

Region: Piedmont Archetype code: **Building category:** Non-residential buildings - Offices OFF_2011-_F_PIE **Period of construction:** > 2010 **Climatic zone: Number of records:** F 10 Data sources:

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 prefabricated insulated concrete wall (cod. MPF03).

EPC databases (100%)

Roof slabs: insulated reinforced concrete floor slab for walkable flat roof (cod. COP03), for pitched roof (cod. CINO3) or insulated wooden floor slab for pitched roof (cod. CINO2)

roof (co	d. CINO3) or insulated wooden flo					04 (5:)	D.C. all and	02 (4):1:4		
	Data	Symbol	Unit of	Mean	Standard	Q1 (first	Median	Q3 (third		
BUILDING GEOMETRY	Number of floors		measure	value	deviation	quartile)	value	quartile)		
	Number of floors	n _f	-	-	-	-	-	-		
	Gross height	Hg	m 2	-	-	-	-	-		
	Footprint area	A _{footprint}	m ²	-	-	-	-	-		
	Heated gross floor area	A _{H;g}	m ²	725.7	4502.4	- 444.2	-	- 247.5		
	Heated net floor area	A _{H;n}	m ²	735.7	1593.4	141.3	163.1	347.5		
	Heated gross volume	V _{H;g}	m³	3648.3	8003.6	595.9	800.5	1637.5		
	Heated net volume	V _{H;n}	m³	-	-	-	-	-		
S S	Compactness ratio	A _{env} /V _{H;g}	m ⁻¹	0.73	0.28	0.55	0.76	0.82		
₽	WWR – North orientation	WWR _N	-	-	-	-	-	-		
BU	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}	-	0.23	0.07	0.19	0.25	0.28		
	Roof type				-					
	<i>U</i> -value of the roof	$U_{fl;up}$	W/(m ² ·K)	-	-	-	-	-		
	External walls type	Hollow brick masonry: 40%; Prefabricated panels: 40%; Unknown: 20%								
ENVELOPE	<i>U</i> -value of the wall	$U_{ m wl}$	W/(m ² ·K)	-	-	-	-	-		
	Slab on ground floor type				-					
	<i>U</i> -value of the floor	$U_{fl;lw}$	W/(m²⋅K)	-	-	-	-	-		
	Windows type				-					
	<i>U</i> -value of the windows	U_{W}	W/(m²·K)	1.93	1.01	1.42	1.60	2.17		
	Shading system type				-					
z	Occupancy density *	O _C	person/m²	UNI EN 16798-1 - Table A.19						
GAINS and VENTILATION	Lighting power density *	W∟	W/m²	UNI EN 16798-1 - A.8.3						
NS (Equipment power density *	W _A	W/m²	UNI EN 16798-1 - A.8.3						
SAI	Type of ventilation			-						
~ >	Air exchange rate *	n	h ⁻¹	-	-	-	-	-		
	Heating system type			Autonomous: 100%						
	Heating generator	-								
	Daily operating time of the heating system *	t _H	h	No limitation						
THERMAL SYSTEMS	Energy carrier	Electricity: 73%; LPG: 18%; Natural Gas: 9%								
	Heating emission sub-system									
	Cooling system type	·								
	Daily operating time of the cooling system *	t _C	h	-	-	-	-	-		
	Cooling emission sub-system			ı	-		<u> </u>	1		
	DHW system type	Autonomous, detached from heating: 50%; Autonomous, coupled with heating: 30%; Centralized, coupled with heating: 10%; Centralized, detached from heating: 10%								
	DHW generator	-								
		* These values are derived from UNI EN ISO Standards								



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The data can be used for analysis, modeling, and research purposes, as long as it remains unaltered in its original form. Users are free to publish results based on the data, provided they credit the original source.



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ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
THERMAL SYSTEMS	Heating efficiency or COP	$\eta_{\sf H;gen}$ or $COP_{\sf H;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power	P _{H;gen}	kW	44.1	58.9	10.1	25.7	38.7
	Cooling efficiency or EER	$\eta_{ extsf{C}; extsf{gen}}$ or $ extsf{\textit{EER}}_{ extsf{C}; extsf{gen}}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power	P _{C;gen}	kW	35.1	28.0	12.0	33.5	51.5
	Temperature of DHW	ϑ_{W}	°C	40.0	0.0	40.0	40.0	40.0
Ė	DHW system power	P _{W;gen}	kW	30.7	64.4	1.2	1.9	24.1

Numerical variables - GAINS, VENTILATION and SYSTEMS USAGE **AIR CHANGE RATE OCCUPACY DENSITY** 5.00 0.30 4.50 0.25 4.00 3.50 0.20 3.00 2.50 0.15 2.00 0.10 1.50 1.00 0.05 0.50 0.00 0.00 **INTERNAL GAINS POWER DENSITY DAILY OPERATING TIME** 10 14 12 8 10 8 6 5 4 3 2 2 1 \square Heating \blacksquare Cooling



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