

Series 3000 Cooling Tower

Engineering Data

Series 3000 Cooling Towers



Engineering Data

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Engineering Data

Single Cell Unit

Model Number	Nominal Tonnage ⁵	Motor HP	Fan (CFM)	Weights (lbs)			Dimensions ⁴			
				Operating ¹	Shipping	Heaviest Section	L	W	H ³	A
3240C	240	10	62,790	15,200	7,610	7,610	8' 5-3/4"	18' 0-1/2"	9' 3-5/8"	8' 7-3/4"
3272C	272	15	71,340	15,320	7,730	7,730				
3299C	299	20	78,110	15,380	7,790	7,790				
3333C	325	20	85,720	16,190	8,060	8,060	8' 5-3/4"	18' 0-1/2"	10' 7-5/8"	9' 11-3/4"
3358C	349	25	91,960	16,220	8,090	8,090				
3379C	369	30	97,400	16,270	8,140	8,140				
3412C	399	25	103,700	19,000	9,390	9,390	9' 9-1/4"	20' 0-1/2"	10' 9-1/8"	9' 11-3/4"
3436C	422	30	109,830	19,050	9,440	9,440				
3455C	434	25	112,250	19,770	9,710	9,710	9' 9-1/4"	20' 0-1/2"	12' 1-1/8"	11' 3-3/4"
3482C	459	30	118,880	19,820	9,760	9,760				
3527C	502	40	130,160	19,980	9,920	9,920				
3473C	458	25	118,870	22,730	10,900	10,900	11' 9-3/4"	21' 6-1/2"	10' 10-1/8"	9' 11-3/4"
3501C	485	30	125,900	22,780	10,950	10,950				
3552C	527	30	136,170	25,150	11,510	11,510	11' 9-3/4"	21' 6-1/2"	12' 2-1/8"	11' 3-3/4"
3604C	577	40	149,090	25,310	11,670	11,670				
3648C	619	50	159,950	25,320	11,680	11,680				
3672C	642	60	166,020	26,080	12,440	12,440				
3728C	728	40	178,860	30,700	14,460	8,430	11' 9-3/4"	21' 6-1/2"	16' 4-7/8"	15' 5-1/2"
3781C	781	50	191,890	30,860	14,620	8,590				
3828C	828	60	203,230	30,870	14,630	8,600				
3872C	846	50	206,630	33,700	15,380	8,600	11' 9-3/4"	21' 6-1/2"	19' 0-7/8"	18' 1-1/2"
3923C	896	60	218,840	33,910	15,590	8,810				
3970C	941	75	230,080	34,870	16,550	9,770				
3985C	985	60	229,950	36,500	16,360	9,210	11' 9-3/4"	21' 6-1/2"	21' 8-7/8"	20' 9-1/2"
31056C	1,056	75	246,700	36,590	16,440	9,290				
3583C	557	25	143,950	32,890	15,650	15,650	13' 11-1/8"	24' 0-1/2"	12' 3-1/8"	11' 3-3/4"
3618C	591	30	152,460	32,940	15,700	15,700				
3676C	646	40	166,920	33,100	15,860	15,860				
3725C	693	50	179,080	33,110	15,870	15,870				
31132C	1,105	75	267,880	43,080	20,830	11,430				
31213C	1,213	75	282,010	45,760	21,530	12,140	13' 11-1/8"	24' 0-1/2"	22' 4-7/8"	20' 9-1/2"
31301C ²	1,301	100	302,580	47,680	23,450	13,230	13' 11-1/8"	24' 0-1/2"	22' 8-1/4"	20' 9-1/2"

Do not use for construction. Refer to factory certified dimensions.

Notes:

- Operating weight is based on the water level in the cold water basin at overflow height. If a lower operating weight is needed to meet design requirements, your local BAC Representative can provide additional assistance.
- 31301C is supplied with a close coupled gear drive system as standard.
- Models shipped with an optional gear drive or low sound fan may have heights up to 10.5" greater than shown. For units with Whisper Quiet Fans please contact your local BAC Representative for accurate height dimensions.
- Dimensional reference drawings.
- Nominal tons of cooling represents 3 GPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.

