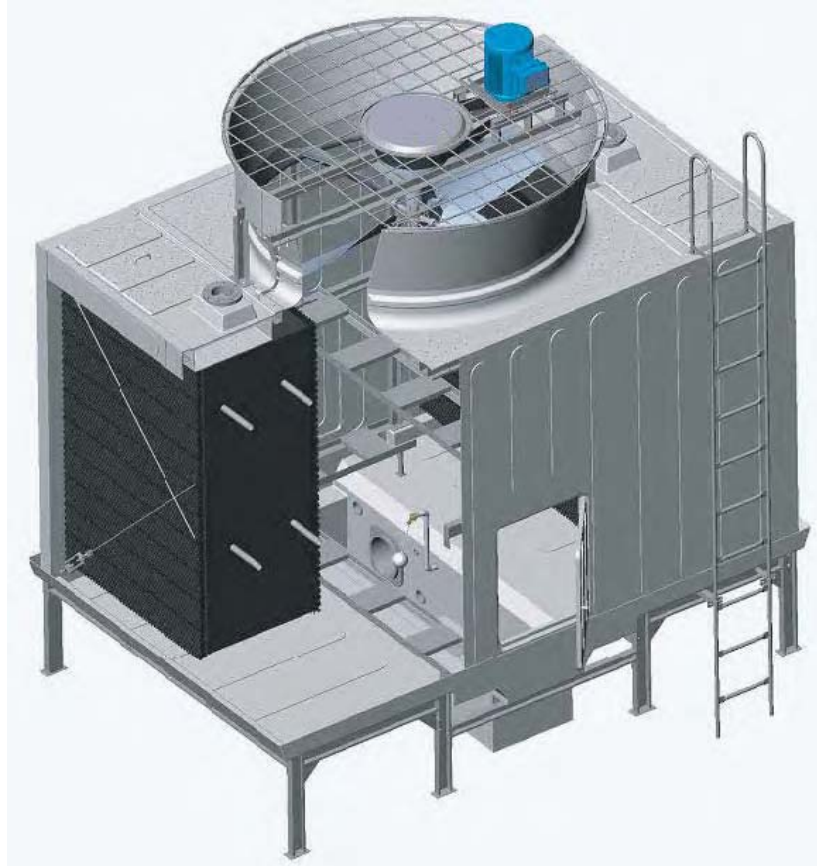


THERFLOW

TFN - SERIES CROSS FLOW COOLING TOWER



HVAC/R INTERNATIONAL INC.

12904 S.W. 133 Court - Miami, Florida 33186 - U.S.A.

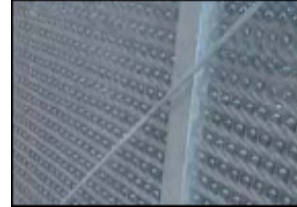
Tel: 305-251-6994 Fax: 305-251-2942

Email: therflow_hvacr@bellsouth.net

Web: www.hvacinternational.com

Advantages of TFN Series Cooling Tower:

- ▶ THERFLOW **TFN** series obtains advantages of other cross flow cooling tower. Besides, it is unique on motor and fan application, as well as water sound treatment.
- ▶ Use high quality motor and newly developed al-alloy fan, low rotating speed, as well as super low noise. Our patent desing on hot water basin cover, water inlet regulation and silencer as well as honeycomb design louver enables the **TFN** series to operate 5dB lower than other cooling towers of the same class based on international testing criteria.
- ▶ **TFN** series have NSK or NTN bearing, which have longer service life with less maintenance. Uses V-Belt with high intensity, abrasion resistance and long service life.
- ▶ **THERFLOW tower** fill is the latest development, the PVC fill is vacuum injected molded which will resist ultraviolet radiation and chemic rust. This special fill has superior rigidity, low wind resistance and remarkable thermal performance.
- ▶ The steel structure is made up of hot dipped galvanized steel elements for longer life and rust resistance.
- ▶ **THERFLOW** cooling tower has larger space for main_ tenance and operation.
- ▶ Production of **TFN** series is under full control and guarantee of ISO19001 and ISO14001 system.
- ▶ **TFN** series have passed thermal test in thermal performance test lab which is setup according to CTI standard code.

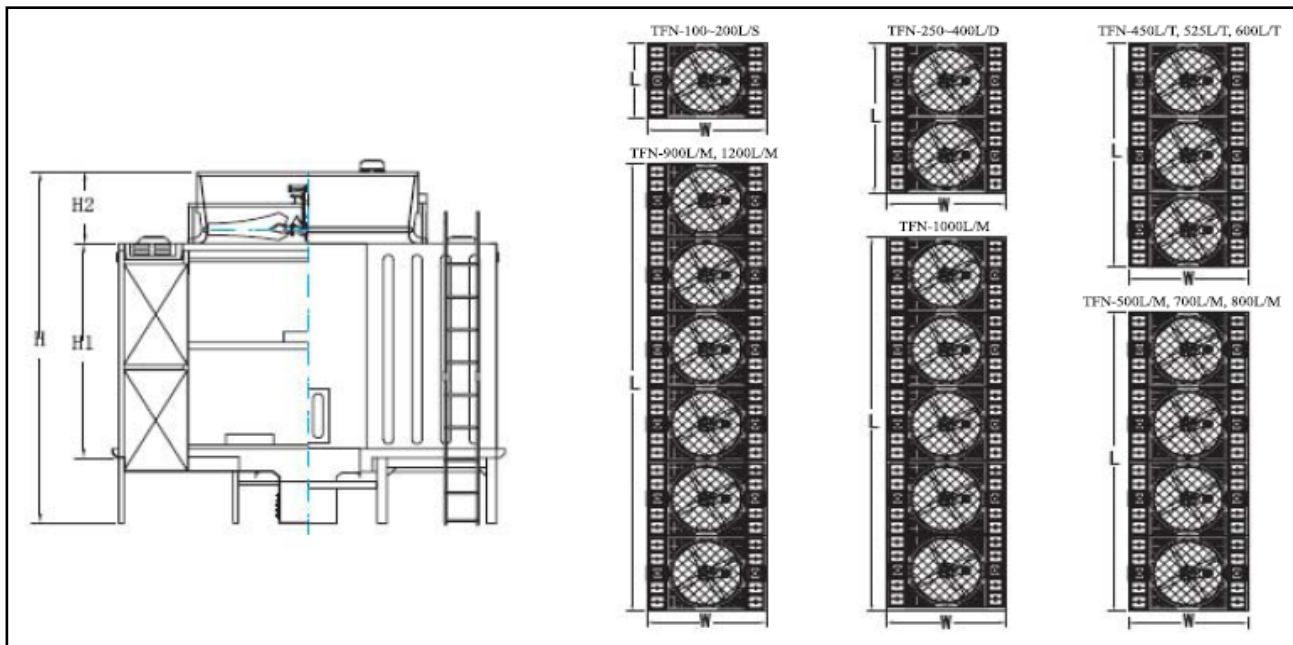


TFN Series Low Noise Cooling Tower. Performance Index.

