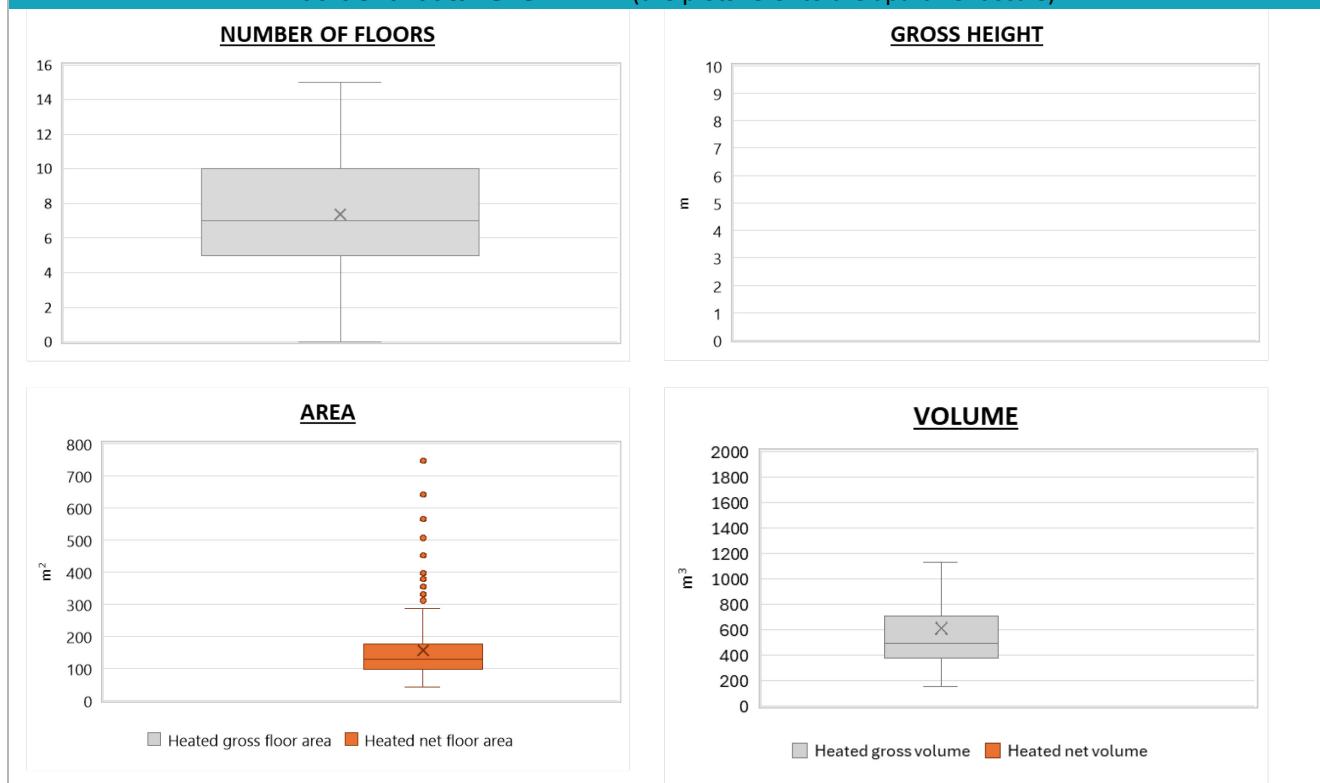


Region:	Lombardy	Archetype code: RES_APPBLOCK_1976- 1990_E_LOM
Building category:	Residential buildings – Apartments (in multifamily blocks)	
Period of construction:	1976-1990	
Climatic zone:	E	
Number of records:		96

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	-	-	-	-	-
	Heated gross floor area	$A_{H;g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m ²	155.89	96.58	97.54	128.35	175.21
	Heated gross volume	$V_{H;g}$	m ³	613.24	400.70	379.17	491.53	705.76
	Heated net volume	$V_{H;n}$	m ³	-	-	-	-	-
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	99.03	253.62	24.00	27.25	34.60
	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	25.32	220.62	3.40	4.10	5.60
	Temperature of DHW	ϑ_W	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power *	$P_{W;gen}$	kW	58.30	114.77	24.00	26.65	32.58

* These values refer to the apartment scale

Additional data: GEOMETRY (the plots refer to the apartment scale)



Region:	Lombardy	Archetype code: RES_APPBLOCK_1976- 1990_E_LOM
Building category:	Residential buildings – Apartments (in multifamily blocks)	
Period of construction:	1976-1990	
Climatic zone:	E	
Number of records:		96

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

