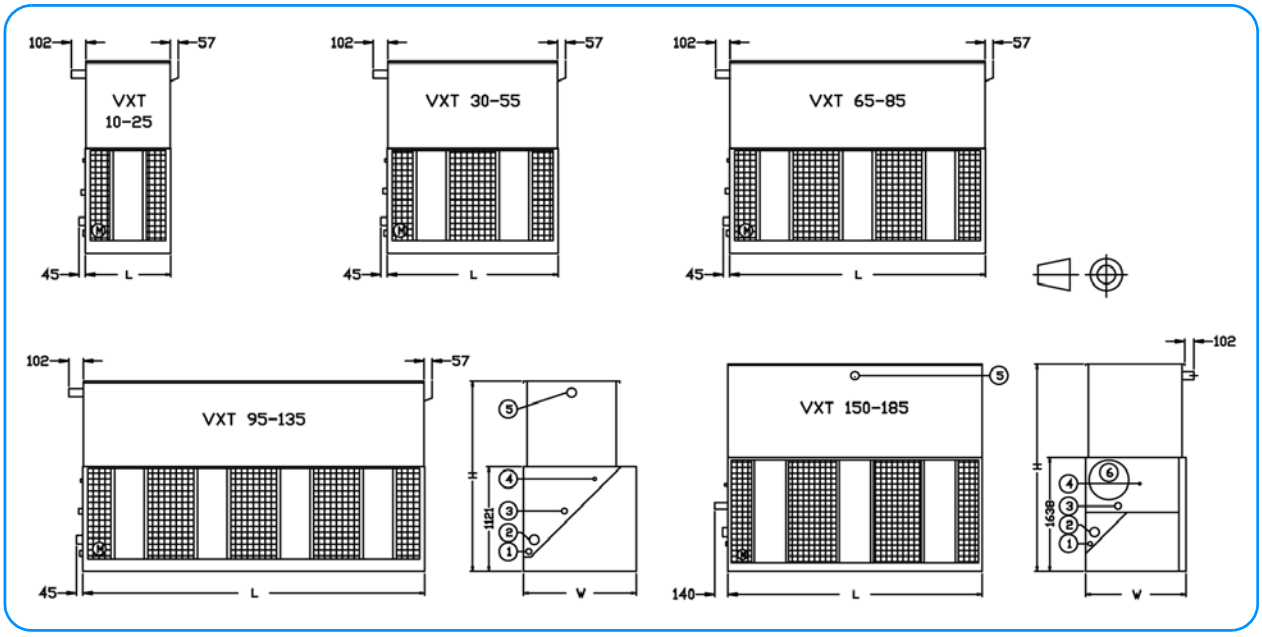
VXT
Open Cooling Towers

Product Detail

Engineering Data

REMARK: Do not use for construction. *Refer to factory certified dimensions & weights. This brochure includes data current at time of publication, which should be reconfirmed at the time of purchase. In the interest of product improvement, specifications, weights and dimensions are subject to change without notice. More can be found at www.BaltimoreAircoil.com.*

VXT 10 - 185



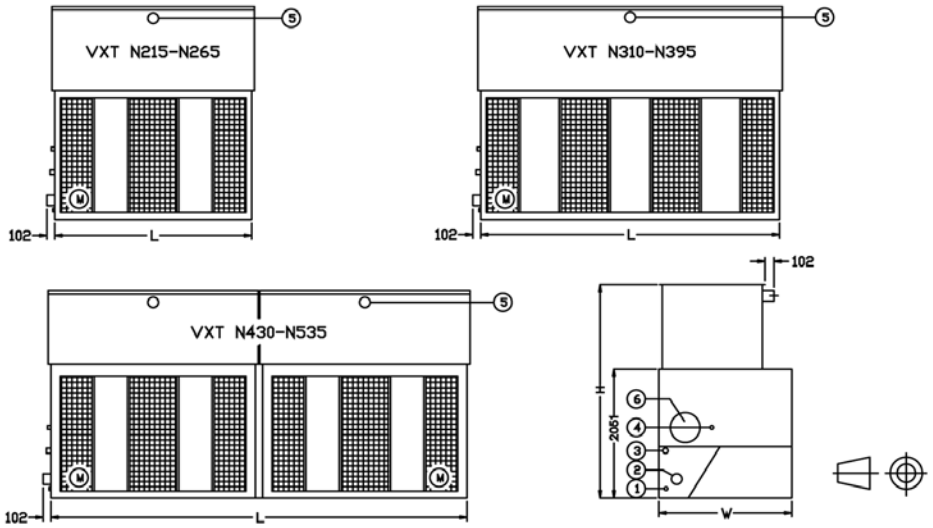
1. Drain ND 50; 2. Water Outlet; 3. Overflow ND50 (Overflow VXT 150 – 185: ND80); 4. Make Up ND25; 5.Water Inlet; 6.Access Door.

