

CBAL-24 / 4-PIPE COOLING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Sensible Cooling (Btu/h)								Induction ratio	Throw ft.				
		Inlet Dia. Inches	Flow Rate CFM	Inlet ΔPS (in. H2O)		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM							
						qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL						
4	B1	4	15	0.25	15	1333	0.70		2.90	6.40	6.40	1.50	5.9	0 - 1 - 4					
			20	0.44	15	1684								1572	2021	1635	1685	1 - 2 - 7	
			25	0.68	15	1936								2356	2482	2119	2197	2557	1 - 3 - 10
	B2	4	20	0.17	15	1251								1482	1549	1605	1605	1 - 1 - 5	
			30	0.39	15	1657								2014	2119	2185	2185	1 - 3 - 10	
			40	0.69	22	2025								2569	2724	2845	2845	2 - 5 - 14	
	B3	5	40	0.19	15	1392								1703	1799	1850	1850	2 - 4 - 12	
			60	0.43	23	1962								2518	2693	2834	2834	4 - 8 - 18	
			80	0.77	30	2542								3217	3482	3628	3628	7 - 12 - 21	
	B4	6	70	0.19	19	1544								1923	2035	2109	2109	2 - 6 - 14	
			105	0.44	29	2259								2847	3061	3206	3206	6 - 11 - 20	
			140	0.75	22	2734								3528	3831	3987	3987	10 - 14 - 23	
6	B1	4	20	0.18	15	1838	1.00		4.10	9.30	9.30	2.10	5.9	0 - 1 - 4					
			30	0.41	15	2268								2230	2846	3022	3119	3119	1 - 2 - 9
			40	0.72	22	2783								3559	3840	3944	3944	3944	2 - 4 - 13
	B2	5	30	0.16	15	1731								2142	2267	2326	2326	1 - 2 - 6	
			45	0.36	16	2293								2906	3118	3194	3194	2 - 3 - 12	
			60	0.64	24	2922								3793	4113	4275	4275	3 - 6 - 17	
	B3	6	60	0.18	16	1927								2469	2666	2740	2740	2 - 5 - 14	
			90	0.40	26	2863								3779	4109	4334	4334	5 - 10 - 21	
			120	0.72	33	3289								4397	4865	5174	5174	8 - 14 - 26	
	B4	10*	105	0.18	15	2156								2783	3016	3113	3113	3 - 7 - 18	
			160	0.42	21	3115								4161	4525	4794	4794	7 - 13 - 25	
			215	0.76	29	3601								4801	5410	5765	5765	12 - 18 - 29	
8	B1	4	25	0.15	15	2359	1.40		5.40	1.60	1.60	2.80	5.9	0 - 1 - 4					
			40	0.40	20	3015								2882	3889	4187	4348	4348	1 - 2 - 10
			55	0.73	22	3413								4559	4981	5193	5193	5193	2 - 5 - 16
	B2	5	40	0.16	15	2390								3003	3228	3333	3333	1 - 2 - 7	
			60	0.35	22	2755								3671	3974	4151	4151	2 - 4 - 14	
			80	0.62	30	3462								4632	5098	5358	5358	3 - 7 - 19	
	B3	8	80	0.17	15	2320								3097	3380	3526	3526	2 - 5 - 16	
			120	0.38	18	3423								4614	5128	5485	5485	5 - 12 - 25	
			160	0.68	25	3845								5361	6141	6650	6650	9 - 16 - 30	
	B4	10*	145	0.19	17	2664								3563	3916	4098	4098	4 - 8 - 21	
			215	0.42	27	3713								5061	5711	6145	6145	8 - 16 - 29	
			285	0.74	34	4178								5937	6808	7382	7382	14 - 21 - 33	
10	B1	5	35	0.19	15	2959	1.70		6.70	1.90	1.90	3.40	5.9	1 - 1 - 5					
			52	0.41	20	3489								3767	4624	5087	5335	5335	1 - 3 - 12
			69	0.73	27	3825								5275	5902	6222	6222	6222	2 - 5 - 18
	B2	6	55	0.22	16	2986								3961	4336	4536	4536	1 - 2 - 9	
			80	0.39	24	3238								4384	4895	5163	5163	2 - 5 - 17	
			105	0.67	31	3916								5615	6337	6765	6765	4 - 9 - 22	
	B3	8	100	0.17	15	2602								3569	3991	4208	4208	3 - 6 - 18	
			150	0.37	22	3615								5289	6028	6538	6538	6 - 13 - 28	
			200	0.66	30	4075								6023	7109	7830	7830	10 - 18 - 33	
	B4	10*	180	0.19	21	2886								4082	4585	4847	4847	4 - 9 - 23	
			240	0.36	30	3813								5572	6399	6957	6957	7 - 15 - 30	
			300	0.52	35	4124								6029	7103	7812	7812	11 - 19 - 34	