Model TFN	Water Flow gpm		Press. (Ft)	Overall dimensions (inches)					Exhaust Fan		Weight (lb)	
	82°F WBT	81°F WBT		W	L	H	H1	H2	Diameter (inches)	Motor kWxSets	Dry	Wet
100L/S	441	515	12.06	142	79	148	91	30	71 x 1	3.0 x 1	1892	4972
125L/S	551	643	12.73	142	91	148	91	30	71 x 1	4.0 x 1	2376	6226
150L/S	661	771	12.73	150	102	148	91	30	79 x 1	5.5 x 1	2596	7810
175L/S	771	903	13.40	150	115	148	91	30	79 x 1	5.5 x 1	2860	8382
200L/S	881	1031	13.40	169	120	148	91	30	95 x 1	7.5 x 1	3520	8844
250L/D	1101	1286	12.73	142	183	148	91	30	71 x 2	4.0 x 2	4510	11836
300L/D	1322	1546	12.73	150	205	148	91	30	79 x 2	5.5 x 2	4928	14850
350L/D	1762	1802	13.40	150	231	148	91	30	79 x 2	5.5 x 2	5434	15906
400L/D	1762	2062	13.53	169	207	148	91	30	95 x 2	7.5 x 2	6688	16830
450L/T	1982	2317	13.53	150	307	148	91	30	79 x 3	5.5 x 3	7392	21868
500L/M	2203	2577	13.40	142	365	148	91	30	71 x 4	4.0 x 4	9020	23650
525L/T	2313	2705	14.07	150	346	148	91	30	79 x 3	5.5 x 3	8162	24090
600L/T	2643	3093	14.07	169	359	148	91	30	95 x 3	7.5 x 3	10032	25190
700L/M	3084	3608	14.07	150	461	148	91	30	79 x 4	5.5 x 4	10868	31020
800L/M	3524	4123	14.07	169	479	148	91	30	95 x 4	7.5 x 4	13376	33594
900L/M	3965	4639	14.07	150	614	148	91	30	79 x 6	5.5 x 6	14806	40040
1000L/M	4405	5154	14.07	169	598	148	91	30	95 x 5	7.5 x 5	16720	43846
1200L/M	5286	6185	14.07	169	718	148	91	30	95 x 6	7.5 x 6	20064	49500

Design condition: Hot water temp T₁ = 99°F, Cold water temp T₂ = 90°F, WBT = 82°F, range ΔTs = 9°F, atmospheric P = 14.4 psi.

TFN Series Cross Flow Low Noise Type Cooling Tower Outline.

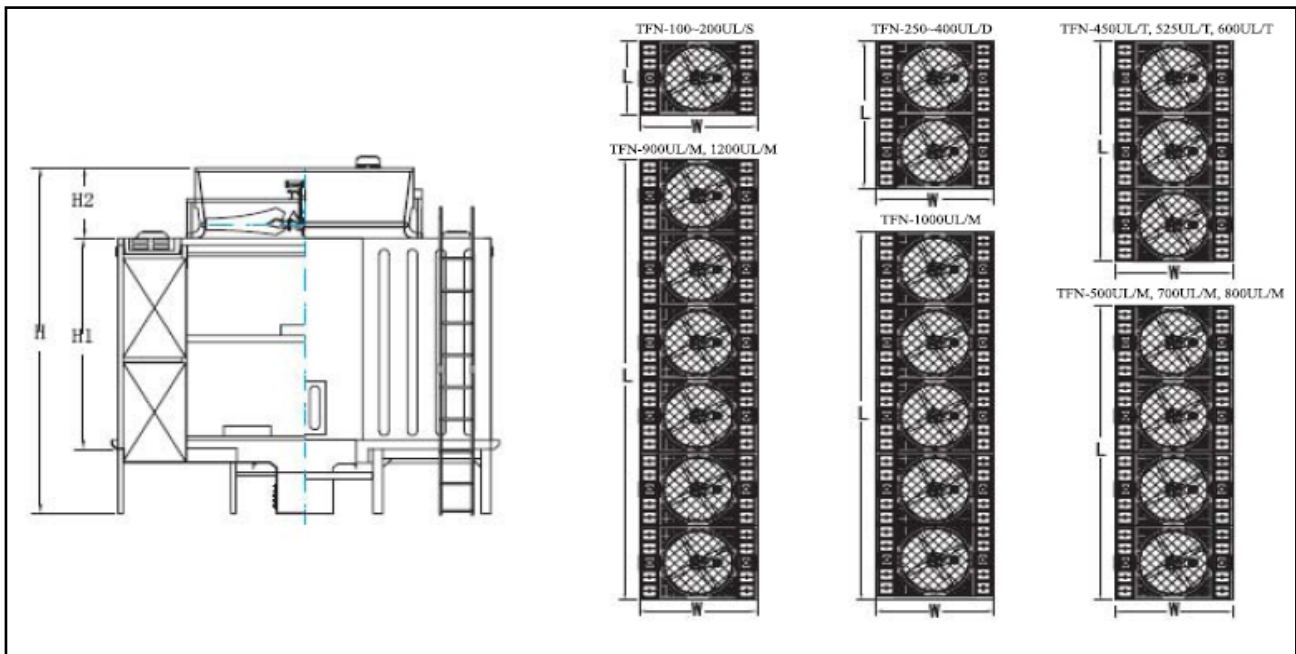


TFN Series Ultra Low Noise Cooling Tower. Performance Index.

Model TFN	Water Flow gpm		Press. (Ft)	Overall dimensions (inches)					Exhaust Fan		Weight (lb)	
	82°F WBT	81°F WBT		W	L	H	H1	H2	Diameter (inches)	Motor kWxSets	Dry	Wet
100UL/S	441	515	12.06	142	79	181	91	63	71 x 1	3.0 x 1	2090	5170
125UL/S	551	643	12.73	142	91	181	91	63	71 x 1	4.5 x 1	2618	6468
150UL/S	661	771	12.73	150	102	181	91	63	79 x 1	5.5 x 1	2867	8074
175UL/S	771	903	13.40	150	115	181	91	63	79 x 1	5.5 x 1	3146	8712
200UL/S	881	1031	13.40	169	120	181	91	63	95 x 1	7.5 x 1	3872	9218
250UL/D	1101	1286	12.73	142	183	181	91	63	71 x 2	4.0 x 2	4972	12298
300UL/D	1322	1546	12.73	150	205	181	91	63	79 x 2	5.5 x 2	5412	15268
350UL/D	1762	1802	13.40	150	231	181	91	63	79 x 2	5.5 x 2	5984	16522
400UL/D	1762	2062	13.53	169	207	181	91	63	95 x 2	7.5 x 2	7348	17490
450UL/T	1982	2317	13.53	150	307	181	91	63	79 x 3	5.5 x 3	8140	22660
500UL/M	2203	2577	13.40	142	365	181	91	63	71 x 4	4.0 x 4	9922	24354
525UL/T	2313	2705	14.07	150	346	181	91	63	79 x 3	5.5 x 3	8976	25036
600UL/T	2643	3093	14.07	169	359	181	91	63	95 x 3	7.5 x 3	11044	26180
700UL/M	3084	3608	14.07	150	461	181	91	63	79 x 4	5.5 x 4	11946	32340
800UL/M	3524	4123	14.07	169	479	181	91	63	95 x 4	7.5 x 4	14718	34826
900UL/M	3965	4639	14.07	150	614	181	91	63	79 x 6	5.5 x 6	16280	41624
1000UL/M	4405	5154	14.07	169	598	181	91	63	95 x 5	7.5 x 5	18392	45584
1200UL/M	5286	6185	14.07	169	718	181	91	63	95 x 6	7.5 x 6	22066	51480

Design condition: Hot water temp $T_1 = 99^\circ\text{F}$, Cold water temp $T_2 = 90^\circ\text{F}$, WBT = 82°F , range $\Delta T_s = 9^\circ\text{F}$, atmospheric P = 14.4 psi.

