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Parameter	Symbol	Serpentine flow	Wall-to-wall-parallel flow	Unit	References
Spacing between tubes	W	0.08	_	m	
Outside diameter of tube	D	7.5	_	mm	
Inside diameter of tube	D_{in}	6.5	_	mm	
Length of collector	L	0.3	0.355	m	
Width of collector	W_c		0.130	m	
Number of serpentine turns	N	5	_	-	
Space between serpentine curve to edge	W_t	0.1	_	m	
Area of Flat plate for serpentine, $A_{col} = WN(L + W_t)$	A_{col}	0.2	_	m^2	
Area of Flat plate for wall-to-wall-parallel flow, $A_{col} = L.W$	A_{col}	_	0.046	m^2	
Thickness of the absorber plate,	δ	1.5	_	mm	
Thermal conductivity of Flat Plate	k	211	_	$W/m^2.℃$	
Heat capacity of water	c_p	4190	4190	J/kg ℃	
Mass flow rate	$\dot{m}$	1	1	kg/hr	
Convective heat transfer coefficient water	h_{fin}	1500	1500	$W/m^2.℃$	(Abdel-Khalik, 1976)
Overall heat transfer coefficient	U_{los}	6	6	$W/m^2.℃$	(Anderson et al., 2009)
PV Transmittance-absorptance product	$(\tau.\alpha)_{pv}$	0.75	0.70		(Zondag et al., 2002)
Thermal Transmittance-absorptance product	$(\tau.\alpha)_{th}$	0.95	0.95		(Anderson et al., 2009)

Table 1 Parameters and Properties of serpentine and parallel wall-to-wall flow