Note: Reference page U24 for operational conditions used for performance notes

CBAL-24 / 4-PIPE HEATING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Heating (Btu/h)								Induction ratio	Throw ft.	
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM				
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL			
4	B1	4	15	0.25	15	2962	0.16	0.63	1.41	2.51	3492	3634	3744	5.9	0 - 1 - 4	
			20	0.44	15	3742					4492	4709	4882		1 - 2 - 7	
			25	0.68	15	4302					5236	5515	5683		1 - 3 - 10	
	B2	4	20	0.17	15	2779					3293	3443	3567		4.8	1 - 1 - 5
			30	0.39	15	3683					4476	4709	4856			1 - 3 - 10
			40	0.69	22	4499					5708	6053	6323			2 - 5 - 14
	B3	5	40	0.19	15	3093					3784	3999	4110		4	2 - 4 - 12
			60	0.43	23	4360					5596	5983	6297			4 - 8 - 18
			80	0.77	30	5648					7150	7737	8062			7 - 12 - 21
	B4	6	70	0.19	19	3430					4273	4523	4687		2.5	2 - 6 - 14
			105	0.44	29	5020					6326	6803	7124			6 - 11 - 20
			140	0.75	22	6076					7839	8514	8860			10 - 14 - 23
6	B1	4	20	0.18	15	4084	0.23	0.92	2.06	3.67	4956	5262	5278	5.9	0 - 1 - 4	
			30	0.41	15	5040					6324	6715	6931		1 - 2 - 9	
			40	0.72	22	6185					7909	8534	8766		2 - 4 - 13	
	B2	5	30	0.16	15	3848					4761	5037	5169		4.8	1 - 2 - 6
			45	0.36	16	5095					6458	6929	7099			2 - 3 - 12
			60	0.64	24	6493					8428	9141	9501			3 - 6 - 17
	B3	6	60	0.18	16	4283					5486	5925	6090		4	2 - 5 - 14
			90	0.40	26	6361					8398	9131	9632			5 - 10 - 21
			120	0.72	33	7308					9770	10812	11497			8 - 14 - 26
	B4	10*	105	0.18	15	4791					6183	6701	6919		2.5	3 - 7 - 18
			160	0.42	21	6922					9246	10057	10654			7 - 13 - 25
			215	0.76	29	8002					10669	12022	12811			12 - 18 - 29
8	B1	4	25	0.15	15	5243	0.30	1.21	2.71	4.83	6405	6873	7049	5.9	0 - 1 - 4	
			40	0.40	20	6699					8643	9303	9662		1 - 2 - 10	
			55	0.73	22	7585					10130	11068	11541		2 - 5 - 16	
	B2	5	40	0.16	15	5312					6673	7173	7406		4.8	1 - 2 - 7
			60	0.35	22	6122					8158	8832	9225			2 - 4 - 14
			80	0.62	30	7693					10293	11328	11907			3 - 7 - 19
	B3	8	80	0.17	15	5155					6883	7512	7835		4	2 - 5 - 16
			120	0.38	18	7606					10253	11396	12189			5 - 12 - 25
			160	0.68	25	8545					11913	13646	14779			9 - 16 - 30
	B4	10*	145	0.19	17	5920					7918	8701	9106		2.5	4 - 8 - 21
			215	0.42	27	8250					11246	12690	13656			8 - 16 - 29
			285	0.74	34	9285					13192	15129	16405			14 - 21 - 33
10	B1	5	35	0.19	15	6575	0.37	1.50	3.37	5.98	8370	9118	9429	5.9	1 - 1 - 5	
			52	0.41	20	7754					10276	11305	11855		1 - 3 - 12	
			69	0.73	27	8499					11721	13116	13827		2 - 5 - 18	
	B2	6	55	0.22	16	6636					8802	9637	10080		4.8	1 - 2 - 9
			80	0.39	24	7195					9742	10879	11473			2 - 5 - 17
			105	0.67	31	8703					12478	14083	15034			4 - 9 - 22
	B3	8	100	0.17	15	5782					7931	8869	9351		4	3 - 6 - 18
			150	0.37	22	8032					11754	13396	14529			6 - 13 - 28
			200	0.66	30	9056					13384	15797	17399			10 - 18 - 33
	B4	10*	180	0.19	21	6414					9072	10189	10771		2.5	4 - 9 - 23
			240	0.36	30	8474					12383	14219	15461			7 - 15 - 30
			300	0.52	35	9165					13398	15783	17360			11 - 19 - 34