Engineering Data

Double Cell Units

Model Number	Nominal Tonnage ⁵	Motor HP	Fan (CFM)	Weights (lbs)			Dimensions ⁴			
				Operating ¹	Shipping	Heaviest Section	L	W	H ³	A
3240C-2	480	(2) 10	125,580	30,400	15,200	7,610	17' 2"	18' 0-1/2"	9' 3-5/8"	8' 7-3/4"
3272C-2	544	(2) 15	142,680	30,640	15,460	7,730				
3299C-2	598	(2) 20	156,220	30,760	15,580	7,790				
3333C-2	650	(2) 20	171,440	32,380	16,120	8,060	17' 2"	18' 0-1/2"	10' 7-5/8"	9' 11-3/4"
3358C-2	698	(2) 25	183,920	32,440	16,180	8,090				
3379C-2	738	(2) 30	194,800	32,540	16,280	8,140				
3412C-2	798	(2) 25	207,400	38,000	18,780	9,390	19' 9"	20' 0-1/2"	10' 9-1/8"	9' 11-3/4"
3436C-2	844	(2) 30	219,660	38,100	18,880	9,440				
3455C-2	868	(2) 25	224,500	39,540	19,420	9,710	19' 9"	20' 0-1/2"	12' 1-1/8"	11' 3-3/4"
3482C-2	918	(2) 30	237,760	39,640	19,520	9,760				
3527C-2	1,004	(2) 40	260,320	39,960	19,840	9,920				
3473C-2	916	(2) 25	237,740	45,460	21,800	10,900	23' 10"	21' 6-1/2"	10' 10-1/8"	9' 11-3/4"
3501C-2	970	(2) 30	251,800	45,560	21,900	10,950				
3552C-2	1,054	(2) 30	272,340	50,300	23,020	11,510	23' 10"	21' 6-1/2"	12' 2-1/8"	11' 3-3/4"
3604C-2	1,154	(2) 40	298,180	50,620	23,340	11,670				
3648C-2	1,238	(2) 50	319,900	50,640	23,360	11,680				
3672C-2	1,284	(2) 60	332,040	52,160	24,880	12,440				
3728C-2	1,456	(2) 40	357,720	61,400	28,920	8,430	23' 10"	21' 6-1/2"	16' 4-7/8"	15' 5-1/2"
3781C-2	1,562	(2) 50	383,780	61,720	29,240	8,590				
3828C-2	1,656	(2) 60	406,460	61,740	29,260	8,600				
3872C-2	1,692	(2) 50	413,260	67,400	30,760	8,600	23' 10"	21' 6-1/2"	19' 0-7/8"	18' 1-1/2"
3923C-2	1,792	(2) 60	437,680	67,820	31,180	8,810				
3970C-2	1,882	(2) 75	460,160	69,740	33,100	9,770				
3985C-2	1,970	(2) 60	459,900	73,000	32,720	9,210	23' 10"	21' 6-1/2"	21' 8-7/8"	20' 9-1/2"
31056C-2	2,112	(2) 75	493,400	73,180	32,880	9,290				
3583C-2	1,144	(2) 25	287,900	65,780	31,300	15,650	28' 0-3/4"	24' 0-1/2"	12' 3-1/8"	11' 3-3/4"
3618C-2	1,182	(2) 30	304,920	65,880	31,400	15,700				
3676C-2	1,292	(2) 40	333,840	66,200	31,720	15,860				
3725C-2	1,386	(2) 50	358,160	66,220	31,740	15,870				
31132C-2	2,210	(2) 75	535,760	86,160	41,660	11,430	28' 0-3/4"	24' 0-1/2"	19' 8-7/8"	18' 1-1/2"
31213C-2	2,426	(2) 75	564,020	91,520	43,060	12,140	28' 0-3/4"	24' 0-1/2"	22' 4-7/8"	20' 9-1/2"
31301C-2 ²	2,602	(2) 100	605,160	95,360	46,900	13,230	28' 0-3/4"	24' 0-1/2"	22' 8-1/4"	20' 9-1/2"

Do not use for construction. Refer to factory certified dimensions.

Notes:

- Operating weight is based on the water level in the cold water basin at overflow height. If a lower operating weight is needed to meet design requirements, your local BAC Representative can provide additional assistance.
- 31301C-2 is supplied with a close coupled gear drive system as standard.
- Models shipped with an optional gear drive or low sound fan may have heights up to 10.5" greater than shown. For units with Whisper Quiet Fans please contact your local BAC Representative for accurate height dimensions.
- Dimensional reference drawings.
- Nominal tons of cooling represents 3 GPM of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temperature.