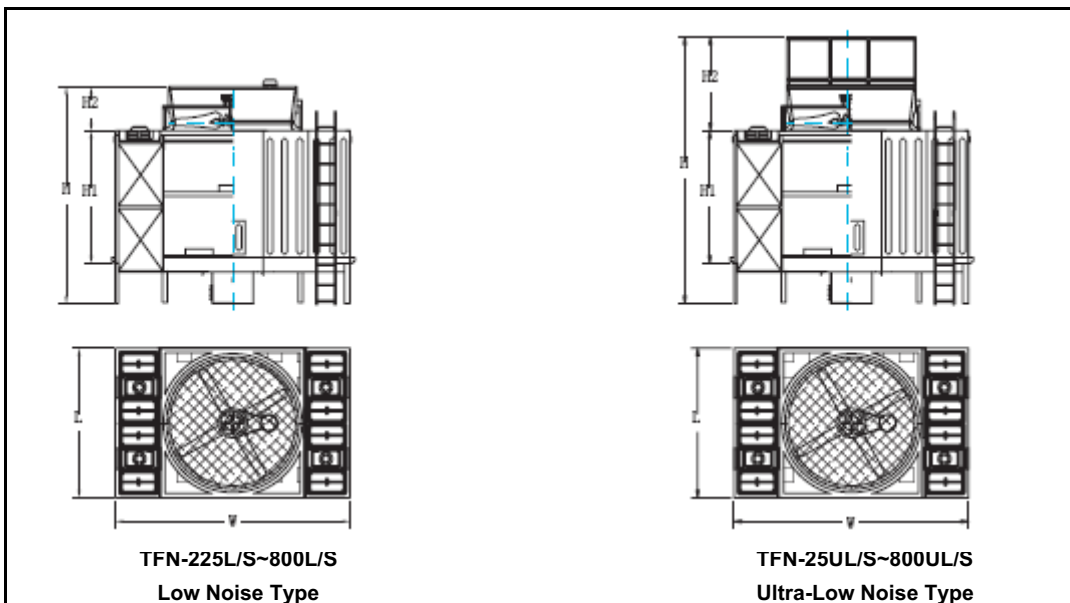
TFN Series Cross Flow Ultra Low Noise Type Cooling Tower Outline.



TFN Cross Flow 225 - 800S Single Cell Cooling Tower. Performance List.

Model TFN	Water Flow gpm		Press. (Ft)	Overall dimensions (inches)					Exhaust Fan		Weight (lb)	
	82°F WBT	81°F WBT		W	L	H	H1	H2	Diameter (inches)	Motor kWxSets	Dry	Wet
225L/S	991	1159	14.07	169	120	151	91	34	95	7.5 x 1	3762	9130
250L/S	1101	1286	15.41	203	128	174	106	34	95	7.5 x 1	4422	9900
300L/S	1322	1546	16.08	217	136	203	130	39	110	11.0 x 1	5390	11770
350L/S	1542	1806	16.08	217	136	205	130	41	118	11.0 x 1	5830	12870
400L/S	1762	2062	16.75	231	149	205	130	41	118	11.0 x 1	6556	13310
450L/S	1982	2317	17.76	231	149	209	130	45	134	15.0 x 1	7260	16170
500L/S	2203	2577	17.42	238	165	209	130	45	134	15.0 x 1	8250	17710
600L/S	2643	3093	18.09	249	177	213	130	49	146	18.5 x 1	9680	20900
700L/S	3084	3608	19.10	249	177	213	130	49	146	22.0 x 1	11220	20900
800L/S	3524	4123	19.43	299	213	217	130	53	158	22.0 x 1	13090	26620
225UL/S	991	1159	14.07	169	120	189	91	71	95	7.5 x 1	4356	9746
250UL/S	1101	1286	15.41	203	128	211	106	71	95	7.5 x 1	4862	10362
300UL/S	1322	1546	16.08	217	136	243	130	79	110	11.0 x 1	5654	12122
350UL/S	1542	1806	16.08	217	136	243	130	79	118	11.0 x 1	6270	13310
400UL/S	1762	2062	16.75	231	149	243	130	79	118	11.0 x 1	6820	13662
450UL/S	1982	2317	17.76	231	149	246	130	83	134	15.0 x 1	7590	16500
500UL/S	2203	2577	17.42	238	165	246	130	83	134	15.0 x 1	9152	18612
600UL/S	2643	3093	18.09	249	177	250	130	87	146	18.5 x 1	9856	21890
700UL/S	3084	3608	19.10	249	177	250	130	87	146	22.0 x 1	11792	21472
800UL/S	3524	4123	19.43	299	213	254	130	91	158	22.0 x 1	14410	27940

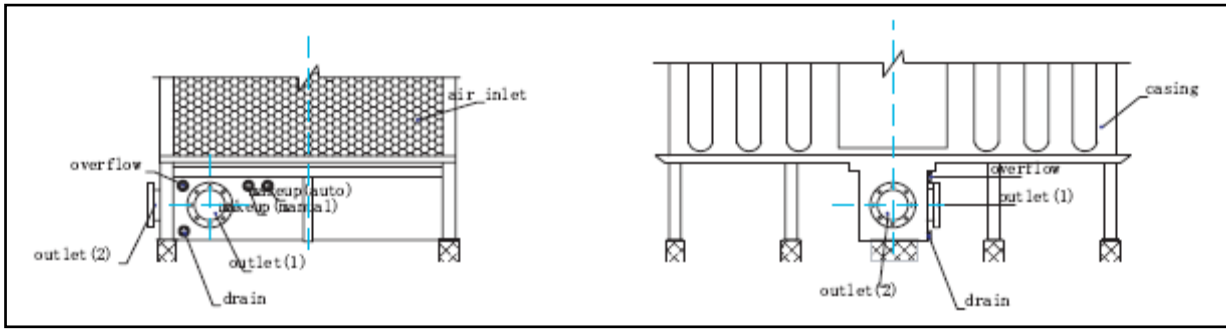
TFN Series Cross Flow 225 - 800S Single Cell Cooling Tower Outline.



Notes:

- 1.-Collection pit of TFN-225/S is rectangular, and that of TFN-250/S or above is square.
 - 2.-There are 2 water inlets for single cell of TFN-225/S~TFN-350/S and 4 for TFN-400/S~TFN-800/S.
- Specifications please refer to page 5.