Note: Reference page U24 for operational conditions used for performance notes

CBAL-24 / 2-PIPE COOLING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Sensible Cooling (Btu/h)								Induction ratio	Throw ft.		
		Inlet Dia. Inches	Flow Rate CFM	Inlet ΔPS (in. H2O)		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM					
						qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL				
4	B1	4	15	0.25	15	1422	1.00		3.80	8.60	1.90	5.9	0 - 1 - 4				
			20	0.44	15	1796							1 - 2 - 7				
			25	0.68	15	2065							1 - 3 - 10				
	B2	4	20	0.17	15	1334							1581	1653	1712	4.8	1 - 1 - 5
			30	0.39	15	1768							2148	2260	2331		1 - 3 - 10
			40	0.69	22	2159							2740	2906	3035		2 - 5 - 14
	B3	5	40	0.19	15	1485							1816	1919	1973	4.0	2 - 4 - 12
			60	0.43	23	2093							2686	2872	3023		4 - 8 - 18
			80	0.77	30	2711							3432	3714	3870		7 - 12 - 21
	B4	6	70	0.19	19	1647							2051	2171	2250	2.5	2 - 6 - 14
			105	0.44	29	2409							3036	3265	3420		6 - 11 - 20
			140	0.75	22	2917							3763	4087	4253		10 - 14 - 23
6	B1	4	20	0.18	15	1960	1.40		5.50	1.60	2.80	5.9	0 - 1 - 4				
			30	0.41	15	2419							3036	3223	3327	1 - 2 - 9	
			40	0.72	22	2969							3796	4096	4207	2 - 4 - 13	
	B2	5	30	0.16	15	1847							2285	2418	2481	4.8	1 - 2 - 6
			45	0.36	16	2446							3100	3326	3407		2 - 3 - 12
			60	0.64	24	3117							4045	4388	4560		3 - 6 - 17
	B3	6	60	0.18	16	2056							2633	2844	2923	4.0	2 - 5 - 14
			90	0.40	26	3053							4031	4383	4623		5 - 10 - 21
			120	0.72	33	3508							4690	5190	5518		8 - 14 - 26
	B4	10*	105	0.18	15	2300							2968	3217	3321	2.5	3 - 7 - 18
			160	0.42	21	3323							4438	4827	5114		7 - 13 - 25
			215	0.76	29	3841							5121	5771	6149		12 - 18 - 29
8	B1	4	25	0.15	15	2516	1.80		7.20	2.10	3.70	5.9	0 - 1 - 4				
			40	0.40	20	3216							4148	4466	4638	1 - 2 - 10	
			55	0.73	22	3641							4863	5313	5540	2 - 5 - 16	
	B2	5	40	0.16	15	2550							3203	3443	3555	4.8	1 - 2 - 7
			60	0.35	22	2939							3916	4239	4428		2 - 4 - 14
			80	0.62	30	3693							4941	5437	5716		3 - 7 - 19
	B3	8	80	0.17	15	2474							3304	3606	3761	4.0	2 - 5 - 16
			120	0.38	18	3651							4922	5470	5851		5 - 12 - 25
			160	0.68	25	4102							5718	6550	7094		9 - 16 - 30
	B4	10*	145	0.19	17	2842							3801	4177	4371	2.5	4 - 8 - 21
			215	0.42	27	3960							5398	6091	6555		8 - 16 - 29
			285	0.74	34	4457							6332	7262	7874		14 - 21 - 33
10	B1	5	35	0.19	15	3156	2.20		8.90	2.60	4.60	5.9	1 - 1 - 5				
			52	0.41	20	3722							4932	5427	5691	1 - 3 - 12	
			69	0.73	27	4080							5626	6296	6637	2 - 5 - 18	
	B2	6	55	0.18	15	3081							4061	4432	4621	4.8	1 - 2 - 9
			80	0.39	24	3454							4676	5222	5507		2 - 5 - 17
			105	0.67	31	4178							5990	6760	7216		4 - 9 - 22
	B3	8	100	0.17	15	2776							3807	4257	4488	4.0	3 - 6 - 18
			150	0.37	22	3855							5642	6430	6974		6 - 13 - 28
			200	0.66	30	4347							6424	7582	8352		10 - 18 - 33
	B4	10*	180	0.19	21	3079							4354	4891	5170	2.5	4 - 9 - 23
			240	0.33	29	3997							5849	6666	7230		7 - 15 - 30
			300	0.52	35	4399							6431	7576	8333		11 - 19 - 34