Engineering Data

Model Number	Dimensions							Connection Sizes ^{1,3}			
	B	C	D	E	F	G	J	Make-Up Water	Top Inlet	Single Inlet	Outlet
3240C 3272C 3299C	8-1/16"	5' 8-1/4"	10' 5-1/2"	7' 1-1/4"	1/4"	4' 2-7/8"	8' 8-1/4"	1"	(2) 6"	8"	8"
3333C 3358C 3379C	8-1/16"	6' 1-1/4"	10' 5-1/2"	7' 1-1/4"	1/4"	4' 2-7/8"	8' 8-1/4"	1"	(2) 6"	8"	8"
3412C 3436C	8-1/16"	6' 1-1/4"	11' 5-1/2"	8' 1-1/4"	1-1/4"	4' 10-5/8"	9' 0-3/4"	1-1/2"	(2) 6"	8"	8"
3455C 3482C 3527C	9-1/8"	6' 6-3/4"	11' 5-1/2"	8' 1-1/4"	1-1/4"	4' 10-5/8"	9' 0-3/4"	1-1/2"	(2) 8"	10"	10"
3473C 3501C	9-1/8"	6' 6-3/4"	12' 2-1/2"	8' 10-1/4"	1-1/4"	5' 10-7/8"	12' 0-1/4"	1-1/2"	(2) 8"	10"	10"
3552C 3604C 3648C 3672C	9-1/8"	6' 6-3/4"	12' 2-1/2"	8' 10-1/4"	1-1/4"	5' 10-7/8"	12' 0-1/4"	1-1/2"	(2) 8"	10"	10"
3728C 3781C 3828C	9-1/8"	10' 4-1/2"	12' 2-1/2"	8' 10-1/4"	1-1/4"	5' 10-7/8"	12' 0-1/4"	1-1/2"	(2) 8"	12"	12"
3872C 3923C 3970C	9-1/8"	13' 0-1/2"	12' 2-1/2"	8' 10-1/4"	1-1/4"	5' 10-7/8"	12' 0-1/4"	1-1/2"	(2) 8"	12"	12"
3985C 31056C	9-1/8"	15' 8-1/2"	12' 2-1/2"	8' 10-1/4"	1-1/4"	5' 10-7/8"	12' 0-1/4"	1-1/2"	(2) 8"	12"	12"
3583C 3618C 3676C 3725C	9-1/8"	6' 6-3/4"	13' 5-1/2"	10' 1-1/4"	5/8"	6' 11-9/16"	14' 1-5/8"	1-1/2"	(2) 8"	10"	10"
31132C	9-5/8"	13' 0-1/2"	13' 5-1/2"	10' 1-1/4"	5/8"	6' 11-9/16"	14' 1-5/8"	2"	(2) 10"	14"	14"
31213C 31301C	9-5/8"	15' 8-1/2"	13' 5-1/2"	10' 1-1/4"	5/8"	6' 11-9/16"	14' 1-5/8"	2"	(2) 10"	14"	14"

