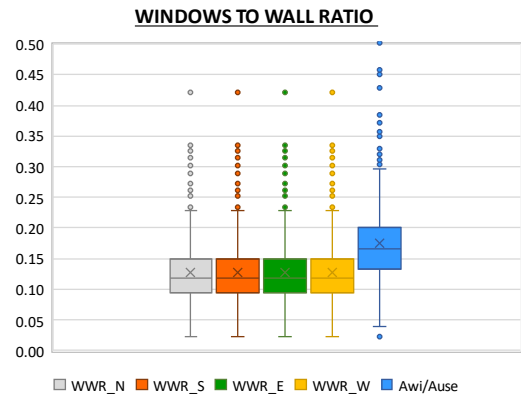
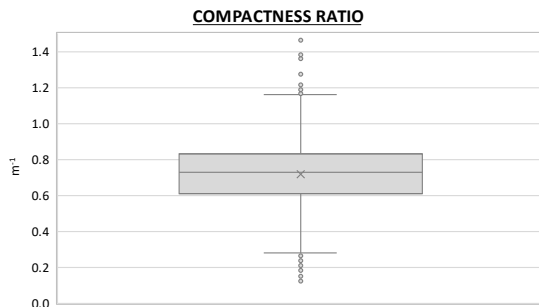


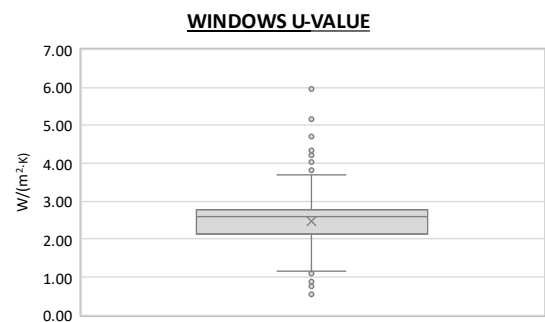
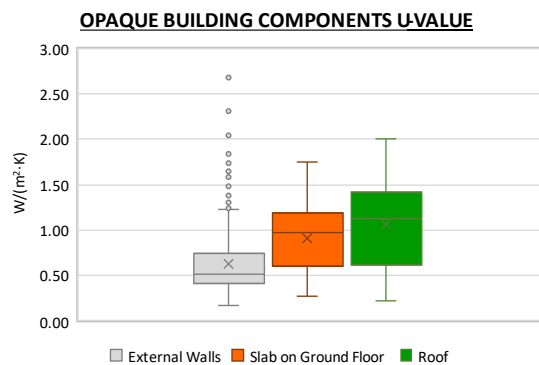
Region:	Aosta Valley						Archetype code: RES_APPBLOCK_1992-2005_E-F_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	1992 - 2005							
Climatic zone:	E-F	Number of records:				1176		
Description (the codes associated with walls and slabs 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 <sup>2</sup>	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m <sup>-1</sup>	0.72	0.22	0.61	0.73	0.83
	WWR – North orientation	$WWR_N$	-	0.13	0.05	0.09	0.12	0.15
	WWR – South orientation	$WWR_S$	-	0.13	0.05	0.09	0.12	0.15
	WWR – East orientation	$WWR_E$	-	0.13	0.05	0.09	0.12	0.15
	WWR – West orientation	$WWR_W$	-	0.13	0.05	0.09	0.12	0.15
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.17	0.10	0.13	0.17	0.20
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	1.06	0.48	0.61	1.13	1.42
	External walls type	Hollow brick masonry: 57%; Solid Brick masonry: 34%; Concrete wall: 4%; Unknown: 3%; Masonry with local stones: 2%						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	0.62	0.34	0.41	0.51	0.73
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	0.91	0.33	0.60	0.96	1.18
	Windows type	Double glazing, wooden frame: 94%; Double glazing, PVC frame: 5%; Triple glazing, PVC frame: 1%						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	2.46	0.57	2.12	2.59	2.77
GAINS and VENTILATION	Shading system type	-						
	Occupancy density *	$O_C$	person/m <sup>2</sup>	UNI EN 16798-1 - Table A.19				
	Lighting power density *	$W_L$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Equipment power density *	$W_A$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
	Air exchange rate *	$n$	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Autonomous: 71%; Centralized: 29%						
	Heating generator	Boiler (unknown type): 47%; Traditional Boiler: 32%; Condensing Boiler: 11%; Heat exchanger of district heating/cooling: 5%; Fireplace: 3%; Unknown: 2%						
	Daily operating time of the heating system *	$t_H$	h	-				
	Energy carrier	LPG: 37%; Gas Oil: 28%; Natural Gas: 24%; Solid biomass: 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: 61%; Centralized, coupled with heating: 22%; Autonomous, detached from heating: 16%; Centralized, detached from heating: 1%						
	DHW generator	Unknown: 56%; Natural gas boiler: 38%; Electric boiler: 5%; 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.)								