Note: Reference page U24 for operational conditions used for performance notes

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PERFORMANCE DATA

CBAL-24 / 2-PIPE HEATING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Heating (Btu/h)								Induction ratio	Throw ft.	
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM				
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL			
4	B1	4	15	0.25	15	3950	0.95	3.80	8.55	1.94	4657	4846	4992	5.9	0 - 1 - 4	
			20	0.44	15	4990					5989	6279	6509		1 - 2 - 7	
			25	0.68	15	5736					6982	7353	7577		1 - 3 - 10	
	B2	4	20	0.17	15	3706					4391	4591	4756		4.8	1 - 1 - 5
			30	0.39	15	4911					5968	6279	6475			1 - 3 - 10
			40	0.69	22	5999					7611	8071	8431			2 - 5 - 14
	B3	5	40	0.19	15	4124					5045	5331	5481		4.0	2 - 4 - 12
			60	0.43	23	5813					7461	7978	8396			4 - 8 - 18
			80	0.77	30	7531					9533	10316	10750			7 - 12 - 21
	B4	6	70	0.19	19	4574					5697	6031	6249		2.5	2 - 6 - 14
			105	0.44	29	6693					8434	9071	9499			6 - 11 - 20
			140	0.75	22	8102					10453	11352	11813			10 - 14 - 23
6	B1	4	20	0.18	15	5445	1.38	5.51	1.58	2.81	6608	7016	7037	5.9	0 - 1 - 4	
			30	0.41	15	6720					8433	8954	9241		1 - 2 - 9	
			40	0.72	22	8246					10545	11378	11687		2 - 4 - 13	
	B2	5	30	0.16	15	5130					6348	6716	6892		4.8	1 - 2 - 6
			45	0.36	16	6793					8610	9239	9465			2 - 3 - 12
			60	0.64	24	8657					11237	12188	12667			3 - 6 - 17
	B3	6	60	0.18	16	5711					7314	7901	8119		4.0	2 - 5 - 14
			90	0.40	26	8482					11198	12174	12843			5 - 10 - 21
			120	0.72	33	9744					13027	14416	15329			8 - 14 - 26
	B4	10*	105	0.18	15	6389					8245	8935	9225		2.5	3 - 7 - 18
			160	0.42	21	9230					12328	13409	14206			7 - 13 - 25
			215	0.76	29	10669					14225	16029	17081			12 - 18 - 29
8	B1	4	25	0.15	15	6990	1.80	7.21	2.07	3.68	8539	9164	9399	5.9	0 - 1 - 4	
			40	0.40	20	8932					11524	12405	12883		1 - 2 - 10	
			55	0.73	22	10113					13507	14758	15388		2 - 5 - 16	
	B2	5	40	0.16	15	7083					8898	9564	9875		4.8	1 - 2 - 7
			60	0.35	22	8163					10877	11775	12299			2 - 4 - 14