On models VXT-10 to VXT-135 sufficient space must be provided on the back of the unit for entry to access doors located on side opposite air entry side.

Model VXT	Operating Weight (kg)	Shipping Weight (kg)	Heaviest Section (kg)	H (mm)	L (mm)	W (mm)	Air Flow (m^3/s)	Fan Motor (kW)	Fluid Inlet ND (mm)	Fluid Outlet ND (mm)	Make Up ND (mm)
VXT 010	405	325	325*	2036	914	1207	1,79	(1x) 0,75	(1x) 80	(1x) 80	25
VXT 015	410	330	330*	2036	914	1207	1,94	(1x) 1,1	(1x) 80	(1x) 80	25
VXT 020	425	350	350*	2036	914	1207	2,19	(1x) 1,5	(1x) 80	(1x) 80	25
VXT 025	435	360	360*	2036	914	1207	2,50	(1x) 2,2	(1x) 80	(1x) 80	25
VXT 030	655	490	490*	2036	1829	1207	3,74	(1x) 1,5	(1x) 80	(1x) 80	25
VXT 040	685	520	520*	2036	1829	1207	4,48	(1x) 2,2	(1x) 80	(1x) 80	25
VXT 045	695	530	530*	2036	1829	1207	4,97	(1x) 4,0	(1x) 80	(1x) 80	25
VXT 055	780	615	440	2506	1829	1207	5,16	(1x) 5,5	(1x) 80	(1x) 80	25
VXT 065	1050	715	715*	2036	2737	1207	7,22	(1x) 5,5	(1x) 100	(1x) 100	25
VXT 070	1075	740	740*	2220	2737	1207	8,12	(1x) 5,5	(1x) 100	(1x) 100	25
VXT 075	1135	805	540	2506	2737	1207	8,02	(1x) 5,5	(1x) 100	(1x) 100	25
VXT 085	1140	810	540	2506	2737	1207	8,83	(1x) 7,5	(1x) 100	(1x) 100	25
VXT 095	1255	890	890*	2036	3658	1207	11,04	(1x) 7,5	(1x) 100	(1x) 100	25
VXT 105	1445	1080	575	2675	3658	1207	10,90	(1x) 7,5	(1x) 100	(1x) 100	25
VXT 120	1475	1110	605	2675	3658	1207	12,58	(1x) 11	(1x) 100	(1x) 100	25
VXT 135	1665	1300	700	3350	3658	1207	12,46	(1x) 11	(1x) 100	(1x) 100	25
VXT 150	2215	1590	915	3128	3645	1438	15,79	(1x) 15	(1x) 150	(1x) 150	25
VXT 165	2360	1740	915	3585	3645	1438	15,53	(1x) 15	(1x) 150	(1x) 150	25
VXT 185	2565	1940	980**	4042	3645	1438	16,94	(1x) 18,5	(1x) 150	(1x) 150	25