TFN Cross Flow Cooling Tower. External Pipe dimension. (inches)



Notes:

- 1.-Customer can choose water outlet (1) or (2). If there is no requirement in the order, the default outlet for single cell is (2), and for multicell is (1).
- 2.-The outlet diameter for TFN-100~225 is below DN 6", and the distance from outlet center to the foundation surface is 4 inches. The outlet diameter for TFN-250~800 is above DN 6" (DN 6" include), and the distance from outlet center to the foundation surface is 12 inches. The position of holes on collection pit will be provided if it is required in the order.
- 3.-External pipe dimension of TFN L/UL Cross Flow Cooling Tower as follows:

Connection	Model													
	100/S	125/S	150/S	175/S	200/S	250/D	300/D	350/D	400/D	450/T	500/M	525/T	600/T	700/M
Inlet	4 x 2	5 x 2	5 x 2	5 x 2	6 x 2	5 x 4	5 x 4	5 x 4	6 x 4	5 x 6	5 x 8	5 x 6	6 x 6	5 x 8
Outlet	5	6	8	8	8	6 x 2	6 x 2	8 x 2	8 x 2	6 x 3	6 x 4	8 x 3	8 x 3	8 x 4
Overflow	3	3	3	3	3	3 x 2	3 x 2	3 x 2	3 x 2	3 x 3	3 x 4	3 x 3	3 x 3	3 x 4
Drain	3	3	3	3	3	3 x 2	3 x 2	3 x 2	3 x 2	3 x 3	3 x 4	3 x 3	3 x 3	3 x 4
Makeup (auto)	1	1	1	1	1	1 x 2	1 x 2	1 x 2	1 x 2	1 x 3	1 x 4	1 x 3	1 x 3	1 x 4
Makeup (manual)	1 1/2	1 1/2	2	1 1/2	1 1/2	1 1/2 x 2	1 1/2 x 2	1 1/2 x 2	1 1/2 x 2	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3	1 1/2 x 4

Connection	Model													
	800/M	900/M	1000/M	1200/M	225/S	250/S	300/S	350/S	400/S	450/S	500/S	600/S	700/S	800/S
Inlet	6 x 8	5 x 12	6 x 10	6 x 12	6 x 2	6 x 2	6 x 2	6 x 2	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	8 x 4
Outlet	8 x 4	6 x 6	8 x 5	8 x 6	8	10	10	10	12	12	12	14	14	14
Overflow	3 x 4	3 x 6	3 x 5	3 x 6	3	3	3	3	4	4	4	4	4	4
Drain	3 x 4	3 x 6	3 x 5	3 x 6	3	3	3	3	4	4	4	4	4	4
Makeup (auto)	1 x 4	1 x 6	1 x 5	1 x 6	1	1 1/2	1 1/2	1 1/2	2	2	2	2	2	2
Makeup (manual)	1 1/2 x 4	1 1/2 x 6	1 1/2 x 5	1 1/2 x 6	1 1/2	2	2	2	3	3	3	3	3	3

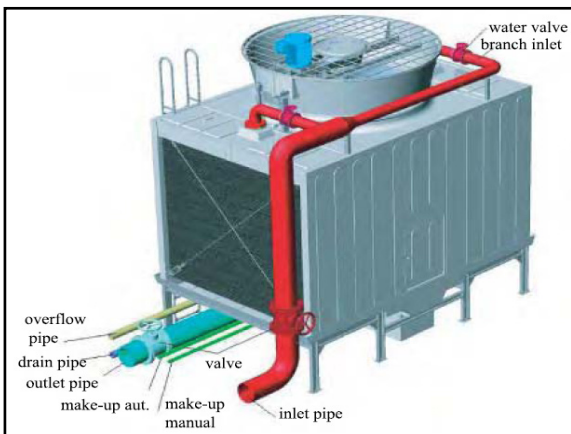
RECOMMENDED PIPING

Notice:

1. Make sure the pipes on both sides of Cooling Tower are of the same length in order to keep balance.
2. Each water inlet and outlet pipe should be installed with butterfly valves to adjust the water flow.
3. Piping layout should be as simple and direct as possible.

Don't weld on Cooling Tower.

Connect pipes and flanges after welding is completed.



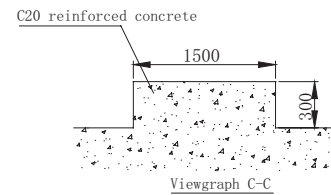
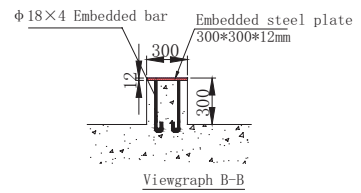
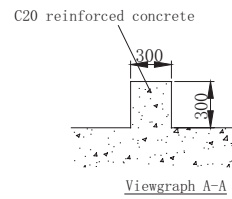
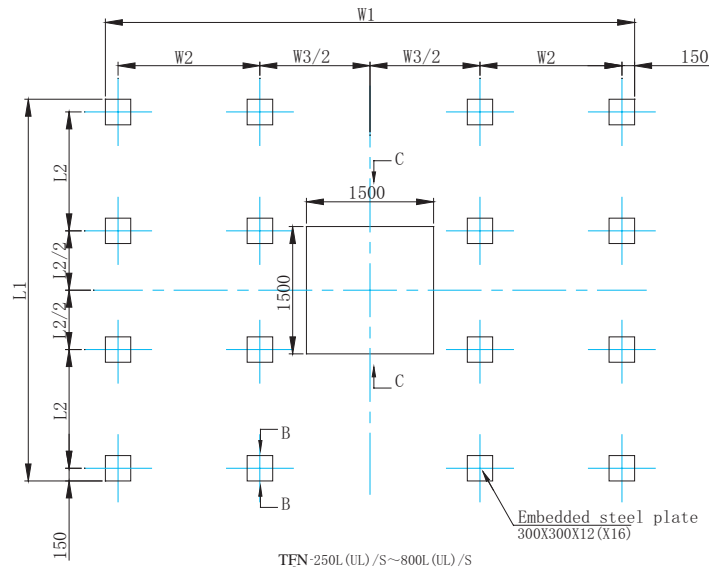
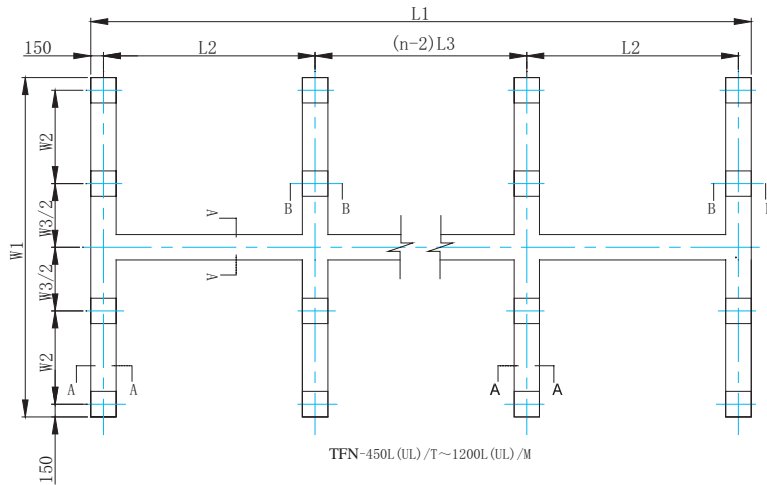
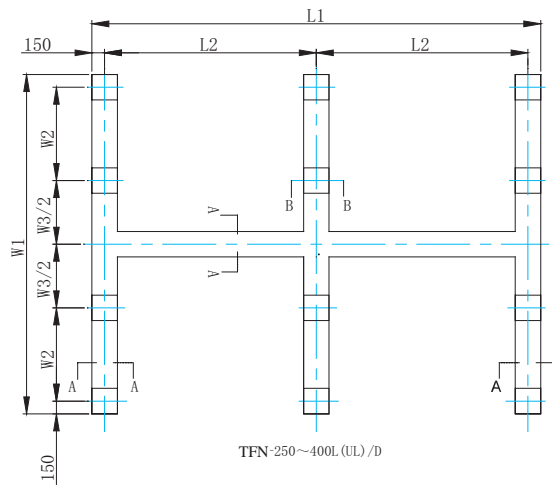
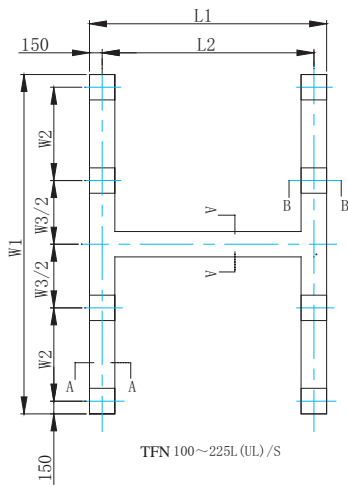
**TFN Cross Flow (Ultra Low Noise) Cooling Tower.
Foundation Measurement Table.**

