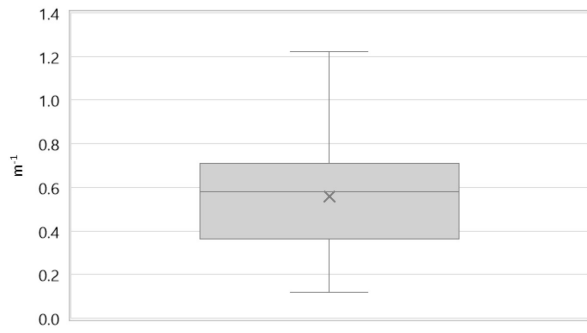


Region:	Lombardy						Archetype code: RES_APPBLOCK_1961-1975_E_LOM	
Building category:	Residential buildings – Apartments (in multifamily blocks)							
Period of construction:	1961-1975							
Climatic zone:	E	Number of records:				93		
Description (the codes associated with walls and slabs refer to 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: CENED database (ACE) (29%) CURIT database (25%) Municipal database (22%) Others (24%) #	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	7.01	2.62	5.50	6.00	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	0.56	0.22	0.36	0.58	0.71
	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	$U_{\text{fi,up}}$	W/(m ² ·K)	-	-	-	-	-
	External walls type	Hollow brick masonry, low insulation: 49%; Hollow brick masonry, medium insulation: 30%; Hollow brick masonry, high insulation: 10%; Prefabricated panels: 8%; Hollow brick masonry: 3%						
	U-value of the wall	U_{wl}	W/(m ² ·K)	1.07	0.35	0.86	1.10	1.33
	Slab on ground floor type	Masonry with lists of stones and concrete: 100%						
	U-value of the floor	$U_{\text{fi,lw}}$	W/(m ² ·K)	-	-	-	-	-
	Windows type	Double glazing, wooden frame: 50%; Double glazing, PVC frame: 25%; Double glazing, aluminum frame with thermal break: 25%						
	U-value of the windows	U_W	W/(m ² ·K)	2.72	1.05	1.88	2.75	3.26
GAINS and VENTILATION	Shading system type	Roller blinds: 94%; Shutters 6%						
	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%						
THERMAL SYSTEMS	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30
	Heating system type	Centralized: 94%; Autonomous: 6%						
	Heating generator	Traditional Boiler: 65%; Heat exchanger of district heating: 30%; Condensing Boiler: 5%						
	Daily operating time of the heating system *	t_H	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural Gas: 77%; District heating: 22%; Gas Oil: 1%						
	Heating emission sub-system	Radiators: 99%; Radiant Panels: 1%						
	Cooling system type	Air-cooled chiller: 75%; Absorption chiller 25%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	Multisplit: 75%; Fan coil: 25%						
	DHW system type	Autonomous, detached from heating: 63%; Centralized, coupled with heating: 29%; Autonomous, coupled with heating: 6%; Centralized, detached from heating: 2%						
	DHW generator	Natural gas boiler: 50%; Electric boiler: 50%						
	# Visual inspection (14%), Expert Assumption (4%), Standards (3%), Local database (3%) * These values were not available in the considered sources, and are thus derived from UNI EN Standards							

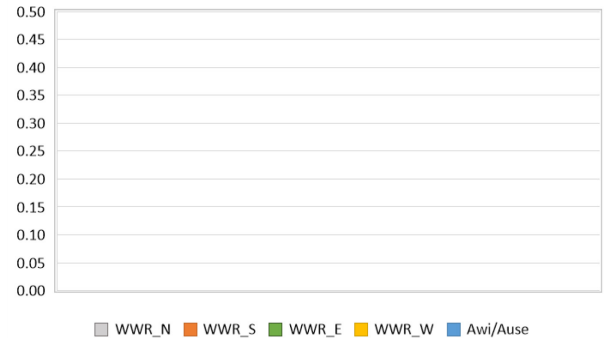
Region:	Lombardy	Archetype code: RES_APPBLOCK_1961- 1975_E_LOM
Building category:	Residential buildings – Apartments (in multifamily blocks)	
Period of construction:	1961-1975	
Climatic zone:	E	
Number of records:		93