* Units ship in one piece, ** Casing is heaviest section

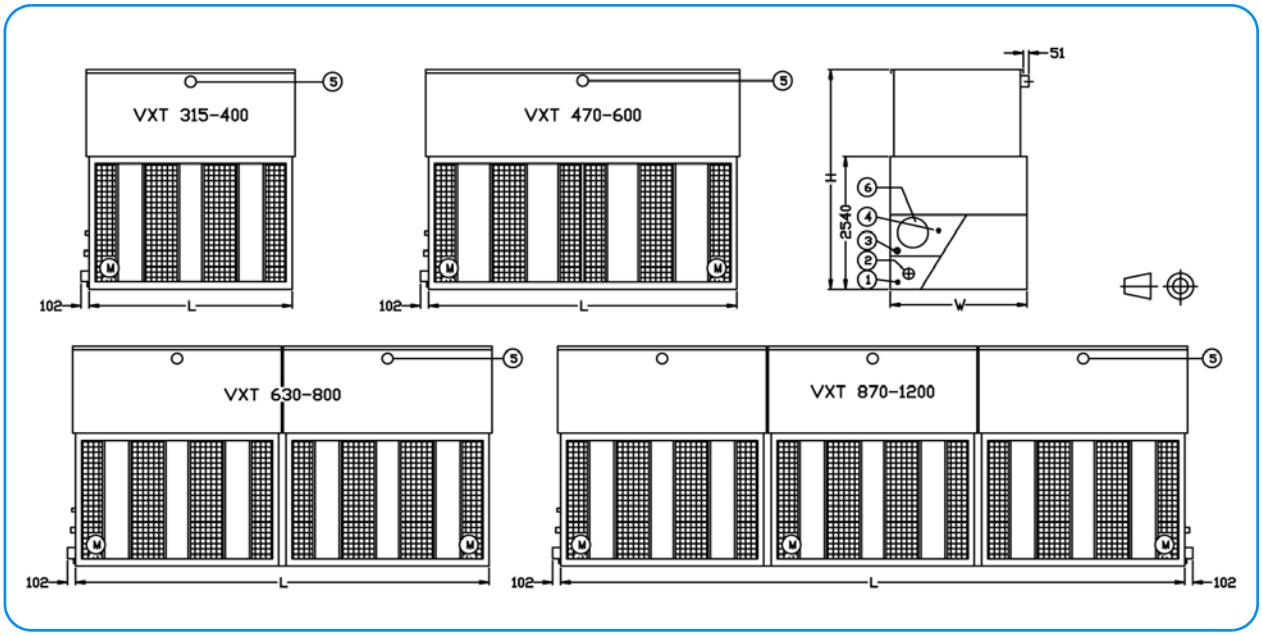
VXT N215 - N535



1. Drain ND 50; 2. Water Outlet; 3. Overflow ND 80; 4. Make Up ND50; 5.Water Inlet; 6.Access Door.

Model VXT	Operating Weight (kg)	Shipping Weight (kg)	Heaviest Section (kg)	H (mm)	L (mm)	W (mm)	Air Flow (m^3/s)	Fan Motor (kW)	Fluid Inlet ND (mm)	Fluid Outlet ND (mm)	Make Up ND (mm)
VXT N215	3640	2100	1395	3112	3550	2397	23,49	(1x) 22	(1x) 150	(1x) 200	50
VXT N240	3850	2310	1395	3569	3550	2397	23,33	(1x) 22	(1x) 150	(1x) 200	50
VXT N265	4080	2540	1435	4026	3550	2397	24,26	(1x) 30	(1x) 150	(1x) 200	50
VXT N310	5300	3060	1875	3112	5385	2397	34,12	(1x) 30	(1x) 200	(1x) 200	50
VXT N345	5580	3340	1875	3569	5385	2397	33,82	(1x) 30	(1x) 200	(1x) 200	50
VXT N370	5860	3620	1875	4026	5385	2397	33,60	(1x) 30	(1x) 200	(1x) 200	50
VXT N395	5890	3650	1895	4026	5385	2397	36,15	(1x) 37	(1x) 200	(1x) 200	50
VXT N430	7330	4190	2758	3112	7226	2397	46,98	(2x) 22	(2x) 150	(1x) 250	50
VXT N480	7730	4590	2758	3569	7226	2397	46,65	(2x) 22	(2x) 150	(1x) 250	50
VXT N510	8110	4980	2758	4026	7226	2397	46,44	(2x) 22	(2x) 150	(1x) 250	50
VXT N535	8200	5060	2839	4026	7226	2397	48,94	(2x) 30	(2x) 150	(1x) 250	50