Model TFN	Parameter						
	W1 (inches)	W2 (inches)	W3 (inches)	L1 (inches)	L2 (inches)	L3 (inches)	n
100L (UL) / S	150	39	59	87	75	-	-
125L (UL) / S	150	39	59	99	87	-	-
150L (UL) / S	158	43	59	110	98	-	-
175L (UL) / S	158	43	59	123	111	-	-
200L (UL) / S	177	53	59	128	116	-	-
250L (UL) / D	150	39	59	191	89	-	-
300L (UL) / D	158	43	59	213	100	-	-
350L (UL) / D	158	43	59	239	113	-	-
400L (UL) / D	177	53	59	247	118	-	-
450L (UL) / T	158	43	59	315	100	102	3
500L (UL) / M	150	39	59	373	89	91	4
525L (UL) / T	158	43	59	354	113	115	3
600L (UL) / T	177	53	59	367	118	120	3
700L (UL) / M	158	43	59	469	113	102	4
800L (UL) / M	177	53	59	487	118	120	4
900L (UL) / M	158	43	59	622	100	115	6
1000L (UL) / M	177	53	59	606	118	120	5
1200L (UL) / M	177	53	59	726	118	120	6
225L (UL) / S	177	53	59	128	116	-	-
250L (UL) / S	210	57	85	139	43	-	-
300L (UL) / S	224	61	91	148	45	-	-
350L (UL) / S	224	61	91	148	45	-	-
400L (UL) / S	240	67	95	161	50	-	-
450L (UL) / S	240	67	95	161	50	-	-
500L (UL) / S	246	66	102	177	55	-	-
600L (UL) / S	258	68	110	189	59	-	-
700L (UL) / S	258	68	110	189	59	-	-
800L (UL) / S	311	95	110	224	71	-	-

Notes:

1. Make sure the surface of reinforced concrete foundation and embedded steel plate are on the same level within tolerance $\leq + 5/64$ inches.
2. If different models of cooling tower use the same main pipe, make sure cold water basins are on the same level. Meanwhile the cold water outlet main pipe should be supported and lower than water outlet level. And foundation should be increased if needed.
3. Foundation measurement chart please refer to sketch map on page 7.
4. The outlet diameter of TFN - 100 ~ 225 is below DN 10", and the height of cold water basin is 28". The outlet diameter of TFN - 250 ~ 800 is above DN10" (DN10" included) and the height of cold water basin is 34". Relevant foundation measurement chart will be provided if it is required in the order.

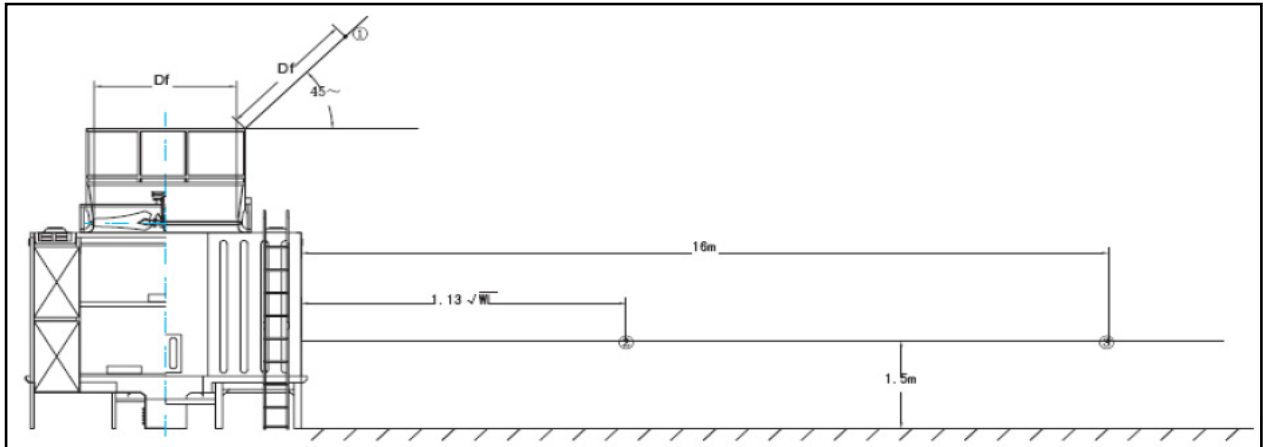
TFN Cross Flow Low (Ultra-Low) Noise Cooling Tower. Foundation Measurement Chart. (mm)



TFN Cross Flow Cooling Tower. Noise Level.

- ▶ **Measuring point (1):** Take Df equal to fan diameter at an angle of 45° from the upside of fan stack. If Df is longer than 5m (16.5Ft), take it as 5m (16.5Ft).
- ▶ **Measuring point (2):** The horizontal distance from louver D1=1.13√WL Ft) with a height of 1.5m (5 Ft) from foundation surface.
- ▶ **Measuring point (3):** The horizontal distance from louver D2=16m (52.5Ft) with a height of 1.5m (5Ft) from foundation surface. It shouldn't be interfered by background noise when testing.

