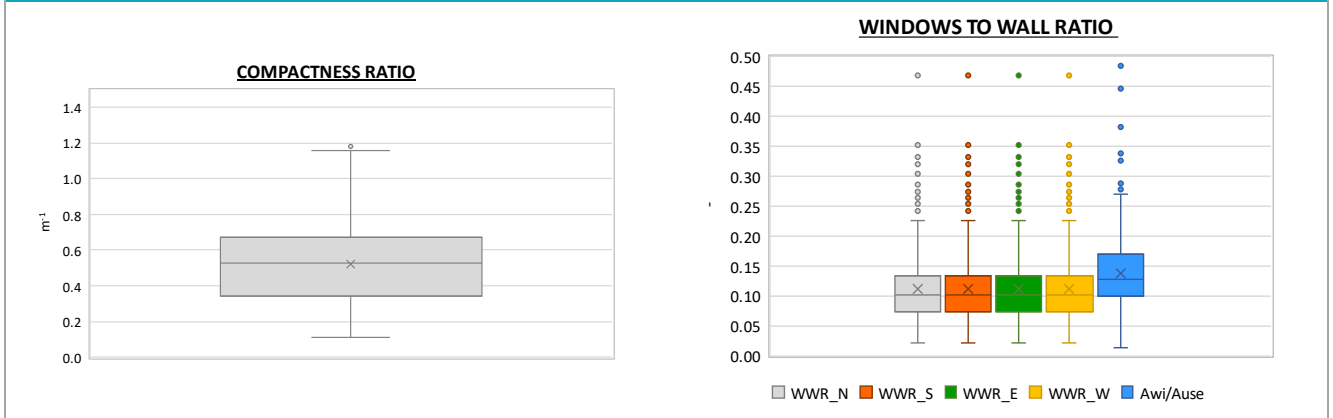


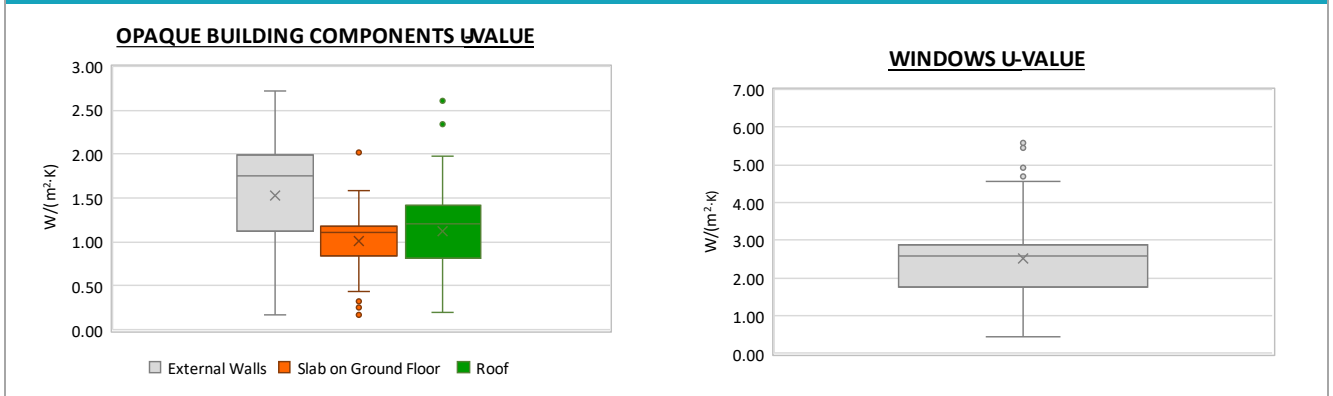
Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)						Archetype code: RES_APPBLOCK_ 1919_E_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	< 1919							
Climatic zone:	E	Number of records: 657						
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): <u>External walls:</u> stone wall (cod. MPI02) or solid brick masonry (cod. MLP01). <u>Roof slabs:</u> concrete floor slab (cod. SOL06).							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	0.52	0.21	0.34	0.53	0.67
	WWR – North orientation	WWR_N	-	0.11	0.06	0.07	0.10	0.13
	WWR – South orientation	WWR_S	-	0.11	0.06	0.07	0.10	0.13
	WWR – East orientation	WWR_E	-	0.11	0.06	0.07	0.10	0.13
	WWR – West orientation	WWR_W	-	0.11	0.06	0.07	0.10	0.13
	Window to useful floor area ratio	A_{wi}/A_{use}	-	0.14	0.06	0.10	0.13	0.17
	ENVELOPE	Roof type	-					
U-value of the roof **		$U_{fi;up}$	W/(m ² ·K)	1.12	0.51	0.82	1.21	1.42
External walls type		Masonry with local stones: 62%; Solid Brick masonry: 32%; Hollow brick masonry: 3%; Unknown: 3%						
U-value of the wall		U_{wi}	W/(m ² ·K)	1.52	0.64	1.12	1.75	2.00
Slab on ground floor type		-						
U-value of the floor **		$U_{fi;lw}$	W/(m ² ·K)	1.01	0.40	0.84	1.11	1.18
Windows type		Double glazing, wooden frame: 77%; Single glazing, wooden frame: 11%; Triple glazing, wooden frame: 7%; Double glazing, PVC frame: 5%						
U-value of the windows		U_w	W/(m ² ·K)	2.52	0.97	1.77	2.58	2.89
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: 72%; Centralized: 28%						
	Heating generator	Boiler (unknown type): 62%; Traditional Boiler: 17%; Condensing Boiler: 12%; Fireplace: 5%; Unknown: 2%; Air-source heat pump: 1%; Heat exchanger of district heating/cooling: 1%						
	Daily operating time of the heating system *	t_H	h	14.0	0.0	14.0	14.0	14.0
	Energy carrier	Natural Gas: 75%; Gas Oil: 11%; Solid biomass: 7%; LPG: 7%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 99%; Water-cooled chiller: 1%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 57%; Autonomous, detached from heating: 26%; Centralized, coupled with heating: 16%; Centralized, detached from heating: 1%						
	DHW generator	Unknown: 69%; Natural gas boiler: 23%; Electric boiler: 7%; Electric Heat Pump: 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.)								