VXT 315 - 1200



1. Drain ND50; 2. Water Outlet; 3. Overflow ND 80; 4. Make Up ND50 and 870 - 1200: ND80; 5.Water Inlet; 6.Access Door.

Model VXT	Operating Weight (kg)	Shipping Weight (kg)	Heaviest Section (kg)	H (mm)	L (mm)	W (mm)	Air Flow (m^3/s)	Fan Motor (kW)	Fluid Inlet ND (mm)	Fluid Outlet ND (mm)	Make Up ND (mm)
VXT 315	4905	2960	1945	4030	3550	3000	34,55	(1x) 30	(1x) 200	(1x) 200	50
VXT 350	5195	3260	1945	4487	3550	3000	34,31	(1x) 30	(1x) 200	(1x) 200	50
VXT 375	5505	3560	1945	4944	3550	3000	34,10	(1x) 30	(1x) 200	(1x) 200	50
VXT 400	5535	3590	1970	4944	3550	3000	36,62	(1x) 37	(1x) 200	(1x) 200	50
VXT 470	7305	4360	2770	4030	5388	3000	51,82	(2x) 22	(1x) 250	(1x) 250	50
VXT 525	7750	4810	2770	4487	5388	3000	51,44	(2x) 22	(1x) 250	(1x) 250	50
VXT 560	8245	5290	2770	4944	5388	3000	50,92	(2x) 22	(1x) 250	(1x) 250	50
VXT 600	8325	5370	2845	4944	5388	3000	54,93	(2x) 30	(1x) 250	(1x) 250	50
VXT 630	9805	5900	3885	4030	7226	3000	69,09	(2x) 30	(2x) 200	(1x) 300	50
VXT 700	10385	6490	3885	4487	7226	3000	68,62	(2x) 30	(2x) 200	(1x) 300	50
VXT 750	11005	7110	3885	4944	7226	3000	68,20	(2x) 30	(2x) 200	(1x) 300	50
VXT 800	11055	7160	3925	4944	7226	3000	73,25	(2x) 37	(2x) 200	(1x) 300	50
VXT 870	14570	8720	5670	4030	10903	3000	94,37	(3x) 22	(3x) 200	(2x) 250	80
VXT 945	14680	8830	5785	4030	10903	3000	103,64	(3x) 30	(3x) 200	(2x) 250	80
VXT 1050	15560	9710	5785	4487	10903	3000	102,93	(3x) 30	(3x) 200	(2x) 250	80
VXT 1125	16490	10640	5785	4944	10903	3000	102,30	(3x) 30	(3x) 200	(2x) 250	80
VXT 1200	16570	10720	5855	4944	10903	3000	109,87	(3x) 37	(3x) 200	(2x) 250	80

General Notes

1. All connections 100 mm and smaller are MPT. Connections 150 mm and larger are bevelled-for-welding.

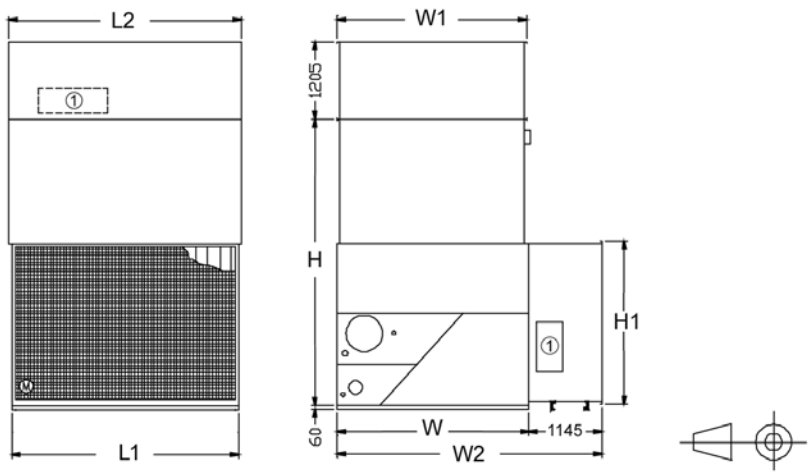
2. Fan kW is at 0 Pa ESP. To operate against external static pressure up to 125 Pa, increase each fan motor one size.

3. The drawings show the standard “right hand” arrangement, which has the air inlet side on the right when facing the connection end. “Left hand” arrangement can be furnished by special order.

4. Water outlet, overflow and make-up are always located on the same end of the unit. For units with two water outlet connections an additional overflow connection will be installed on the other end of the unit.

Sound Attenuation

XB Sound Attenuation for VX-Line Cooling Towers



1. Access Door; L1= Intake Attenuator Length; L2= Discharge Attenuator Length; W & H= unit dimensions (see Engineering Data).

