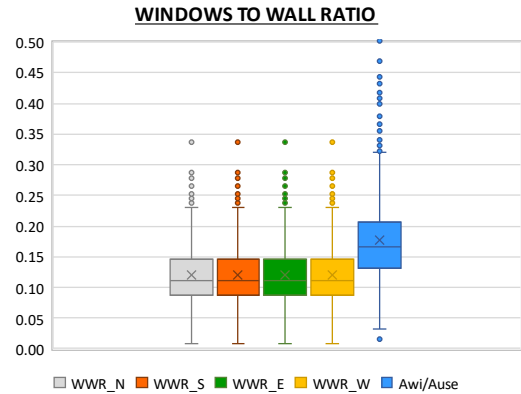
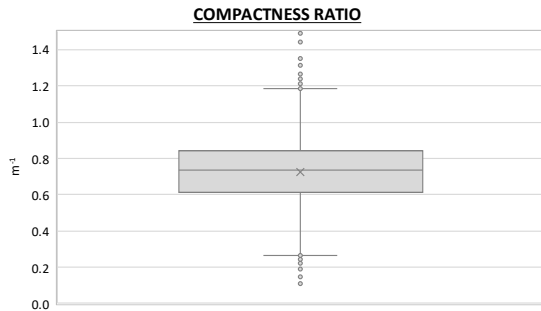


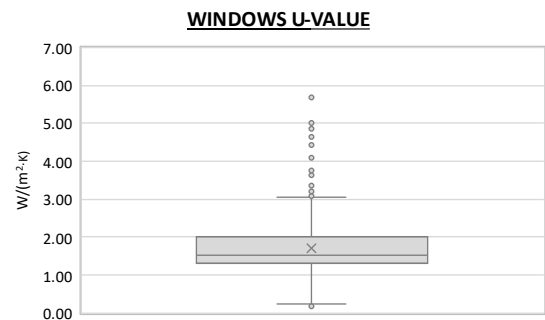
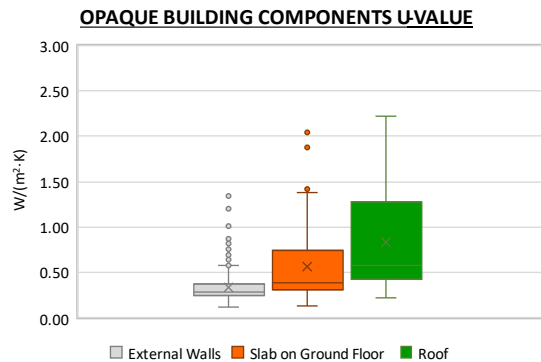
Region:	Aosta Valley					Archetype code: RES_APPBLOCK_2006-_E-F_VAL		
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	> 2005							
Climatic zone:	E-F	Number of records:		1280				
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: hollow brick masonry with thermal insulation (cod. MCV02) or solid brick masonry with thermal insulation (cod. MCV04). 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	$A_{\text{footprint}}$	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	0.72	0.21	0.61	0.74	0.84
	WWR – North orientation	WWR_N	-	0.12	0.05	0.09	0.11	0.15
	WWR – South orientation	WWR_S	-	0.12	0.05	0.09	0.11	0.15
	WWR – East orientation	WWR_E	-	0.12	0.05	0.09	0.11	0.15
	WWR – West orientation	WWR_W	-	0.12	0.05	0.09	0.11	0.15
	Window to useful floor area ratio	A_{wi}/A_{use}	-	0.18	0.09	0.13	0.17	0.21
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m ² ·K)	0.82	0.58	0.42	0.58	1.28
	External walls type	Hollow brick masonry: 55%; Solid Brick masonry: 32%; Unknown: 7%; Concrete wall: 4%; Prefabricated panels: 1%; Masonry with local stones: 1%						
	U-value of the wall	U_{wl}	W/(m ² ·K)	0.33	0.16	0.24	0.28	0.37
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m ² ·K)	0.56	0.37	0.30	0.38	0.75
	Windows type	Double glazing, wooden frame: 85%; Triple glazing, wooden frame: 9%; Double glazing, PVC frame: 5%; Triple glazing, PVC frame: 1%						
	U-value of the windows	U_W	W/(m ² ·K)	1.71	0.63	1.30	1.52	2.01
GAINS and VENTILATION	Shading system type	-						
	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	Autonomous: 79%; Centralized: 21%						
	Heating generator	Boiler (unknown type): 34%; Condensing Boiler: 21%; Traditional Boiler: 17%; Air-source heat pump: 13%; Fireplace: 6%; Unknown: 6%; Heat exchanger of district heating/cooling: 3%						
	Daily operating time of the heating system *	t_H	h	-				
	Energy carrier	LPG: 46%; Natural Gas: 27%; Solid biomass: 17%; Gas Oil: 8%; District heating: 2%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 99%; Air-cooled chiller: 1%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 70%; Centralized, coupled with heating: 19%; Autonomous, detached from heating: 11%						
	DHW generator	Unknown: 45%; Natural gas boiler: 36%; Electric Heat Pump: 15%; Electric boiler: 3%; Solar thermal: 1%						
* These values are derived from UNI EN ISO Standards; ** U-values of the upper and lower slabs face unconditioned spaces (i.e., attic, basement, etc.)								