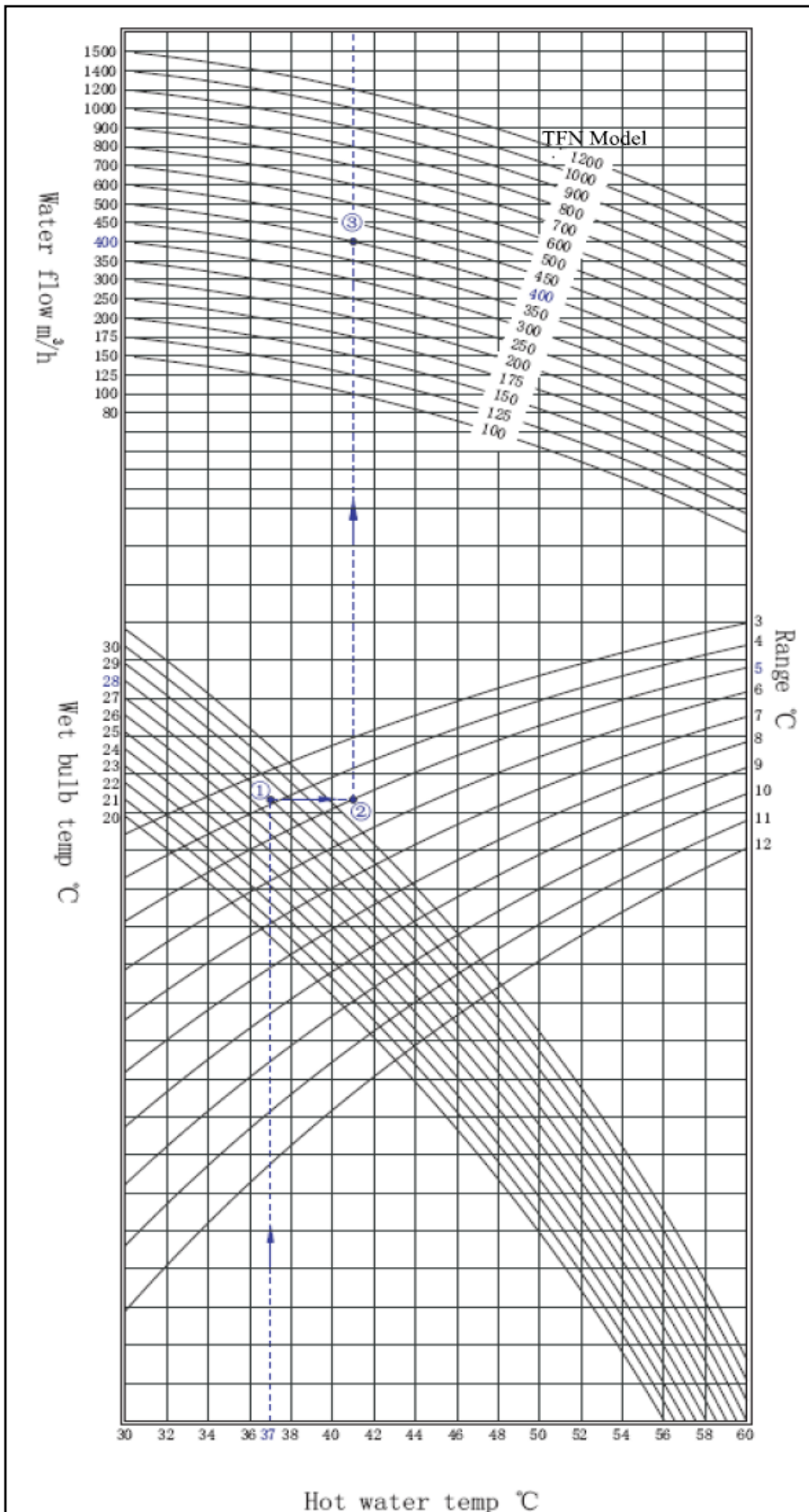
Noise Measuring Point Sketch Map.



Model TFN	Parameter		
	(1)	(2)	(3)
Low noise type (Ultra-Low noise type)			
100L (UL) / S	64.0 (62.0)	58.0 (56.0)	52.0 (50.0)
125L (UL) / S	64.2 (62.5)	58.0 (56.3)	52.4 (50.4)
150L (UL) / S	64.5 (62.5)	58.5 (56.6)	53.5 (50.8)
175L (UL) / S	64.9 (63.0)	59.0 (57.5)	54.0 (51.0)
200L (UL) / S	64.9 (63.5)	60.0 (58.0)	54.0 (51.0)
250L (UL) / D	65.3 (63.5)	60.5 (58.3)	55.5 (52.4)
300L (UL) / D	65.9 (63.5)	61.0 (58.5)	55.6 (52.5)
350L (UL) / D	66.1 (64.0)	61.5 (59.0)	56.1 (53.0)
400L (UL) / D	66.5 (64.5)	61.8 (59.0)	56.5 (53.4)
450L (UL) / T	66.9 (65.0)	62.0 (59.5)	56.8 (54.0)
500L (UL) / M	67.2 (65.5)	62.5 (60.0)	57.1 (54.8)
525L (UL) / T	67.3 (65.5)	63.0 (60.0)	56.8 (54.2)
600L (UL) / T	67.5 (65.5)	63.5 (60.5)	56.9 (54.5)
700L (UL) / M	67.9 (65.8)	64.0 (61.0)	58.5 (56.0)

Model TFN	Parameter		
	(1)	(2)	(3)
Low noise type (Ultra-Low noise type)			
800L (UL) / M	68.3 (66.0)	64.5 (61.0)	59.9 (56.5)
900L (UL) / M	69.0 (67.5)	64.8 (61.5)	61.8 (57.0)
1000L (UL) / M	69.0 (67.2)	65.0 (61.8)	62.5 (58.0)
1200L (UL) / M	70.0 (68.0)	65.5 (62.0)	63.8 (59.5)
225L (UL) / S	64.9 (63.5)	60.5 (58.5)	55.0 (52.0)
250L (UL) / S	65.8 (64.0)	61.0 (59.0)	57.0 (53.0)
300L (UL) / S	67.0 (65.0)	61.5 (59.5)	57.8 (53.5)
350L (UL) / S	67.0 (65.0)	61.8 (59.8)	58.5 (54.0)
400L (UL) / S	67.8 (65.8)	62.0 (60.0)	59.5 (54.9)
450L (UL) / S	67.8 (65.8)	62.5 (60.3)	60.0 (55.5)
500L (UL) / S	68.0 (66.0)	63.0 (60.5)	60.5 (56.0)
600L (UL) / S	68.2 (66.8)	64.0 (61.0)	61.0 (58.0)
700L (UL) / S	69.5 (67.5)	65.0 (62.0)	62.0 (59.0)
800L (UL) / S	74.5 (71.5)	69.0 (66.0)	65.5 (61.2)

TFN Cross Flow Cooling Tower. Selection Chart.



► Selection Instructions:

This Selection Chart applies to areas with atmospheric pressure from 79.99 kPa to 101.33 kPa.

Design Conditions:

Hot Water Temp: T1 = 37°C.

Cold water Temp: T2 = 32°C.

Wet Bulb temp: WBT = 28°C.

Range: ΔTs = 5°C.

Water flow: 400 m³/hr.

► Example:

- 1) The vertical line starting from Hot Water Temp 37°C intersects the Wet Bulb Temp 28°C curve line at point (1).
- 2) The horizontal line starting from (1) intersects the Range 5°C curve line at point (2).
- 3) The vertical line starting from (2) intersects the Water Flow 400 m³/hr horizontal line at point (3).
- 4) The corresponding Cooling Tower model (curve line) is: **TFN-400L/D**.
(or TFN-400UL/D, -400L/S, -400UL/S).

Model Illustration.

TFN 400 L UL SDTM

TFN: Series Cross Flow Rectangular Cooling Tower.