Model No. VXT	Unit + Atten. # pieces shipped	# Access doors (3) XB		Dimensions (mm)					Weights (kg)			
		Disch. Att	Int. Att	W2	H1	W1	L1	L2	Intake	Solid Bottom	Discharge	Total
10 - 25	3	1	2	2352	1090	1030	890	900	130	30	150	310
30 - 55	3(1)	1	2	2352	1090	1030	1800	1815	220	50	220	490
65 - 85	3(1)	1	2	2352	1090	1030	2710	2730	300	70	350	720
95 - 135	4(2)	1	2	2352	1090	1030	3635	3645	370	100	420	890
150 - 185	4	1	2	2583	1600	1420	3635	3645	480	120	520	1120
N215 – N265	4	1	2	3542	2070	1955	3510	3645	630	190	650	1470
N310 – N395	4	2	2	3542	2070	1955	5365	5480	860	300	970	2130
N430 - N535	7	2	2	3542	2070	1955	7185	7320	1260	380	1300	2940
315 - 400	4	2	2	4145	2560	2965	3510	3645	710	230	880	1820
470 - 600	4	2	2	4145	2560	2965	5365	5480	980	350	1210	2540
630 - 800	7	4	2	4145	2560	2965	7185	7320	1420	460	1760	3640
870 - 1200	10	3	3	4145	2560	2965	10865	10995	2130	690	2640	5460

(1) VXT-55 + attenuation is shipped in 4 pieces

(1) VXT-75 and VXT 85 + attenuation is shipped in 4 pieces

(2) VXT-95 + attenuation is shipped in 3 pieces

(3) Intake Attenuator: Access opening is 775 mm high, 406 mm wide and is located at each end of the unit.

(3) Discharge Attenuator : Access opening is 400 mm high, 1080 mm wide and is located at blank off side of the unit (Access door of VXT 10-25 has 650 mm width)

Structural Support

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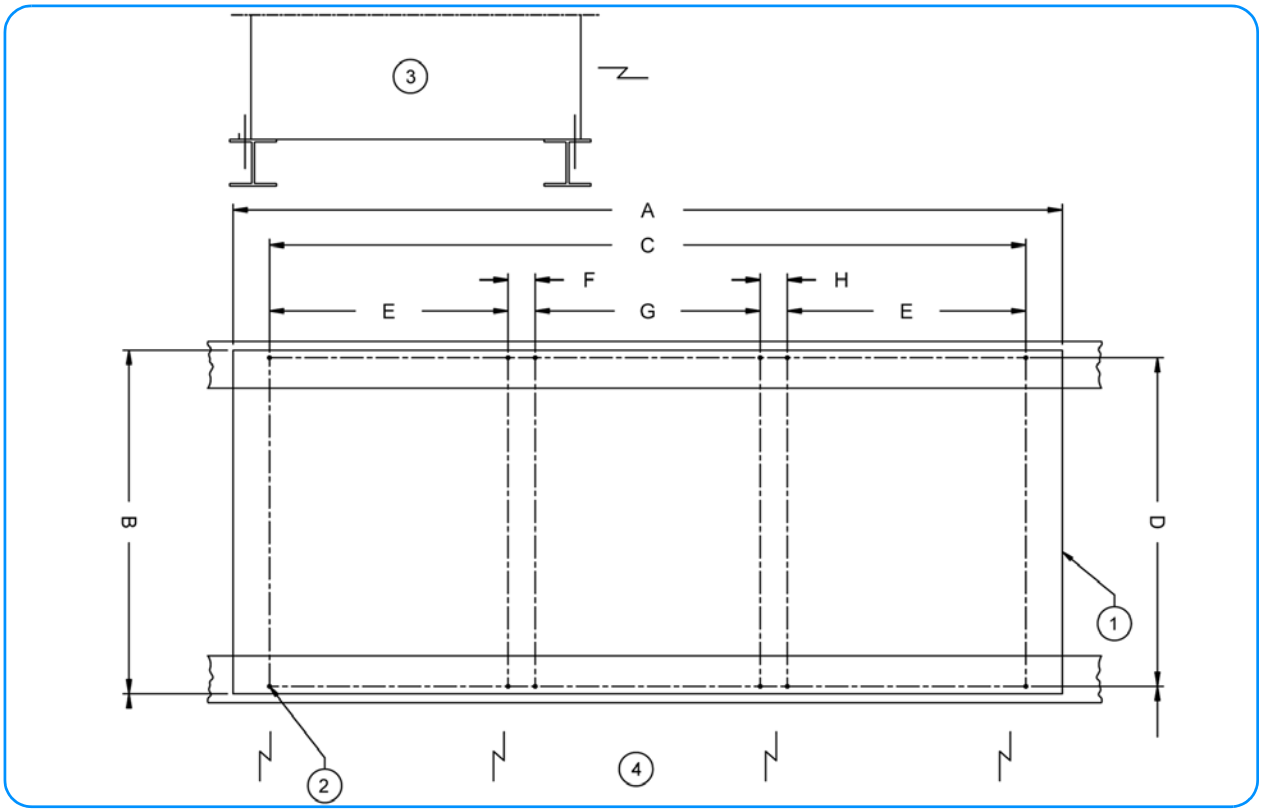
The recommended support arrangement for units consists of parallel I-beams running the full length of the unit, spaced as shown in the following drawing. Besides providing adequate support, the steel also serves to raise the unit above any solid foundation to ensure access to the bottom of the unit. To support units in an alternate steel support arrangement, consult your BAC Balticare Representative.