Numerical variables – GEOMETRY

COMPACTNESS RATIO

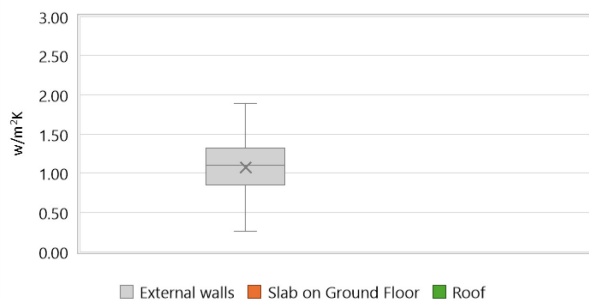


WINDOW TO WALL RATIO

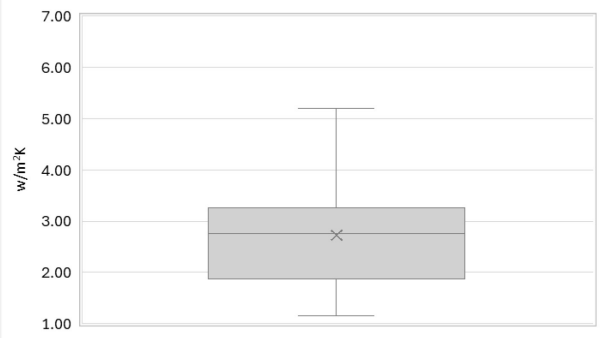


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

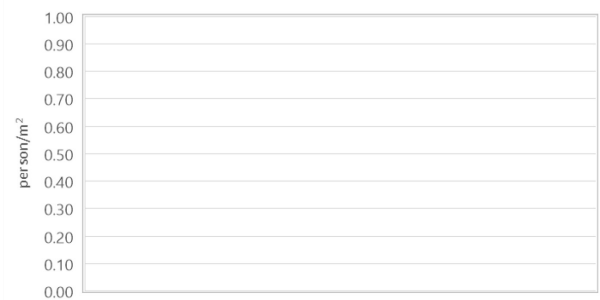


WINDOW U-VALUE

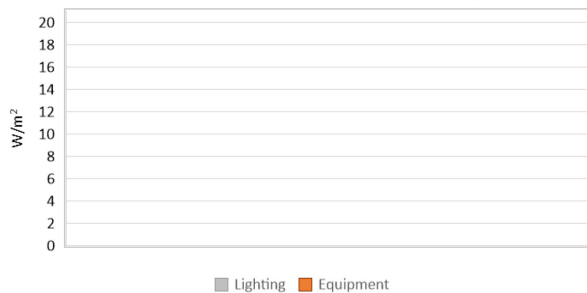


Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

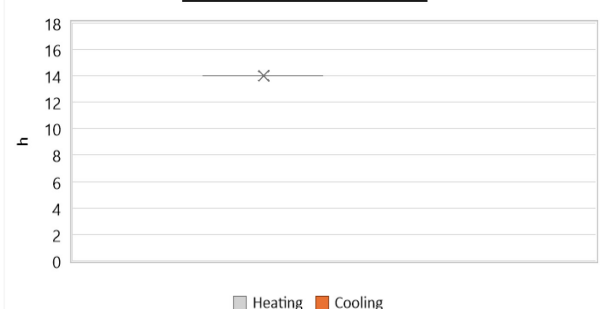
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

