

Konutlar için Eşanjör Kapasite Tahminleri

RESIDENCES / APARTMENTS : ESTIMATION FOR HOT WATER DEMAND and REQUIRED HEATING CAPACITY
MESKENLERDE / APARTMANLARDA MUSLUK SICAK SUYU İHTİYACI ve ISIL KAPASITE TAHMINI

No of flats <i>Daire sayısı</i>	No of person <i>Kişi sayısı</i>	Diversity Factor <i>Diversite faktörü</i>	Hot water demand per hour <i>saatlik sıcak su ihtiyacı</i> $M=KxF \times 120$ <i>M (Lt/hr)</i>	Required heating capacity (instant heating) <i>Gerekli Isıl Kapasite (anlık ısıtma)</i> $Q=1,1 \times M \times C_p \times 50C$ <i>Q (Kcal/hr)</i>
N	K	F		
2	6	0,730	526	28.908
4	12	0,730	1.051	57.816
6	18	0,670	1.447	79.596
8	24	0,570	1.642	90.288
10	30	0,570	2.052	112.860
12	36	0,500	2.160	118.800
14	42	0,450	2.268	124.740
16	48	0,450	2.592	142.560
18	54	0,450	2.916	160.380
20	60	0,410	2.952	162.360
25	75	0,390	3.510	193.050
30	90	0,360	3.888	213.840
35	105	0,330	4.158	228.690
40	120	0,330	4.752	261.360
45	135	0,330	5.346	294.030
50	150	0,330	5.940	326.700
55	165	0,310	6.138	337.590
60	180	0,300	6.480	356.400
65	195	0,300	7.020	386.100
70	210	0,290	7.308	401.940
75	225	0,280	7.560	415.800
80	240	0,280	8.064	443.520
85	255	0,280	8.568	471.240
90	270	0,280	9.072	498.960
95	285	0,280	9.576	526.680
100	300	0,280	10.080	554.400
110	330	0,270	10.692	588.060
120	360	0,250	10.800	594.000
130	390	0,250	11.700	643.500
140	420	0,250	12.600	693.000
150	450	0,250	13.500	742.500
160	480	0,250	14.400	792.000
170	510	0,240	14.688	807.840
180	540	0,240	15.552	855.360
190	570	0,240	16.416	902.880
200	600	0,240	17.280	950.400
250	750	0,240	21.600	1.188.000

Above values may not be accurate for design

Detailed calculations are necessary for exact capacity requirements

Oteller için Eşanjör Kapasite Tahminleri

HOTELS : ESTIMATION FOR HOT WATER DEMAND and REQUIRED HEATING CAPACITY
OTELLERDE MUSLUK SICAK SUYU İHTİYACI ve ISIL KAPASITE TAHMINI

No of beds <i>Yatak sayısı</i>	No of clients <i>Müşteri sayısı</i>	Diversity Factor <i>Diversite faktörü</i>	Hot water demand per hour <i>saatlik sıcak su ihtiyacı</i> $M=KxFx180$ $M \text{ (Lt/hr)}$	Required heating capacity (instant heating) <i>Gerekli Isıl Kapasite (anlık ısıtma)</i> $Q=1,1xMxCpx50C$ $Q \text{ (Kcal/hr)}$
10	10	0,530	954	52.470
20	20	0,530	1.908	104.940
30	30	0,530	2.862	157.410
40	40	0,510	3.672	201.960
50	50	0,510	4.590	252.450
60	60	0,475	5.130	282.150
70	70	0,460	5.796	318.780
80	80	0,460	6.624	364.320
90	90	0,425	6.885	378.675
100	100	0,425	7.650	420.750
110	110	0,410	8.118	446.490
120	120	0,410	8.856	487.080
130	130	0,410	9.594	527.670
140	140	0,410	10.332	568.260
150	150	0,410	11.070	608.850
160	160	0,400	11.520	633.600
170	170	0,390	11.934	656.370
180	180	0,370	11.988	659.340
190	190	0,370	12.654	695.970
200	200	0,370	13.320	732.600
210	210	0,360	13.608	748.440
220	220	0,350	13.860	762.300
230	230	0,350	14.490	796.950
240	240	0,350	15.120	831.600
250	250	0,350	15.750	866.250
260	260	0,340	15.912	875.160
270	270	0,330	16.038	882.090
280	280	0,330	16.632	914.760
290	290	0,330	17.226	947.430
300	300	0,330	17.820	980.100
325	325	0,325	19.013	1.045.688
350	350	0,325	20.475	1.126.125
375	375	0,325	21.938	1.206.563
400	400	0,325	23.400	1.287.000
425	425	0,310	23.715	1.304.325
450	450	0,310	25.110	1.381.050
475	475	0,310	26.505	1.457.775
500	500	0,310	27.900	1.534.500
525	525	0,300	28.350	1.559.250
550	550	0,300	29.700	1.633.500
575	575	0,300	31.050	1.707.750
600	600	0,300	32.400	1.782.000
625	625	0,300	33.750	1.856.250
650	650	0,300	35.100	1.930.500
675	675	0,300	36.450	2.004.750
700	700	0,300	37.800	2.079.000
725	725	0,300	39.150	2.153.250
750	750	0,300	40.500	2.227.500
775	775	0,300	41.850	2.301.750
800	800	0,300	43.200	2.376.000