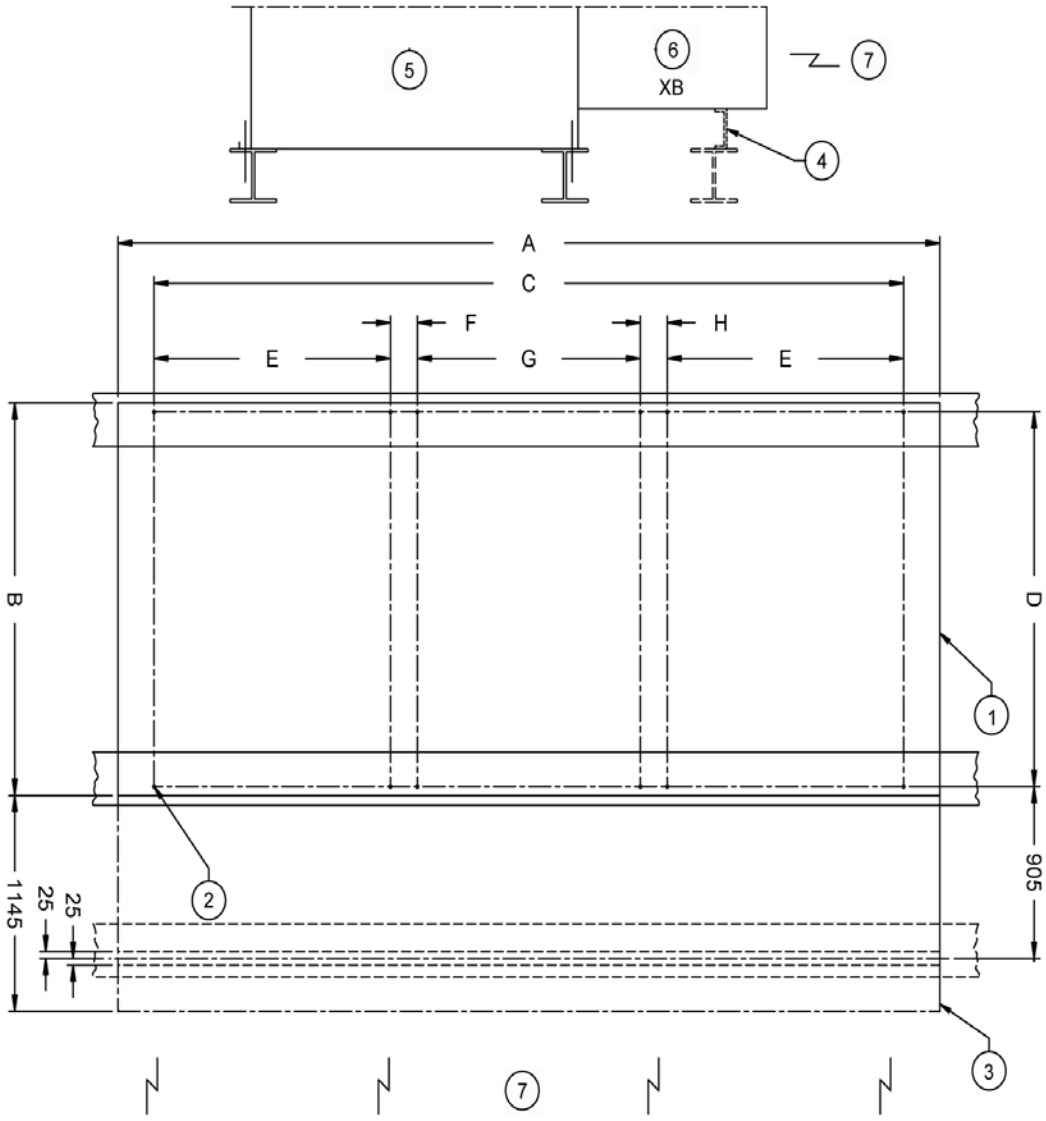
Units without Sound Attenuation



1. Outline of Unit; 2. Mounting Holes Ø 22 mm; 3. Unit; 4. Air Intake.

Model	A Unit Length (mm)	B Unit Width (mm)	C Center dis. Length (mm)	D Center dis. Width (mm)	E (mm)	F (mm)	G (mm)	H (mm)	X Max. Deflection (mm)	Mounting Holes
VXT 10-25	914	1207	750	1153	-	-	-	-	2	4
VXT 30-55	1829	1207	1664	1153	-	-	-	-	5	4
VXT 65-84	2737	1207	2572	1153	-	-	-	-	8	4
VXT 95-135	3658	1207	3492	1153	-	-	-	-	10	4
VXT 150-185	3645	1438	3492	1378	-	-	-	-	10	4
VXT N215-N265	3550	2397	3238	2327	-	-	-	-	10	4
VXT 315-400	3550	3000	3238	2934	-	-	-	-	10	4
VXT N310-N395	5388	2397	5074	2327	2496	102	-	-	13	8
VXT 470-600	5388	3000	5074	2934	2496	102	-	-	13	8
VXT N430-N535	7226	2397	6914	2327	3238	438	-	-	13	8
VXT 630-800	7226	3000	6914	2934	3238	438	-	-	13	8
VXT 870-1200	10903	3000	10590	2934	3238	438	3238	438	13	12

Units with Sound Attenuation



1. Outline of Unit; 2. Mounting Holes Ø 22 mm; 3. Outline of attenuator ; 4. Support Channel attached XB attenuator; 5. Unit; 6. Sound Attenuation; 7. Air Intake.

Notes:

1. The recommended support arrangement for VX units consists of parallel I-beams extending the full length of the unit. Supports and anchor bolts are to be designed and furnished by others.

2. All supporting beams are to be flush and level at top and must be oriented relative to gage line as shown.

3. Recommended design loads for each unit support beam should be 70% of the total unit operating weight applied as a uniform load to each of the unit beams. The support beam(s) for the optional intake attenuator(s) needs to carry attenuator only, uniform load of 250 kg/m. Beams should be designed in accordance with standard structural practice. For the maximum allowable deflection of beams under the unit refer to above table.

4. All mounting holes have a diameter of 22 mm at the locations shown.

5. If vibration isolators are used, a rail or channel must be provided between the unit (and optional attenuator) and the isolators to provide continuous unit support. Additionally the support beams must be designed to accommodate the overall length and mounting hole location of the isolators that may differ from those of the unit. Refer to vibration isolator drawings for these data.

