GASKETED PLATE SOLAR HEAT EXCHANGER

Technical datasheet Nr 12

The gasketed plate heat exchanger are designed to transfer the heat energy from the solar circuit to the domestic hot water secondary circuit. Heat transfer is carried out by a counter-current circulation of primary and secondary fluids on each side of the heat exchanger. This counter-current circulation maximizes the energy transfer and homogenizes the temperatures.

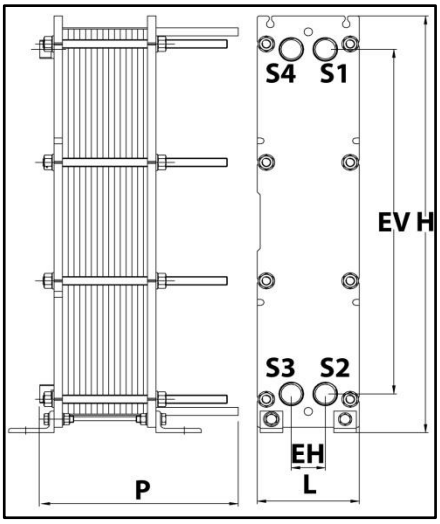
• TECHNICAL SPECIFICATIONS:

Dimensioning assumptions for solar heat exchangers are the following:

- Exchanger power based on 650 W/m²
- Head loss max 20 kPa (2mWC)
- Minimum 10% margin over-power
- Flat-plate collector: Primary = MPG (Profile 60/36°C) / Secondary Clear Water (Profile 27/55°C)
- Vacuum tube collector: Primary = MPG (Profile 60/44.5°C) / Secondary Clear Water (Profile 39/55°C)

						Primary solar circuit			Secondary domestic water circuit		
Reference	Flowrate l/(h.m²abs)	Max. collector area (m²abs)	Thermal power (kW)	Number of plates	Exchanger area (m²)	Flowrate (m³/h)	Pressure drop (kPa)	Capacity (L)	Flowrate (m³/h)	Pressure drop (kPa)	Capacity (L)
50070101027	25 (flat-plate collector)	20	13	12	0.75	0.50	6.21	0.65	0.40	2.48	0.78
50070101028		40	26	18	1.20	1.00	9.22	1.04	0.80	4.18	1.17
50070101029		80	52	30	2.10	2.00	11.90	1.82	1.60	5.91	1.95
50070101030		120	78	42	3.00	3.00	13.32	2.60	2.40	6.90	2.73
50070101031		160	104	54	3.90	4.00	14.43	3.38	3.20	7.67	3.51
50070101018	40 (vacuum tube collector)	21	14	12	0.75	0.84	16.41	0.65	0.74	7.28	0.78
50070101019		51	33	23	1.58	2.04	19.75	1.43	1.81	12.16	1.43
50070101020		96	62	43	3.08	3.83	20.00	2.73	3.39	12.43	2.73
50070101021		141	92	67	4.88	5.63	19.14	4.29	4.99	12.10	4.29
50070101022		177	115	87	6.38	7.07	19.45	5.59	6.26	12.50	5.59
50070101023		246	160	94	11.04	9.82	1.98	15.51	8.69	1.37	15.18
50070101024		300	195	114	13.44	11.98	2.14	18.81	10.60	1.48	18.48
50070101025		354	230	134	15.84	14.14	2.31	22.11	12.51	1.61	21.78

Reference	Height H (mm)	Width L (mm)	Depth P (mm)	Spacing Vertical EV (mm)	Spacing Horizontal EH (mm)	Empty weight / Filled (kg)
50070101027	774	180	145	640	60	38 / 39
50070101028			205			41 / 43
50070101029			205			44 / 48
50070101030			350			49 / 54
50070101031			350			53 / 60
50070101018			145			38 / 39
50070101019			205			42 / 45
50070101020			350			49 / 55
50070101021			350			57 / 65
50070101022			525			65 / 76
50070101023	832	320	885	592	135	180 / 211
50070101024			885			193 / 230
50070101025			1135			210 / 254



Recommendations:

- S1 = Outlet Domestic Hot Water.
- S2 = Inlet Domestic Cold Water.
- S3 = Outlet solar fluid (cold).
- S4 = Inlet solar fluid (hot).
- Adequate space should be provided on every side to dismantle the heat exchanger.
- Dimensions not binding.
- Counter-current circulation.
- Indoor installation only.

Technical specifications	
Permissible temperature min	-10 °C
Permissible temperature max	120 °C
Design pressure	10 bar
Test pressure	14.3 bar
Gasket material	EPDM
Plate material	AISI316
Frame material	STEEL P275NH
Heat exchanger insulation	65mm rock wool

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