Region:	Piedmont	Archetype code:
Building category:	Residential buildings - Apartments (in multifamily blocks)	RES_APPBLOCK_1971-1980_F_PIE
Period of construction:	1971-1980	
Climatic zone:	F	Number of records: 5747	

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

External walls: hollow brick masonry with thermal insulation (cod. MCV02).
Roof slabs: reinforced concrete floor slab (cod. SOL04).

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	-	-	-	-	-
	Heated gross volume	$V_{H;g}$	m³	-	-	-	-	-
	Heated net volume	$V_{H;n}$	m³	-	-	-	-	-
	Compactness ratio	$A_{env}/V_{H;g}$	m⁻¹	0.62	0.97	0.40	0.61	0.76
	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}	-	0.17	0.06	0.13	0.17	0.21
ENVELOPE	Roof type		-					
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	-	-	-	-	-
	External walls type		Hollow brick masonry: 80%; Solid Brick masonry: 18%; Unknown: 1%; Prefabricated panels: 1%					
	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)	3.07	1.17	2.28	2.91	3.96
	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		Natural: 100%					
	Air exchange rate *	n	h⁻¹	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type		Centralized: 59%; Autonomous: 41%					
	Heating generator		-					
	Daily operating time of the heating system *	t_H	h	No limitation				
	Energy carrier		Natural Gas: 65%; Gas Oil: 16%; District heating: 8%; LPG: 4%; Solid biomass: 4%; Electricity: 2%					
	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: 43%; Autonomous, coupled with heating: 30%; Centralized, coupled with heating: 24%; Centralized, detached from heating: 3%					
	DHW generator		-					

* These values are derived from UNI EN ISO Standards

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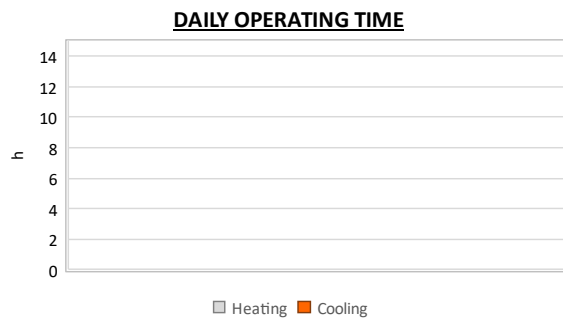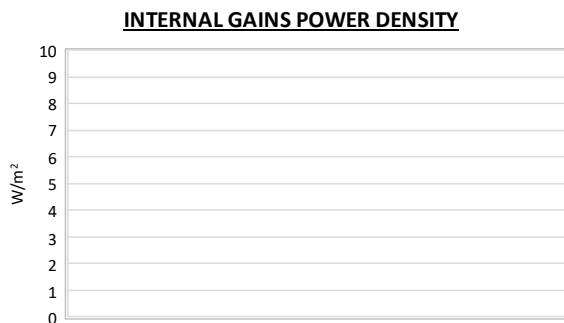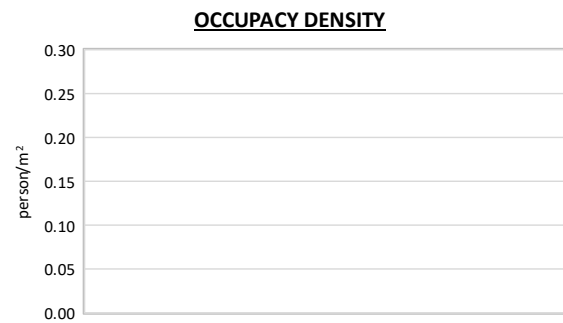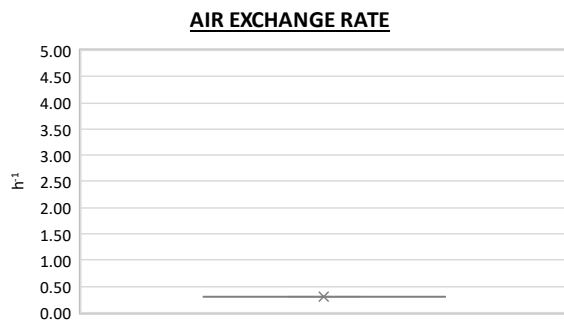
Numerical variables – GEOMETRY