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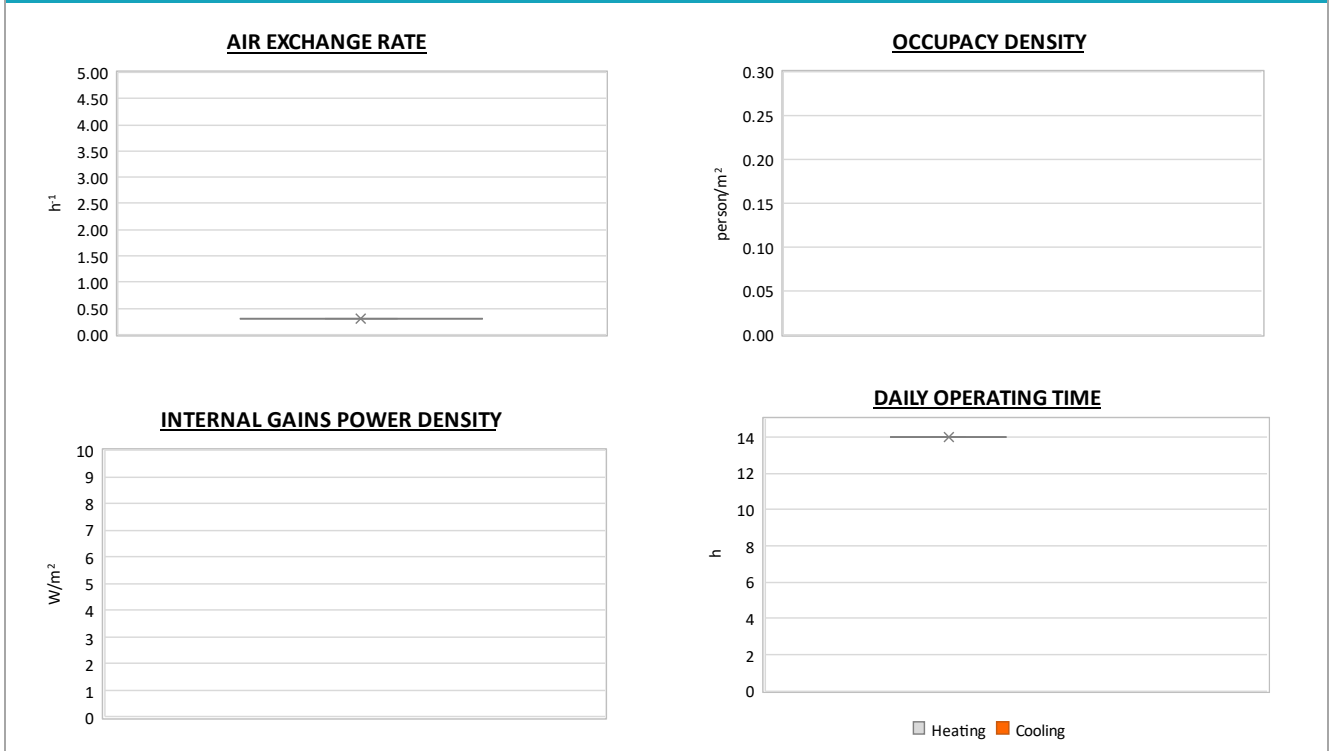
Numerical variables – GEOMETRY