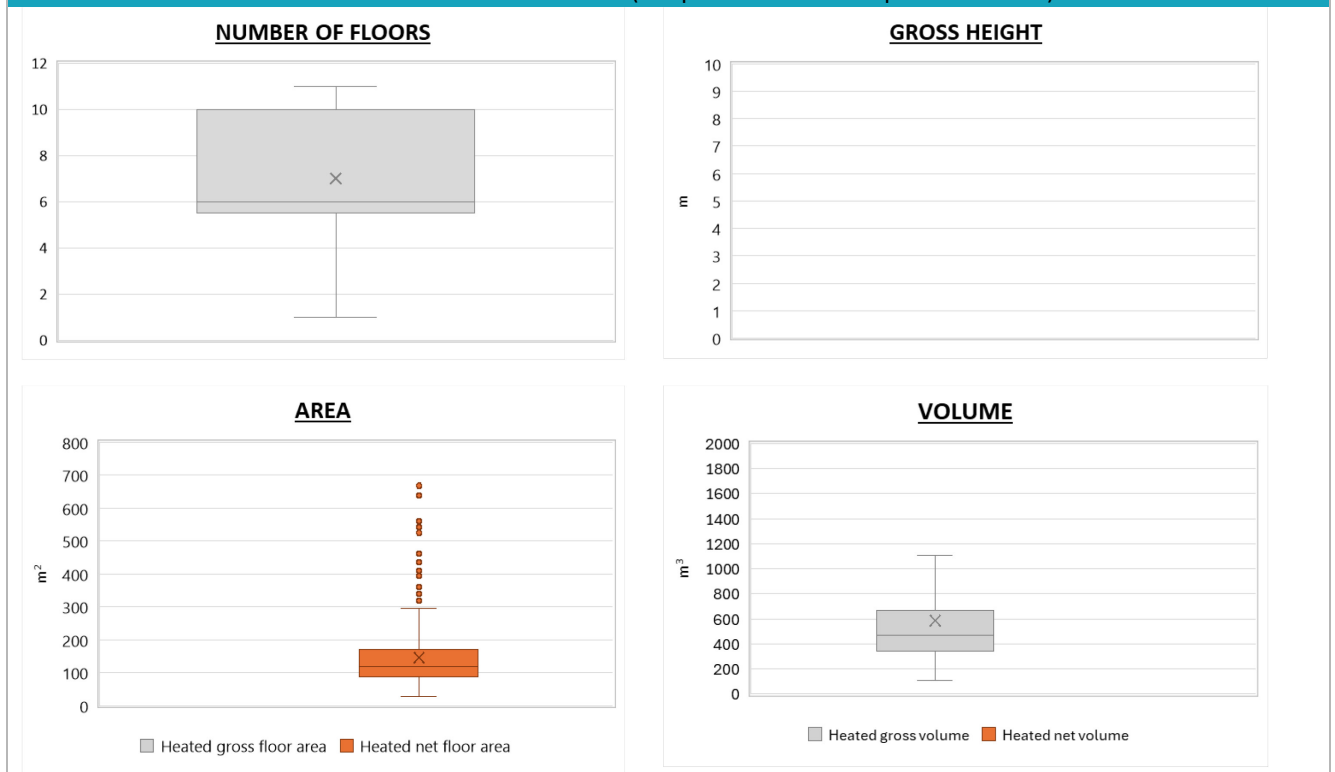


Region:	Lombardy			Archetype code: RES_APPBLOCK_1961- 1975_E_LOM
Building category:	Residential buildings – Apartments (in multifamily blocks)			
Period of construction:	1961-1975			
Climatic zone:	E	Number of records:	93	

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	146.54	99.93	88.16	118.03	171.73
	Heated gross volume	$V_{H;g}$	m ³	585.30	421.39	345.53	467.30	667.99
	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	180.85	273.03	25.80	34.80	239.35
	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	33.34	178.52	3.50	4.10	5.85
	Temperature of DHW	ϑ_W	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power *	$P_{W;gen}$	kW	71.12	142.48	19.00	25.50	34.00

* These values refer to the apartment scale

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



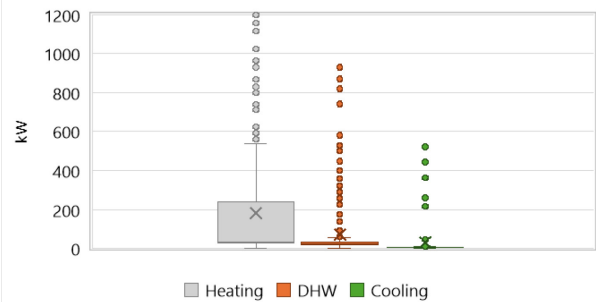
Region:	Lombardy	Archetype code: RES_APPBLOCK_1961- 1975_E_LOM
Building category:	Residential buildings – Apartments (in multifamily blocks)	
Period of construction:	1961-1975	
Climatic zone:	E	
Number of records:		93

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

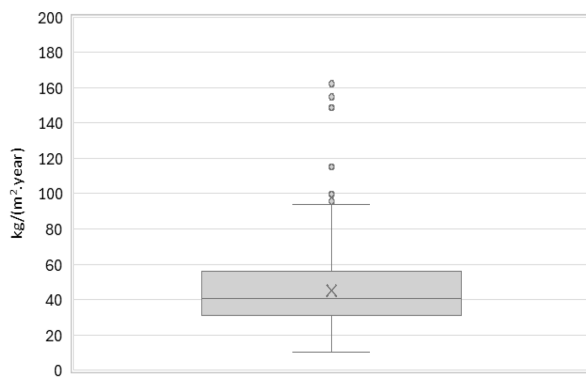
DHW SUPPLY TEMPERATURE



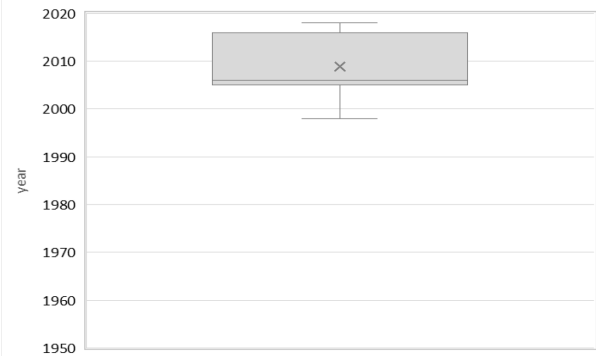
SYSTEM POWER



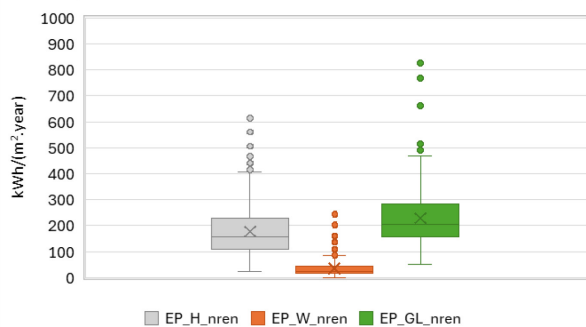
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