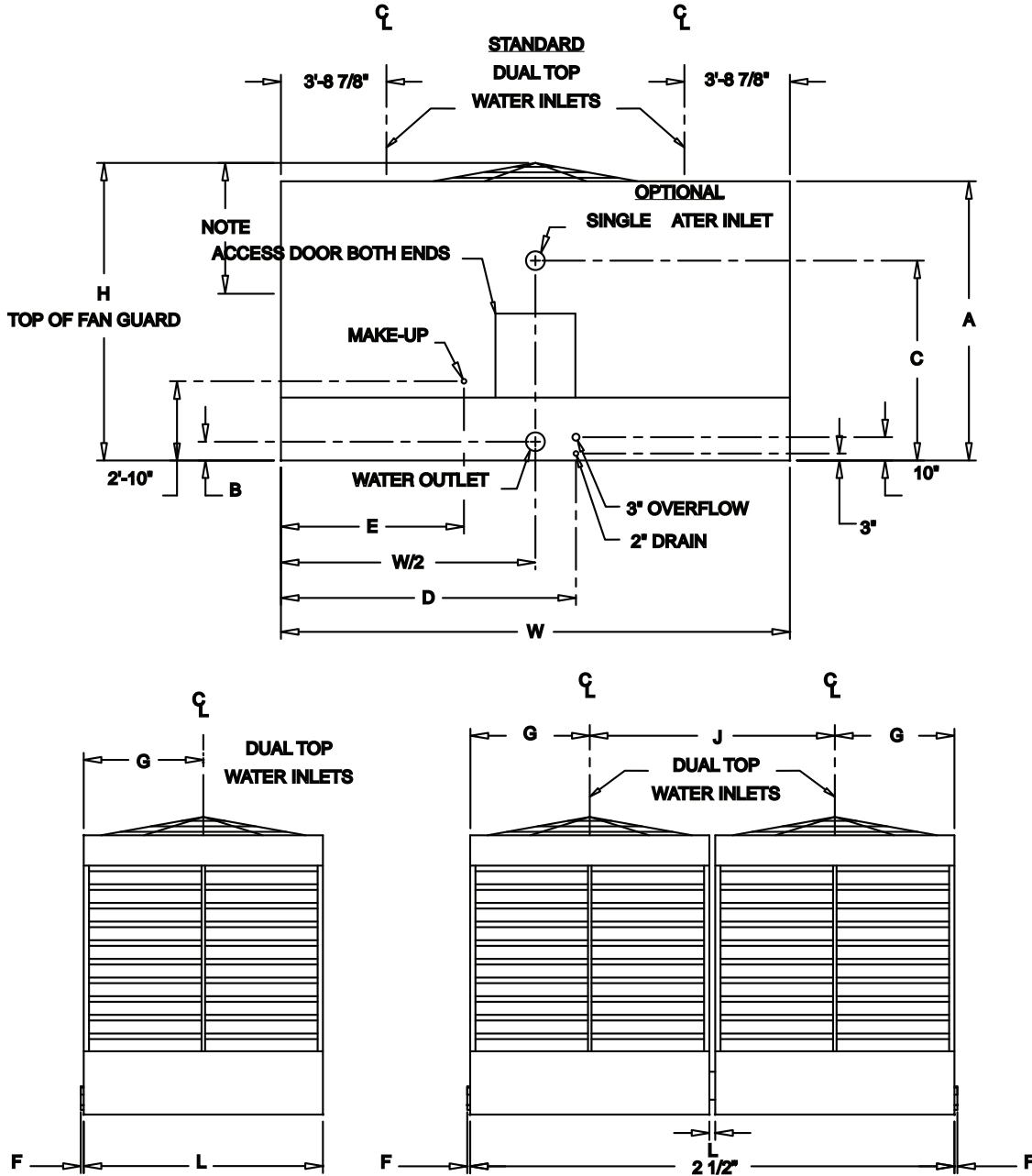
Do not use for construction. Refer to factory certified dimensions.

Notes:

1. The specific size of the inlet and outlet connection may vary with the design cooling water flow rate.
2. Unless otherwise indicated, all connections 3" and smaller are male pipe thread, and connections 4" and larger are beveled for welding and grooved to suit a mechanical coupling.
3. On double cell units, connections are the same size but are located on both ends of the unit.



Dimensional Reference Drawings



Single Cell Unit

Double Cell Unit

Notes:

3728C thru 31056C and 31132C thru 31301C ship in two sections per cell.

The top section is the heaviest and tallest.

Top section heights are:

- 3728C thru 3970C: 10' 3-1/8"
- 3985C thru 31056C: 11' 7-1/8"
- 31132C: 10' 11-1/8"
- 31213C: 12' 3-1/8"
- 31301C: 12' 6-1/2"