Numerical variables – ENVELOPE



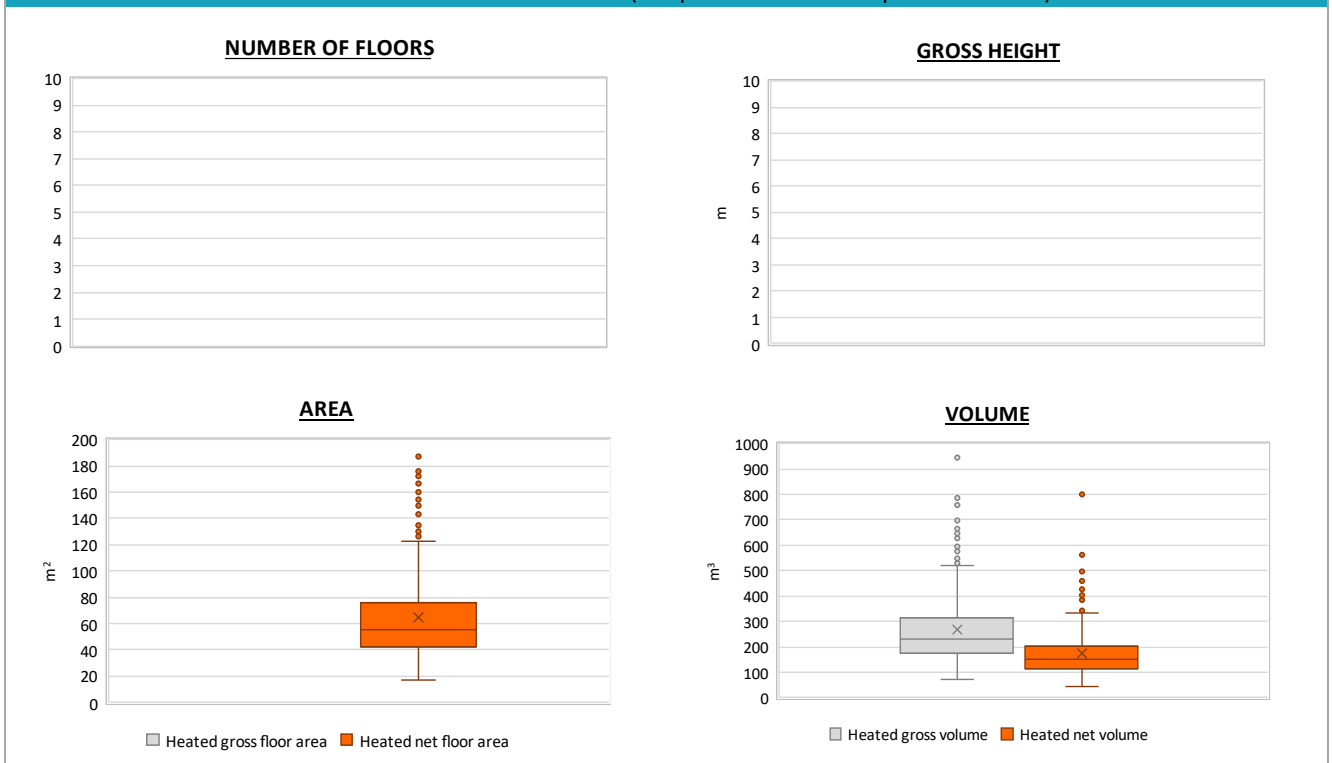
Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)	Archetype code: RES_APPBLOCK_ 1919_E_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)	
Period of construction:	< 1919	
Climatic zone:	E	

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	64.4	33.6	42.6	55.6	76.0
	Heated gross volume	$V_{H,g}$	m ³	266.6	145.6	174.6	232.4	314.2
	Heated net volume	$V_{H,n}$	m ³	173.1	99.9	112.9	149.4	201.5
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	23.3	6.9	23.2	24.0	26.9
	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	4.2	1.5	3.7	4.2	4.8
	Temperature of DHW	ϑ_w	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	18.1	11.2	2.0	24.0	25.6

* These values refer to the apartment scale

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


Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)	Archetype code: RES_APPBLOCK_ 1919_E_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)	
Period of construction:	< 1919	
Climatic zone:	E	

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