COMPACTNESS RATIO

WINDOWS TO WALL RATIO

☐ WWR_N ☐ WWR_S ☐ WWR_E ☐ WWR_W ☐ Awi/Ause
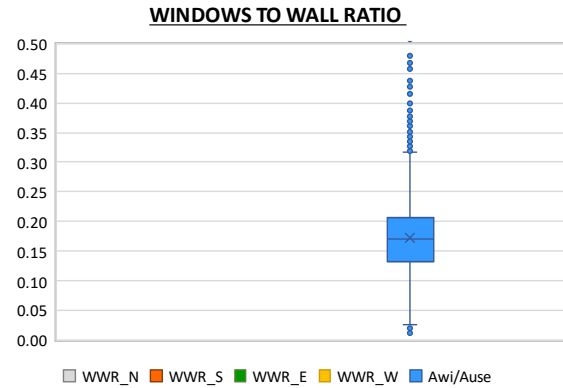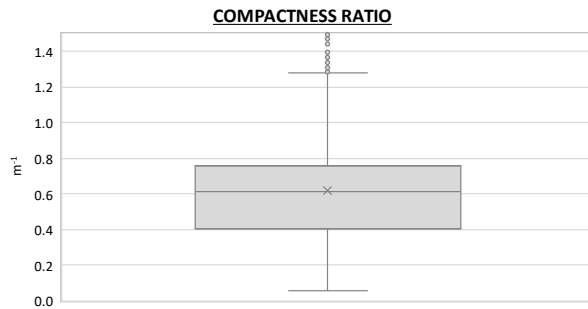
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

☐ External Walls ☐ Slab on Ground Floor ☐ Roof

WINDOWS U-VALUE
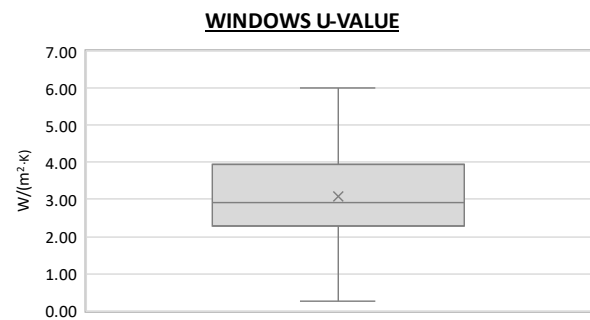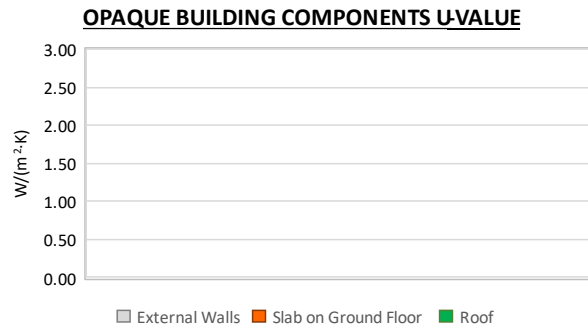
Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE
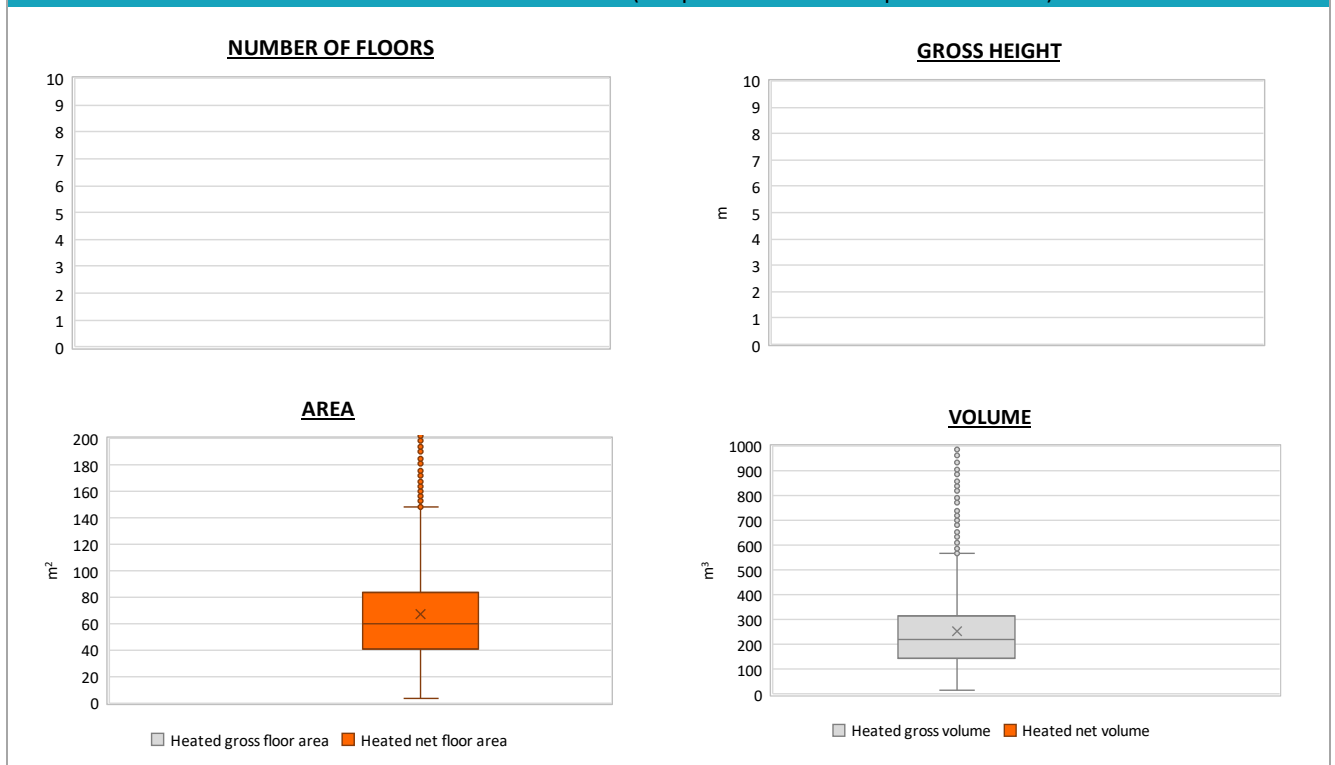
AIR EXCHANGE RATE