Region:	Aosta Valley			Archetype code: RES_APPBLOCK_2006-_E-F_VAL
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Climatic zone:	E-F	Number of records:	1280	

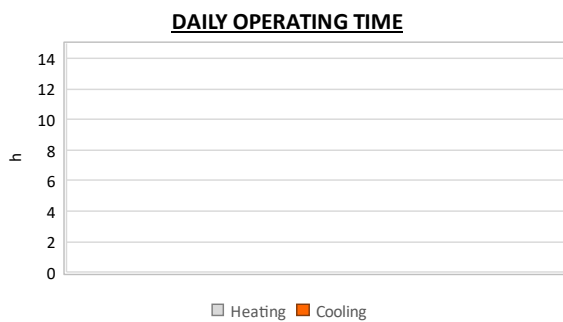
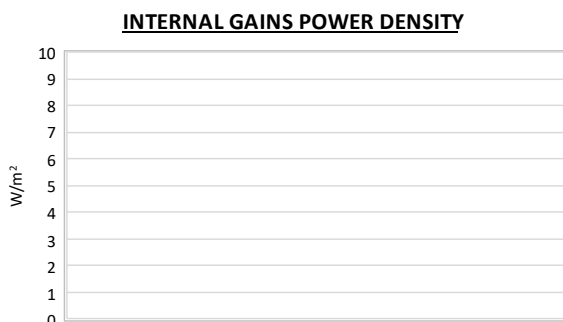
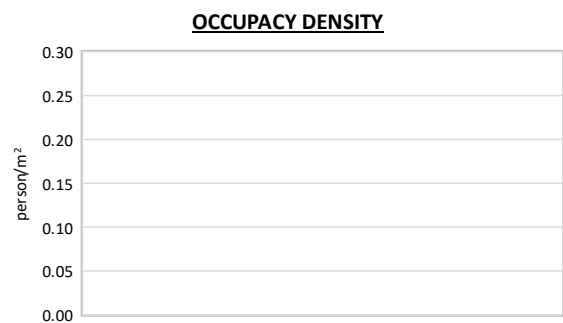
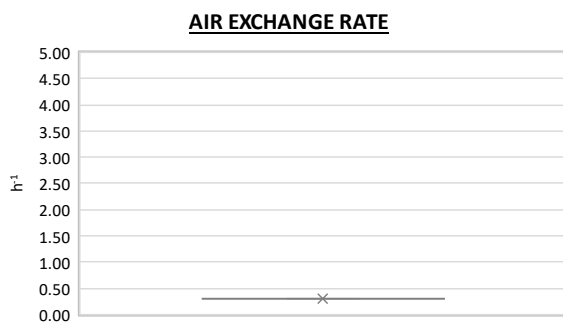
Numerical variables – GEOMETRY



Numerical variables – ENVELOPE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



Region:	Aosta Valley			Archetype code: RES_APPBLOCK_2006-_E- F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
Period of construction:	> 2005			
Climatic zone:	E-F	Number of records:	1280	

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	2.7	0.4	2.5	2.6	2.8
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	74.2	38.4	50.0	66.3	86.7
	Heated gross volume	$V_{H,g}$	m ³	287.0	159.9	186.6	245.5	339.5
	Heated net volume	$V_{H,n}$	m ³	178.9	81.5	127.1	160.9	208.7
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	21.9	8.3	16.4	24.0	27.0
	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	10.4	6.0	6.3	8.0	11.5
	Temperature of DHW	ϑ_W	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	20.9	9.5	15.0	24.0	27.0

* These values refer to the apartment scale

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



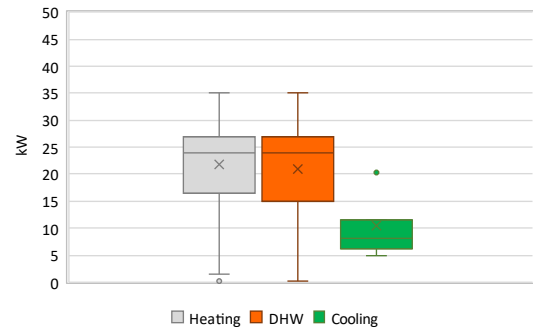
Region:	Aosta Valley	Archetype code: RES_APPBLOCK_2006-_E-F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)	
Period of construction:	> 2005	
Climatic zone:	E-F	
Number of records:		1280

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

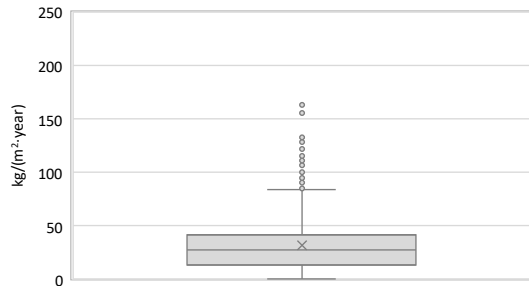
DHW SUPPLY TEMPERATURE



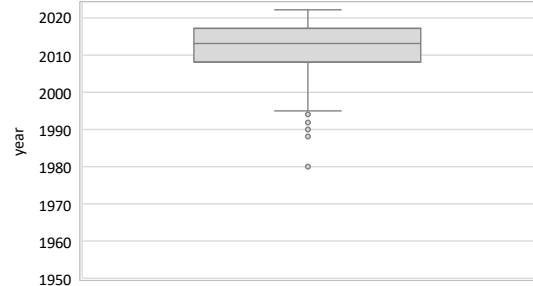
SYSTEM POWER



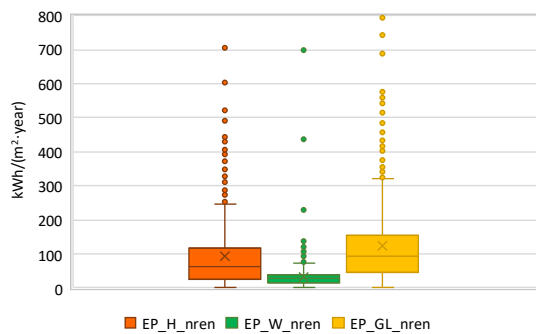
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