Concrete Basin Engineering Data for Optional Basinless Units

Single Cell Unit

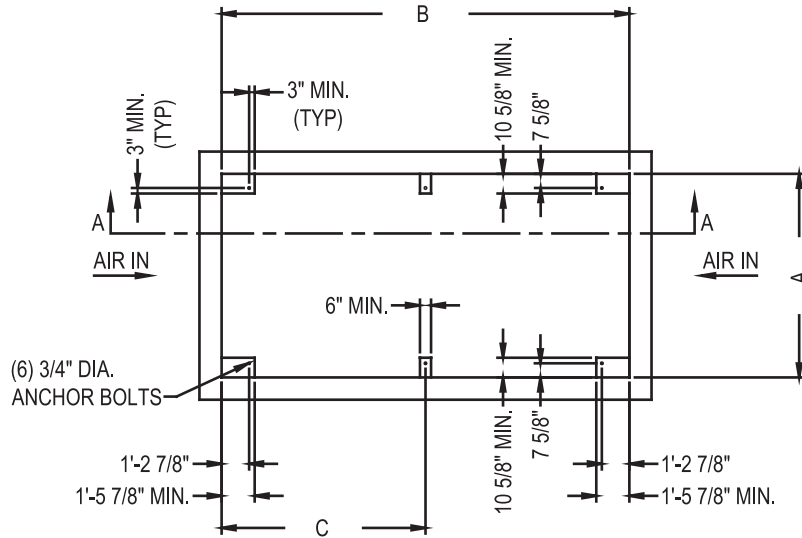
Model Number	Operating Load Vertical (LBS)	Maximum Operating Weight (LBS)	A	B	C	D
3240C	2,420	9,690	9' 1-3/4"	18' 4-1/2"	9' 2-1/4"	N/A
3272C	2,460	9,820				
3299C	2,470	9,880				
3333C	2,670	10,670	9' 1-3/4"	18' 4-1/2"	9' 2-1/4"	N/A
3358C	2,680	10,700				
3379C	2,690	10,750				
3412C	3,130	12,510	10' 5-1/4"	20' 4-1/2"	10' 2-1/4"	N/A
3436C	3,140	12,560				
3455C	3,350	13,410	10' 5-1/4"	20' 4-1/2"	10' 2-1/4"	N/A
3482C	3,370	13,460				
3527C	3,410	13,620				
3473C	3,770	15,070	12' 5-3/4"	21' 10-1/2"	10' 11-1/4"	N/A
3501C	3,780	15,120				
3552C	4,100	16,410	12' 5-3/4"	21' 10-1/2"	10' 11-1/4"	N/A
3604C	4,140	16,570				
3648C	4,150	16,580				
3672C	4,450	17,780				
3728C	5,640	22,570	12' 5-3/4"	21' 10-1/2"	10' 11-1/4"	N/A
3781C	5,650	22,580				
3828C	5,700	22,800				
3872C	6,390	25,540	12' 5-3/4"	21' 10-1/2"	10' 11-1/4"	N/A
3923C	6,440	25,760				
3970C	6,760	27,040				
3985C	7,690	30,750	12' 5-3/4"	21' 10-1/2"	10' 11-1/4"	N/A
31056C	7,710	30,840				
3583C	3,100	18,630	14' 7-1/8"	24' 4-1/2"	7' 8-1/4"	9' 0"
3618C	3,110	18,680				
3676C	3,140	18,840				
3725C	3,140	18,850				
31132C	4,940	29,620	14' 7-1/8"	24' 4-1/2"	7' 8-1/4"	9' 0"
31213C	5,440	32,630	14' 7-1/8"	24' 4-1/2"	7' 8-1/4"	9' 0"
31301C	5,820	34,920				

Do not use for construction. Refer to factory certified dimensions.

Notes:

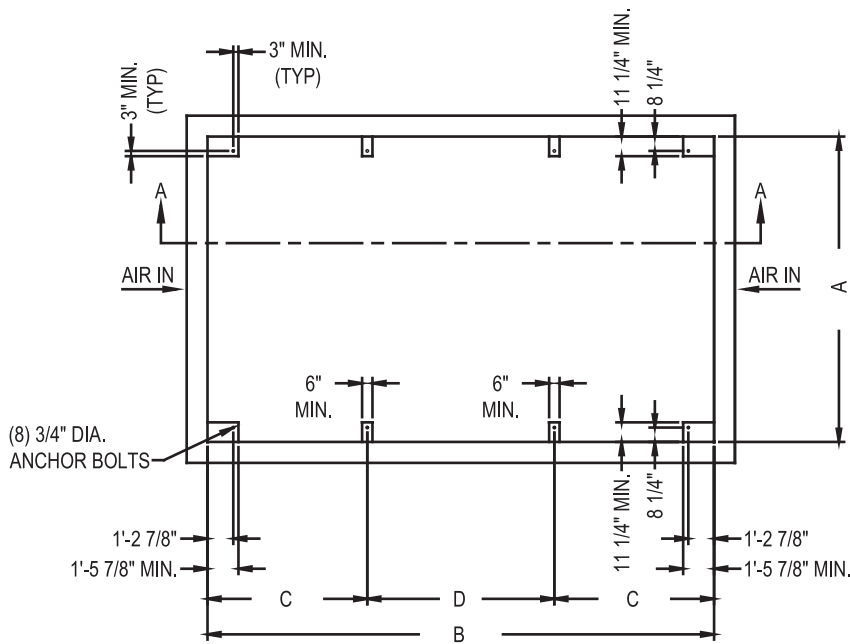
- Purchaser to design, construct and furnish basin (including anchor bolts) in accordance with requirements given. Purchaser must also supply sump, overflow, drain, cleanout and water make-up to suit requirements.
- All anchor bolts shall be 3/4" diameter, 1-1/2" projection ($\pm 1/4"$), fully threaded. Bolt to have one nut and washer. Anchor bolt and column bearing point locations and elevations must be maintained $\pm 1/8"$.
- Pier dimensions shown are minimum bearing surfaces required for the tower structure and do not include corner chamfers on the concrete piers.
- Fill to be located below the operating water level. (see section A-A, next page)
- Maximum operating weight does not include concrete basin or water retained in the basin.