Engineering Specifications

1.0 Cooling Tower

1.1 General: Furnish and install _____ factory-assembled, forced-draft, centrifugal fan, counter flow cooling tower(s) with vertical air discharge, conforming in all aspects to the specifications, schedules and as shown on the plans. Overall dimensions shall not exceed approximately _____ mm long x _____ mm wide x _____ mm high. The total connected fan power shall not exceed _____ kW. The cooling tower(s) shall be Baltimore Aircoil Model _____.

1.2 Thermal Capacity: The cooling tower(s) shall be warranted by the manufacturer to cool _____ l/s of water from _____ °C to _____C at _____°C entering wet-bulb temperature.

1.3 Corrosion Resistant Construction (standard): Unless otherwise noted in this specification, all steel panels and structural members shall be constructed of heavy-gauge Z600 metric hot-dip galvanized steel with all edges given a protective coating of zinc-rich compound and the exterior protected with the BALTIPLUS Protection.

(Alternate 1.3) Corrosion Resistant Construction (optional): Unless otherwise noted in this specification, all steel panels and structural members shall be protected with the BALTIBOND® Corrosion Protection System. The system shall consist of Z600 metric hot-dip galvanized steel prepared in a four-step (clean, pre-treat, rinse, dry) process with an electrostatically sprayed, thermosetting, hybrid polymer fuse-bonded to the substrate during a thermally activated curing stage and monitored by a 23-step quality assurance program.

(Alternate 1.3) Corrosion Resistant Construction (optional): Unless otherwise noted in this specification, all steel panels and structural members shall be constructed of Type 304 or 316 stainless steel and assembled with stainless steel nut and bolt fasteners.

1.4 Quality Assurance: The cooling tower manufacturer shall have a Management System certified by an accredited registrar as complying with the requirements of ISO-9001:2000 to ensure consistent quality of products and services.

1.5 Warranty: The manufacturer's standard equipment warranty shall be for a period of not less than one year from date of startup or eighteen months from date of shipment, whichever occurs first.