OCCUPACY DENSITY

INTERNAL GAINS POWER DENSITY

DAILY OPERATING TIME

☐ Heating ☐ Cooling

Region:	Piedmont	Archetype code:
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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	$A_{H;g}$	m²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m²	67.2	39.3	40.9	59.7	83.8
	Heated gross volume	$V_{H;g}$	m³	252.0	168.4	147.0	220.6	315.3
	Heated net volume	$V_{H;n}$	m³	-	-	-	-	-
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	22.3	8.3	20.0	24.0	28.0
	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	5.0	3.4	3.5	3.8	5.9
	Temperature of DHW	ϑ_W	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W;gen}$	kW	12.7	12.0	1.2	6.0	24.0
	* These values refer to the apartment scale							

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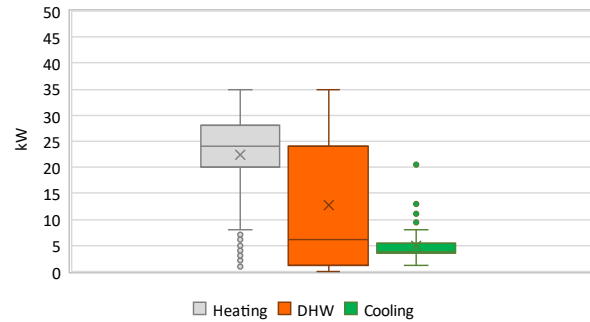
NUMBER OF FLOORS

GROSS HEIGHT

AREA

☐ Heated gross floor area ☐ Heated net floor area

VOLUME

☐ Heated gross volume ☐ Heated net volume

Region:	Piedmont		Archetype code:
Building category:	Residential buildings - Apartments (in multifamily blocks)		RES_APPBLOCK_1971-1980_F_PIE
Period of construction:	1971-1980		
Climatic zone:	F	Number of records:	5747

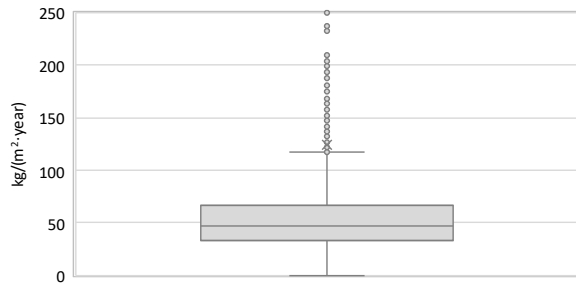## Additional data: other numerical variables that are not included in the archetype

DHW SUPPLY TEMPERATURE
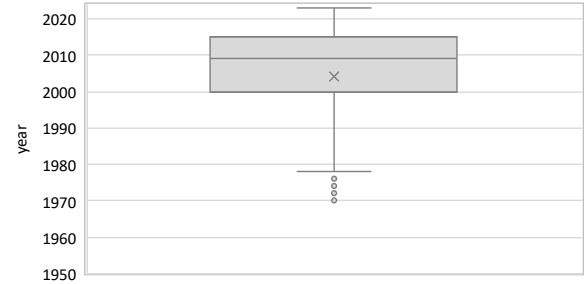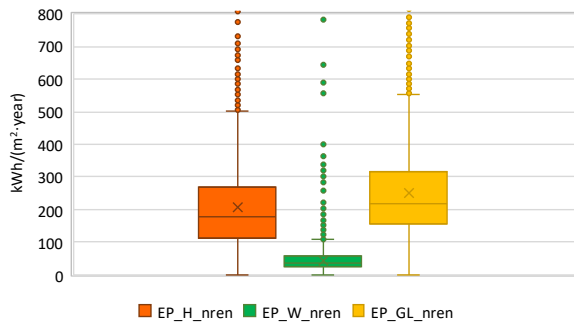

SYSTEM POWER

CO₂ EMISSION

HEATING SYSTEM INSTALLATION YEAR

NON-RENEWABLE PRIMARY ENERGY USE

RENEWABLE PRIMARY ENERGY USE