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Hastaneler için Eşanjör Kapasite Tahminleri

HOSPITALS: ESTIMATION FOR HOT WATER DEMAND AND REQUIRED HEAT CAPACITY
HASTANELERDE SICAK SU İHTİYACI ve GEREKLİ ISIL KAPASİTE TAHMİNİ

No of beds <i>Yatak sayısı</i>	No of patients <i>Hasta sayısı</i>	Diversity factor <i>Diversite faktörü</i>	Hot water demand per hour <i>saatlik su ihtiyacı</i> $M=KxFx250$ $M \text{ (Lt/saat)}$	Required heating capacity (instant heating) <i>Gerekli Isıl Kapasite (anlık ısıtma)</i> $Q=1,1xMxCpx50C$ $Q \text{ (Kcal/saat)}$
10	10	0,33	813	44.688
20	20	0,33	1.625	89.375
30	30	0,33	2.438	134.063
40	40	0,31	3.100	170.500
50	50	0,31	3.875	213.125
60	60	0,29	4.275	235.125
70	70	0,28	4.813	264.688
80	80	0,28	5.500	302.500
90	90	0,25	5.625	309.375
100	100	0,25	6.250	343.750
110	110	0,24	6.600	363.000
120	120	0,24	7.200	396.000
130	130	0,24	7.800	429.000
140	140	0,24	8.400	462.000
150	150	0,24	9.000	495.000
160	160	0,23	9.200	506.000
170	170	0,23	9.775	537.625
180	180	0,23	10.350	569.250
190	190	0,22	10.450	574.750
200	200	0,22	11.000	605.000
210	210	0,21	11.025	606.375
220	220	0,21	11.275	620.125
230	230	0,20	11.500	632.500
240	240	0,20	12.000	660.000
250	250	0,20	12.188	670.313
260	260	0,19	12.350	679.250
270	270	0,19	12.488	686.813
280	280	0,18	12.600	693.000
290	290	0,18	13.050	717.750
300	300	0,18	13.500	742.500
325	325	0,18	14.219	782.031
350	350	0,18	15.313	842.188
375	375	0,18	16.406	902.344
400	400	0,18	17.500	962.500
425	425	0,17	18.063	993.438
450	450	0,17	19.125	1.051.875
475	475	0,17	20.188	1.110.313
500	500	0,17	21.250	1.168.750
525	525	0,17	21.656	1.191.094
550	550	0,16	22.000	1.210.000
575	575	0,16	23.000	1.265.000
600	600	0,16	24.000	1.320.000
625	625	0,16	25.000	1.375.000
650	650	0,16	26.000	1.430.000
675	675	0,16	27.000	1.485.000
700	700	0,16	28.000	1.540.000
725	725	0,16	29.000	1.595.000
750	750	0,16	30.000	1.650.000
775	775	0,16	31.000	1.705.000
800	800	0,16	32.000	1.760.000

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Havuzlar için Eşanjör Kapasite Tahminleri

REQUIRED HEATING CAPACITIES FOR OUTDOOR -EXPOSED SWIMMING POOLS

pool surface	pool volume	heating in 12 hours	heating in 24 hours	heating in 36 hours	heating in 48 hours
m2	m3	Mcal/hr	Mcal/hr	Mcal/hr	Mcal/hr
10	15	17,5	11,3	10,0	10,0
20	30	35,0	22,5	20,0	20,0
30	45	52,5	33,8	30,0	30,0
40	60	70,0	45,0	40,0	40,0
50	75	87,5	56,3	50,0	50,0
60	90	105,0	67,5	60,0	60,0
80	120	140,0	90,0	80,0	80,0
100	150	175,0	112,5	100,0	100,0
120	180	210,0	135,0	120,0	120,0
160	240	280,0	180,0	160,0	160,0
180	270	315,0	202,5	180,0	180,0
200	300	350,0	225,0	200,0	200,0
250	375	437,5	281,3	250,0	250,0
300	450	525,0	337,5	300,0	300,0
400	600	700,0	450,0	400,0	400,0
500	750	875,0	562,5	500,0	500,0
700	1.050	1.225,0	787,5	700,0	700,0
800	1.200	1.400,0	900,0	800,0	800,0
900	1.350	1.575,0	1.012,5	900,0	900,0
1.000	1.500	1.750,0	1.125,0	1.000,0	1.000,0
1.200	1.800	2.100,0	1.350,0	1.200,0	1.200,0
1.500	2.250	2.625,0	1.687,5	1.500,0	1.500,0
1.800	2.700	3.150,0	2.025,0	1.800,0	1.800,0
2.100	3.150	3.675,0	2.362,5	2.100,0	2.100,0

* table for estimating heat exchanger capacities required to heat and sustain the swimming pools up to 25 °C

** figures are based on emprical values, assumptions and previous experiences

HEATING CAN BE DONE BY 80-60°C HOT WATER ON PRIMARY SIDE and 25-55°C ON SECONDARY SIDE