2.0 Construction Details

2.1 Structure (VX-Line models): The cooling tower shall be constructed of heavy-gauge steel utilizing double-brake flanges for maximum strength and rigidity and reliable sealing of watertight joints. The heat transfer section shall be removable from the pan/fan section to facilitate shipping and handling. The fan(s) and fan drive system, including the fan motor, shall be factory mounted and aligned and located in the dry entering air stream to ensure reliable operation and ease of maintenance.

2.2 Heat Transfer Section: The heat transfer sections(s) shall consist of a wet deck surface, spray water distribution system and drift eliminators arranged for optimal thermal performance with minimal drift.

2.3 Wet Deck Surface: The wet deck surface shall be formed from self-extinguishing plastic material and shall be impervious to rot, decay, and fungus or biological attack. The wet deck surface shall be manufactured and performance tested by the cooling tower manufacturer to assure single source responsibility and control of the final product.

2.4 Water Distribution System: Water shall be distributed evenly over the wet deck surface by a water distribution system consisting of a header and spray branches of plastic pipe with large orifice, non-clog plastic distribution nozzles. The branches and spray nozzles shall be held in place by snap-in rubber grommets, allowing quick removal of individual nozzles or complete branches for cleaning or flushing.

2.5 Cold Water Basin: The cold water basin shall be provided with large area lift out strainers with perforated openings sized smaller than the water distribution system nozzles and an anti-vortexing device to prevent air entrainment. The strainer and anti-vortexing device shall be constructed of the same material as the basin to prevent dissimilar metal corrosion. Standard basin accessories shall include a brass make-up valve with large diameter polystyrene filled plastic float for easy adjustment of the operating water level.

(Alternate2.5) Cold Water Basin: The cold water basin shall be constructed of heavy-gauge Type 304 or 316 stainless steel panels and structural members up to the heat transfer section/basin joint. The basin shall be provided with large area lift out strainers with perforated openings sized smaller than the water distribution system nozzles and an anti-vortexing device to prevent air entrainment. The strainer and anti-vortexing device shall be constructed of the same material as the basin to prevent dissimilar metal corrosion. Standard basin accessories shall include a brass make-up valve with large diameter polystyrene filled plastic float for easy adjustment of the operating water level.

3.0 Mechanical Equipment

3.1 Fan(s): Fan(s) shall be dynamically balanced, forwardly curved, centrifugal type selected to provide optimum thermal performance with minimal sound levels. Fan housings shall have curved inlet rings for efficient air entry and four-sided rectangular discharge cowls shall extend into the basin to increase fan efficiency and prevent water from splashing into the fans.

3.2 Bearings: Fan(s) and shaft(s) shall be supported by heavy-duty, self-aligning, relubricatable bearings with cast iron housings, designed for a minimum L10 life of 40 000 hours (280 000 Hr. Average. Life).

3.3 Fan Drive: The fan(s) shall be driven by matched V-belts with taper lock sheaves. Motor shall be located on a heavy-duty motor base, adjustable by a single threaded bolt-and-nut arrangement. Removable steel screens or panels shall protect the fan drive and all moving parts.

3.4 Fan Motor: Furnish _____ kW, _____ RPM Totally Enclosed, Fan Cooled (TEFC), squirrel cage, ball bearing type fan motors suitable for outdoor service. Motor(s) shall be suitable for _____ volt, ___ hertz, and __ phase electrical service.

3.5 BALTIGUARD® Fan System (optional): Two-single speed fan motors, one sized for full speed and load, the other sized for 2/3 speed and approximately 1/3 of full load kW shall be provided in each cell for capacity control and stand-by protection from drive or motor failure. Two-speed motor(s) are not an acceptable alternative.

VXT

4.0 Drift Eliminators

4.1 Drift Eliminators: Eliminators shall be constructed of specially formulated plastic material and be removable in easily handled sections. They shall have a minimum of three changes in air direction.

5.0 Access

5.1 Basin Access: Circular access doors shall be provided for easy access to the make-up water assembly and suction strainer for routine maintenance.

6.0 Sound

6.1 Sound Level: To maintain the quality of the local environment, the maximum sound pressure levels (dB) measured 15 m from the cooling tower operating at full fan speed shall not exceed the sound levels detailed below.

Location	63	125	250	500	1000	2000	4000	8000	dB(A)
Discharge									
Air Inlet									
End									
Back									