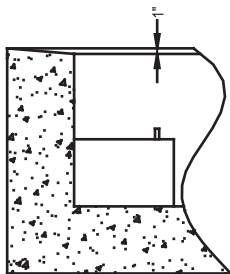
PLAN VIEW OF BASIN

Models 3240C thru Models 31056C

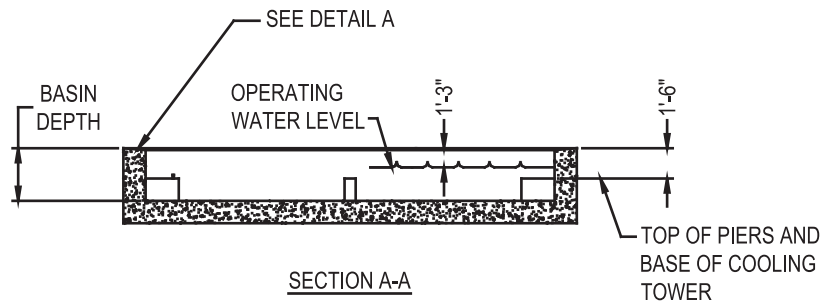


PLAN VIEW OF BASIN

Models 3583C thru Models 31301C



DETAIL A
CONCRETE BASIN WALL SLOPE



All Models

Structural Support

The recommended support arrangement for the Series 3000 Cooling Tower consists of parallel I-beams positioned as shown on the drawings. Besides providing adequate support, the steel also serves to raise the unit above any solid foundation to assure access to the bottom of the tower. The Series 3000 Cooling Tower may also be supported on columns at the anchor bolt locations shown in Plan A or Plan C.

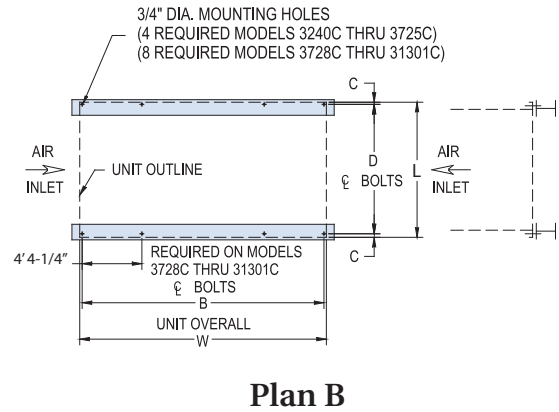
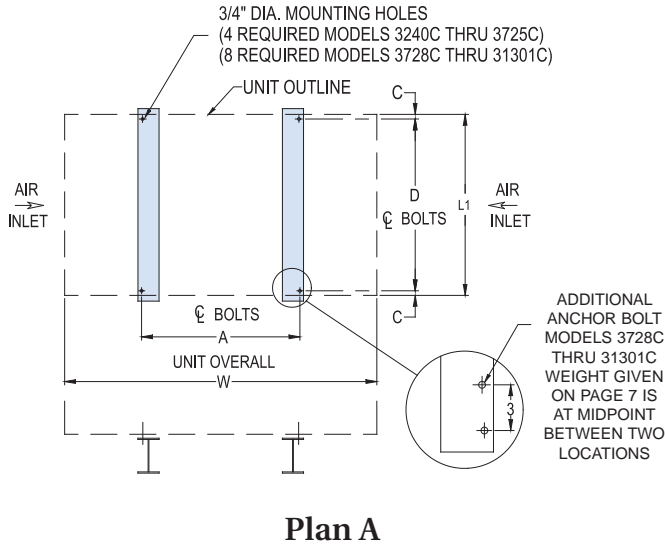
A minimum bearing surface of 12" x 12" (304.8mm x 304.8mm) must be provided under each of the concentrated load points (See Note 6, next page). To support a Series 3000 Cooling Tower on columns, with an alternate steel support arrangement, or the optional upgraded seismic and wind rated unit, consult your local BAC Representative.