400: Size.

L: Low Noise.

UL: Ultra Low Noise.

S: Single Cell.

D: Double Cell.

T: Triple Cell.

M: Multiple Cell.

TFN Cross Flow Rectangular Cooling Tower. Selection Table.

WBT	79° F																	
Range	8			9			11			12			14			16		
In (°F)	100	98	96	99	97	95	101	99	97	102	100	98	104	102	100	106	104	102
Out (°F)	92	90	88	90	88	86	90	88	86	90	88	86	90	88	86	90	88	86
Model	GPM																	
100	687	577	480	507	419	335	449	374	300	405	339	278	374	313	256	352	295	238
125	859	718	599	630	520	419	559	467	374	507	423	344	467	388	317	441	366	300
150	1031	863	718	758	626	502	674	559	449	608	511	414	564	467	383	529	441	361
175	1203	1009	841	886	731	590	784	656	529	714	595	485	656	546	445	617	515	419
200	1366	1154	960	1013	833	674	899	749	604	815	683	551	753	621	511	705	590	480
225	1537	1300	1080	1141	938	758	1009	841	678	916	767	621	846	700	573	793	665	537
250	1709	1445	1203	1269	1044	846	1123	938	758	1022	855	692	943	780	639	881	740	599
300	2053	1731	1445	1771	1251	1009	1348	1123	903	1220	1022	828	1128	934	767	1057	886	718
350	2401	2018	1683	1771	1458	1176	1573	1308	1053	1423	1194	965	1317	1088	894	1233	1031	841
400	2741	2308	1925	2026	1670	1348	1797	1498	1207	1630	1366	1106	1507	1247	1022	1410	1181	960
450	3084	2595	2163	2278	1877	1516	2022	1683	1357	1833	1533	1243	1692	1401	1150	1586	13626	1079
500	3427	2890	2405	2533	2088	1683	2247	1872	1507	2035	1705	1379	1881	1560	1278	1762	1476	1198
525	3599	3031	2524	2661	2189	1767	2357	1695	1582	2137	1789	1450	1974	1634	1339	1850	1546	1260
600	4115	3463	2886	3040	2502	2022	2696	2247	1811	2445	2049	1356	2260	1868	1533	2115	1771	1441
700	4802	4040	3366	3546	2921	2357	3145	2621	2110	2850	2388	1934	2634	2181	1789	2467	2066	1678
800	5507	4617	3846	4053	3340	2696	3595	3000	2414	3260	2731	2211	3013	2493	2044	2819	2361	1921
900	6181	5194	4326	4560	3753	3022	4044	3374	2714	3665	3071	2485	3388	2802	2300	3172	2656	2159
1000	6855	5771	4811	5066	4172	3370	4493	3749	3018	4075	3414	2762	3767	3115	2555	3524	2952	2401
1200	8229	6925	5771	6079	5004	4044	5392	4493	3621	4890	4097	3313	4520	3736	3066	4229	3542	2881

WBT	81° F																	
Range	8			9			11			12			14			16		
In (°F)	100	98	96	99	97	95	101	99	97	102	100	98	104	102	100	106	104	102
Out (°F)	92	90	88	90	88	86	90	88	86	90	88	86	90	88	86	90	88	86
Model	GPM																	
100	621	515	414	449	366	286	405	330	260	374	304	242	348	282	225	326	269	212
125	775	643	515	560	454	357	507	410	322	467	379	300	432	352	278	405	335	264
150	930	771	621	674	546	427	608	493	388	560	454	361	520	423	335	489	400	317
175	1084	903	723	784	639	498	709	577	454	652	529	423	608	493	392	568	467	370
200	1243	1031	828	899	731	573	811	661	520	749	608	485	696	564	449	652	537	423
225	1397	1159	930	1009	819	643	912	740	582	841	683	542	780	634	502	731	604	476
250	1551	1286	1035	1123	912	714	1013	824	648	934	758	604	868	705	559	815	670	529
300	1863	1546	1242	1348	1097	859	1216	991	780	1123	912	727	1044	846	674	978	806	634
350	2172	1802	1449	1573	1278	1000	1419	1154	308	1308	1062	846	1216	987	784	1141	938	740
400	2485	2062	1656	1797	1463	1145	1621	1322	1040	1498	1216	969	1392	1128	899	1304	1075	846
450	2793	2317	1863	2022	1643	1286	1824	1485	1167	1683	1366	1088	1564	1269	1009	1467	1207	952
500	3106	2577	2071	2247	1828	1432	2027	1652	4194	1872	1520	1211	1740	1410	1123	1630	1344	1057
525	3260	2705	2172	2357	1916	1502	2128	1731	1361	1965	1595	1273	1824	1480	1176	1709	1410	1110
600	3727	3093	2485	2696	2194	1718	2432	1982	1560	2247	1824	1454	2088	1692	1348	1956	1612	1269
700	4348	3608	2899	3145	2560	2004	2837	2313	1820	2621	2128	1696	2436	1974	1573	2282	1881	1480
800	4969	4123	3313	3595	2925	2291	3243	2643	2079	2996	2432	1938	2784	2256	1797	2608	2150	1692
900	5590	4639	3727	4044	3291	2577	3648	2974	2339	3370	2736	2181	3132	2537	2022	2934	2419	1903
1000	6212	5154	4141	4493	3656	2863	4053	3304	2600	3745	3040	2423	3480	2819	2247	3260	2687	2115
1200	7454	6185	4969	5392	4388	3436	4863	3965	3119	4493	3648	2908	4176	3383	2696	3912	3225	2537

TFN Cross Flow Rectangular Cooling Tower. Selection Table.

WBT	82° F																	
Range	8			9			11			12			14			16		
In (°F)	100	98	96	101	99	97	103	101	99	104	102	100	106	104	102	108	106	104
Out (°F)	92	90	88	92	90	88	92	90	88	92	90	88	92	90	88	92	90	88
Model	GPM																	
100	537	441	344	476	388	304	427	348	278	397	322	256	370	304	225	348	286	229
125	678	551	423	595	485	379	533	436	344	493	401	317	463	379	278	432	357	286
150	824	661	498	714	582	454	639	524	414	595	480	383	555	454	335	520	427	344
175	960	771	582	833	679	529	745	612	485	692	560	445	648	529	392	608	498	401
200	1097	881	674	952	775	608	855	700	555	793	643	511	740	608	449	696	573	458
225	1229	991	762	1070	872	683	960	784	621	890	723	573	833	683	502	780	643	515
250	1361	1101	850	1189	969	758	1066	872	692	991	802	639	925	758	560	868	714	573
300	1339	1322	1044	1427	1163	912	1282	1048	833	1189	965	767	1110	912	674	1044	859	687
350	1841	1542	1207	1665	1357	1062	1493	1225	969	1388	1123	894	1295	1062	784	1216	1000	802
400	2150	1762	1374	1903	1551	1216	1709	1401	1110	1586	1286	1022	1480	1216	899	1392	1145	916
450	2432	1982	1537	2141	1744	1366	1921	1573	1247	1784	1445	1150	1665	1366	1009	1564	1286	1031
500	2718	2203	1705	2379	1938	1520	2137	1749	1388	1982	1608	1278	1850	1520	1123	1740	1432	1145
525	2824	2313	1797	2498	2035	1595	2242	1837	1454	2079	1687	1339	1943	1595	1176	1824	1502	1203
600	3198	2643	2062	2855	2326	1824	2564	2101	1665	2379	1930	1533	2220	1824	1348	2088	1718	1374
700	3731	3084	2405	3330	2714	2128	2991	2449	1943	2775	2251	1789	2590	2128	1573	2436	2004	1604
800	4300	3524	2740	3806	3101	2432	3419	2802	2220	3172	2573	2044	2960	2432	1797	2784	2291	1833
900	4846	3965	3097	4282	3489	2736	3846	3150	2498	3568	2894	2300	3330	2736	2022	3132	2577	2062
1000	5396	4405	3458	4758	3877	3040	4273	3502	2775	3965	3216	2555	3700	3040	2247	3480	2863	2291
1200	6396	5286	4123	5709	4652	3648	5128	4203	3330	4758	3859	3066	4441	3648	2696	4176	3436	2749

