

model **shell & tube condenser + cooling tower**

Q **7000** kW 23870000 btu/hr 6015625 kcal/hr

spray water (lps) **300** U.S. gpm 4755.6  
 range °F 10.0  
 length m **12.5** water load 10.6 gpm/sq.ft  
 width m **3.35** l/g 2.01  
 air flow **275455** CFM air vel 611 fpm  
 gpm/ton 2.99  
 airflow 7800 m3/min  
 sq.ft. plan 451 sq.ft.

Evolución del área requerida según distintas condiciones de suministro de agua fría.

La elección es arbitraria y al sólo efecto de ilustrar la necesidad de mantener el equilibrio para no perjudicar las propuestas de los distintos proveedores/equipamientos.

condensing temp. **40.56** 105.008 tc - twb 26.208  
 wet bulb temp **26** 78.8 step 8.1

possible context - centered from ends  
 water in 86.9 U = **200**  
 water out 96.9 ltmtd = **12.44**

**Selección final 100/90/78.8°F p/torre**

**Condensador convencional 105/100/90**

LMTD = 9.102

surface area = Q / ( U \* lmtd ) = 9597 sq.ft. 891.9 m2

**Area aprox. 1220 - 1230 m2**

wbt	water in	water out	tc	lmtd	surface area	
78.8	83.8	93.8	105.008	15.66	7623 sq.ft.	708.5 m2
78.8	84.3	94.3	105.008	15.14	7884 sq.ft.	732.7 m2
78.8	84.8	94.8	105.008	14.62	8164 sq.ft.	758.8 m2
78.8	85.3	95.3	105.008	14.10	8466 sq.ft.	786.8 m2
78.8	85.8	95.8	105.008	13.58	8791 sq.ft.	817.1 m2
78.8	86.3	96.3	105.008	13.05	9145 sq.ft.	849.9 m2
78.8	86.8	96.8	105.008	12.53	9529 sq.ft.	885.6 m2
78.8	87.3	97.3	105.008	12.00	9949 sq.ft.	924.6 m2
78.8	87.8	97.8	105.008	11.47	10410 sq.ft.	967.4 m2
78.8	88.3	98.3	105.008	10.93	10918 sq.ft.	1014.7 m2
78.8	88.8	98.8	105.008	10.39	11484 sq.ft.	1067.3 m2
78.8	89.3	99.3	105.008	9.85	12116 sq.ft.	1126.0 m2
<b>78.8</b>	<b>89.8</b>	<b>99.8</b>	<b>105.008</b>	<b>9.30</b>	<b>12829 sq.ft.</b>	<b>1192.3 m2</b>
<b>78.8</b>	<b>90.3</b>	<b>100.3</b>	<b>105.008</b>	<b>8.75</b>	<b>13641 sq.ft.</b>	<b>1267.8 m2</b>
78.8	90.8	100.8	105.008	8.19	14577 sq.ft.	1354.7 m2

wbt	m2
83.8	708.5
84.3	732.7
84.8	758.8
85.3	786.8
85.8	817.1
86.3	849.9
86.8	885.6
87.3	924.6
87.8	967.4
88.3	1014.7
88.8	1067.3
89.3	1126.0
89.8	1192.3
90.3	1267.8
90.8	1354.7