<b>Region:</b>	Aosta Valley	<b>Archetype code:</b> RES_APPBLOCK_1992- 2005_E-F_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1992 - 2005	
<b>Climatic zone:</b>	E-F	
<b>Number of records:</b>		1176

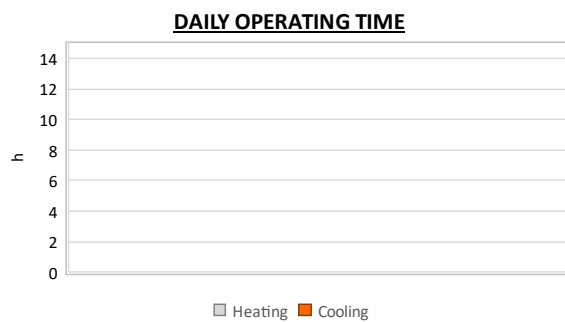
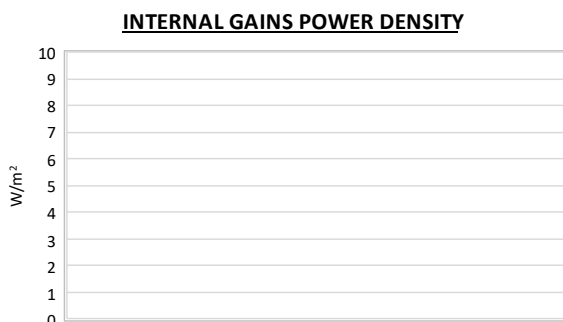
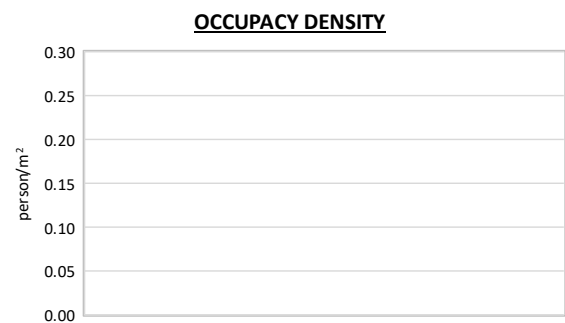
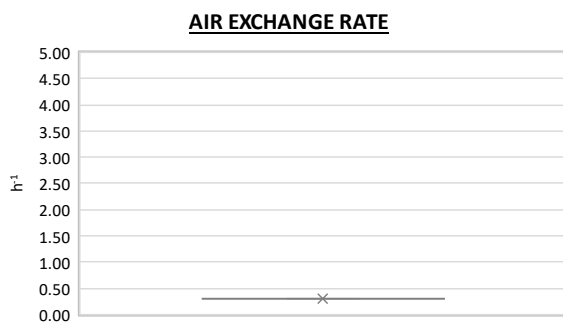
### Numerical variables – GEOMETRY



### Numerical variables – ENVELOPE



### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



Region:	Aosta Valley			Archetype code: RES_APPBLOCK_1992- 2005_E-F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
Period of construction:	1992 - 2005			
Climatic zone:	E-F	Number of records:	1176	

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	2.6	0.3	2.4	2.6	2.7
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	71.3	37.6	46.9	63.2	84.8
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	265.5	143.0	173.7	233.6	318.3
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	184.4	94.8	120.6	166.4	217.0
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	24.6	6.4	23.6	24.4	28.1
	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	8.0	8.4	2.5	5.0	7.3
	Temperature of DHW	$\vartheta_W$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	21.5	10.1	22.0	24.2	27.9

\* These values refer to the apartment scale

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



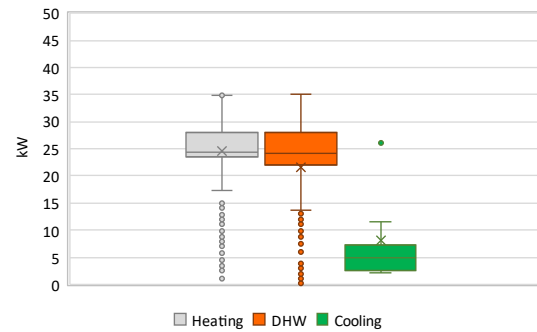
<b>Region:</b>	Aosta Valley	<b>Archetype code:</b> RES_APPBLOCK_1992- 2005_E-F_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1992 - 2005	
<b>Climatic zone:</b>	E-F	
<b>Number of records:</b>		1176

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

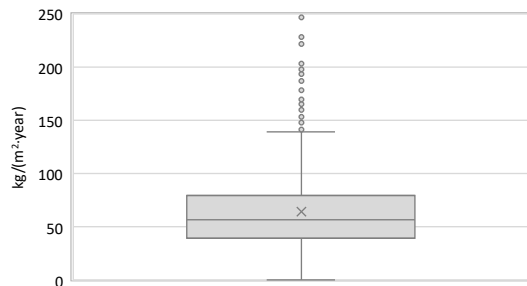
**DHW SUPPLY TEMPERATURE**



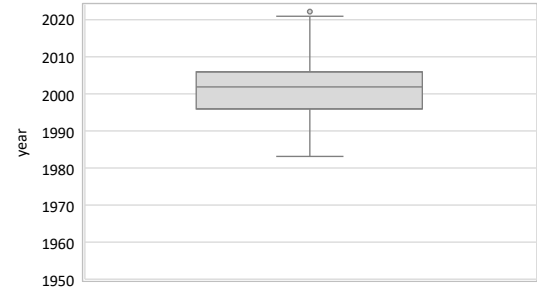
**SYSTEM POWER**



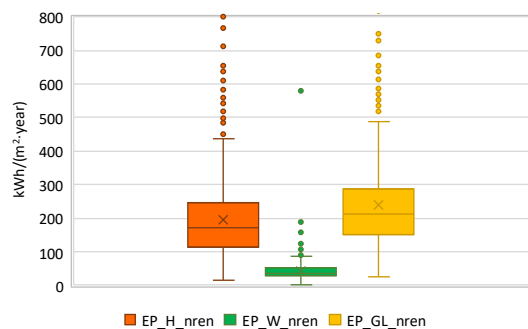
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