Model Number	Weights (lbs)			Dimensions							
	Operating ¹	Shipping ^{1,2}	WT. at Bolt Hole Locations	L1	L2	W	A	B	C	D	E
3240C	15,200	7,610	3,800	8' 5-3/4"	17' 2"	18' 0-1/2"	9' 4"	9' 4"	1-1/8"	8' 3-1/2"	4-3/4"
3272C	15,320	7,730	3,830								
3299C	15,380	7,790	3,845								
3333C	16,190	8,060	4,048	8' 5-3/4"	17' 2"	18' 0-1/2"	9' 4"	9' 4"	1-1/8"	8' 3-1/2"	4-3/4"
3358C	16,220	8,090	4,055								
3379C	16,270	8,140	4,068								
3412C	19,000	9,390	4,750	9' 9-1/4"	19' 9"	20' 0-1/2"	11' 4"	11' 4"	1-1/8"	9' 7"	4-3/4"
3436C	19,050	9,440	4,763								
3455C	19,770	9,710	4,943	9' 9 -1/4"	19' 9"	20' 0-1/2"	11' 4"	11' 4"	1-1/8"	9' 7"	4-3/4"
3482C	19,820	9,760	4,955								
3527C	19,980	9,920	4,995								
3473C	22,730	10,900	5,683	11' 9-3/4"	23' 10"	21' 6-1/2"	12' 10"	12' 10"	1-1/8"	11' 7-1/2"	4-3/4"
3501C	22,780	10,950	5,695								
3552C	25,150	11,510	6,288	11' 9-3/4"	23' 10"	21' 6-1/2"	12' 10"	12' 10"	1-1/8"	11' 7-1/2"	4-3/4"
3604C	25,310	11,670	6,328								
3648C	25,320	11,680	6,330								
3672C	26,080	12,440	6,520								
3728C	30,700	14,460	7,675	11' 9-3/4"	23' 10"	21' 6-1/2"	12' 10"	12' 10"	1-1/8"	11' 7-1/2"	4-3/4"
3781C	30,860	14,620	7,715								
3828C	30,870	14,630	7,718								
3872C	33,700	15,380	8,425	11' 9-3/4"	23' 10"	21' 6-1/2"	12' 10"	12' 10"	1-1/8"	11' 7-1/2"	4-3/4"
3923C	33,910	15,590	8,478								
3970C	34,870	16,550	8,718								
3985C	36,500	16,360	9,125	11' 9-3/4"	23' 10"	21' 6-1/2"	12' 10"	12' 10"	1-1/8"	11' 7-1/2"	4-3/4"
31056C	36,590	16,440	9,148								
3583C	32,890	15,650	8,223	13' 11-1/8"	28' 0-3/4"	24' 0-1/2"	15' 4"	15' 4"	1-11/16"	13' 7-3/4"	5-7/8"
3618C	32,940	15,700	8,235								
3676C	33,100	15,860	8,275								
3725C	33,110	15,870	8,278								
31132C	43,080	20,830	10,770	13' 11-1/8"	28' 0-3/4"	24' 0-1/2"	15' 4"	15' 4"	1-11/16"	13' 7-3/4"	5-7/8"
31213C	45,760	21,530	11,440	13' 11-1/8"	28' 0-3/4"	24' 0-1/2"	15' 4"	15' 4"	1-11/16"	13' 7-3/4"	5-7/8"
31301C	47,680	23,450	11,920								

See notes, next page.



Single Cell Unit



Notes:

- Weights are for a single cell. To obtain weights for multi-cell units, multiply by the number of cells.
- Operating weight and weight loading are for a single cell tower with water at overflow level in the cold water basin.
- Support beams and anchor bolts to be selected and installed by others.
- All support steel must be level at the top.
- Beams must be selected in accordance with accepted structural practice. Maximum deflection of beam under unit to be $1/360$ of span, not to exceed $1/2$ ".
- If point vibration isolation is used, the isolators must be located under the support steel, not between the support steel and the cooling towers.

Double Cell Unit