WBT	84° F																	
Range	8			9			11			12			14			16		
In (°F)	102	100	98	103	101	99	105	103	101	106	104	102	108	106	104	110	108	106
Out (°F)	94	92	90	94	92	90	94	92	90	94	92	90	94	92	90	94	92	90
Model	GPM																	
100	578	467	361	502	410	322	458	374	295	423	344	273	392	322	256	370	304	242
125	718	582	449	626	511	401	573	467	366	529	427	339	489	401	317	463	379	300
150	863	700	542	753	612	485	687	560	441	634	515	410	586	480	383	555	454	361
175	1009	815	630	881	718	564	802	652	515	740	600	476	683	560	445	648	529	423
200	1154	934	723	1004	819	648	916	749	590	846	687	546	784	643	511	740	608	485
225	1295	1048	811	1128	921	727	1031	841	661	952	771	612	881	723	573	833	683	542
250	1441	1167	903	1256	1026	806	1145	934	736	1057	859	683	978	802	639	925	757	604
300	1731	1401	1084	1507	1229	969	1374	1123	886	1269	1031	819	1176	965	767	1110	912	727
350	2018	1634	1264	1762	1436	1132	1604	1308	1031	1480	1203	956	1370	1123	894	1295	1062	846
400	2308	1868	1445	2013	1639	1295	1833	1498	1181	1692	1374	1093	1568	1286	1022	1480	1216	970
450	2595	2101	1626	2264	1846	1454	2062	1683	1326	1903	1546	1229	1762	1445	1150	1665	1366	1088
500	2885	2335	1806	2515	2053	1617	2291	1872	1476	2115	1718	1366	1960	1608	1278	1850	1520	1211
525	3026	2449	1894	2639	2154	1696	2405	1965	1546	2220	1802	1432	2057	1687	1339	1943	1595	1269
600	3463	2802	2167	3018	2463	1943	2749	2247	1771	2537	2062	1639	2352	1930	1533	2220	1824	1454
700	4040	3269	2529	3524	2872	2264	3207	2621	2066	2960	2405	1912	2744	2251	1789	2590	2128	1696
800	4617	3736	2890	4026	3282	2590	3665	2996	2361	3383	2749	2185	3137	2573	2044	2960	2432	1938
900	5194	4203	3251	4529	3692	2912	4123	3370	2656	3806	3093	2458	3529	2894	2300	3330	2736	2181
1000	5771	4670	3612	5035	4106	3238	4581	3744	2952	4229	3436	2731	3921	3216	2555	3700	3040	2423
1200	6925	5604	4335	6035	4925	3885	5498	4493	3542	5075	4123	3278	4705	3859	3066	4793	3648	2907

Product Research & Development

- ▶ As an international cooling system supplier, the **THERFLOW** cooling tower factory has its own R & D Center, established in 2004. This center includes cooling tower self-testing system and equipments, computer simulation.



- ▶ In addition to thermal testing, engineers and technicians at the factory continuously focus on the quality and durability of all components that go to **THERFLOW** products. Accelerated life testing of materials, stress measurement and fatigue testing of fans and performance qualifications of pumps and motors are all performed in specialized test equipment in factory R & D Center. This on-going research programs assure that only equipment of the highest quality is consistently delivered to the customers.



Thermal Performance Test Lab.

- ▶ Through a continual program of expansion and improvement, the factory established the new cooling tower thermal performance test lab. It is a part of 2005 CTI STD201 Thermal Performance Certification program, in compliance with CTI ATC-105 test standards.
- ▶ 1,500,000 Kcal/hr boiler is installed at the test lab, to test and certify with Inlet Temp 37°C, Outlet Temp 32°C, Wet Bulb Temp 38°C.



Optional Spare Parts for TFN Series Cooling Tower

Reducer with visible autoinsert device:

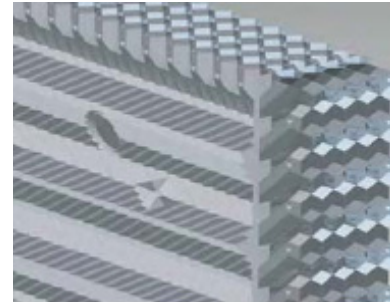
- ▶ The patent design oil cup in the reducer box adds lubricant automatically and continuously to the fan bearings. The oil cup is located outside for easy service and maintenance.

- ▶ Completely closed bearing with heavy self-rectified ball shape model are desing for a minum least of 75,000 hours.



High Efficient Fill:

- ▶ Patent design of the **THERFLOW** cooling tower fill enables air and water to fully mixed again the large heat exchange surface. The PVC fill is vacuum injection molded, which can resist chemic rust. It can .also with stand high temperature up to 55°C (131°F).

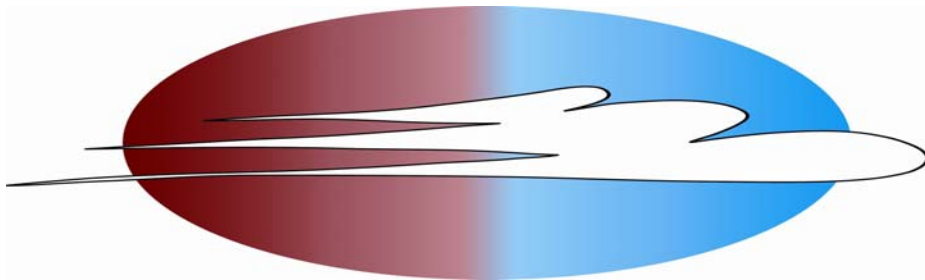


Vibration Isolators (Rubber and Spring):

- ▶ **THERFLOW** vibration isolator is specially designed for cooling towers. The rubber and spring integrated type absorbs high frequencies and reduce vibration.



OPTION	CONDITIONS
Vibration Limit Switch	Shut down when if vibration is excessive.
Basin Heater	To prevent freezing during shut down periods.
High Temperature Fill	For hot water temperature higher than 55°C (131°F).
Variable Speed Drive	Energy saving and low noise operating.
Super Low Noise Fan, Extending Part of Fan Stack, Muffler.	To decrease sound levels.
Ladder, Safety Cage, Handrails, Platform	Safety Protection.



THERFLOW

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