			80	0.62	30	10257					13724	15104	15877			3 - 7 - 19
	B3	8	80	0.17	15	6873					9177	10016	10446		4.0	2 - 5 - 16
			120	0.38	18	10141					13671	15195	16251			5 - 12 - 25
			160	0.68	25	11394					15884	18194	19705			9 - 16 - 30
	B4	10*	145	0.19	17	7894					10558	11602	12141		2.5	4 - 8 - 21
			215	0.42	27	11000					14994	16920	18208			8 - 16 - 29
			285	0.74	34	12381					17590	20171	21873			14 - 21 - 33
10	B1	5	35	0.19	15	8766	2.23	8.92	2.56	4.55	11160	12157	12572	5.9	1 - 1 - 5	
			52	0.41	20	10339					13701	15074	15807		1 - 3 - 12	
			69	0.73	27	11332					15628	17488	18436		2 - 5 - 18	
	B2	6	55	0.18	15	8558					11281	12311	12837		4.8	1 - 2 - 9
			80	0.39	24	9593					12989	14505	15298			2 - 5 - 17
			105	0.67	31	11604					16638	18777	20046			4 - 9 - 22
	B3	8	100	0.17	15	7710					10574	11825	12468		4.0	3 - 6 - 18
			150	0.37	22	10710					15672	17861	19372			6 - 13 - 28
			200	0.66	30	12074					17846	21062	23199			10 - 18 - 33
	B4	10*	180	0.19	21	8552					12096	13586	14361		2.5	4 - 9 - 23
			240	0.33	29	11103					16247	18517	20083			7 - 15 - 30
			300	0.52	35	12221					17864	21045	23147			11 - 19 - 34



Note: Reference page U24 for operational conditions used for performance notes

CBAL-12 / 4-PIPE COOLING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Sensible Cooling (Btu/h)								Induction ratio	Throw ft.	
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM				
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL			
4	A1	5	26	0.22	15	1120	0.70	2.90	6.50	1.40	1195	1229	1246	4.6	3-4-6	
			32	0.34	15	1280					1383	1429	1452		3-5-7	
			38	0.47	19	1423					1554	1612	1643		4-5-8	
			44	0.64	23	1551					1710	1782	1820		4-6-8	
	A2	6	36	0.14	15	1181					1269	1307	1327		3.7	3-4-7
			48	0.25	17	1410					1542	1601	1631			4-6-8
			60	0.39	23	1606					1783	1863	1904			5-7-9
			72	0.56	28	1774					1996	2096	2149			6-7-10
	A3	8	55	0.15	15	1274					1384	1432	1457		2.9	3-5-8
			75	0.28	15	1529					1695	1770	1808			5-7-10
			95	0.45	18	1739					1962	2062	2116			6-8-11
			115	0.66	23	1916					2196	2323	2392			7-8-12
6	A1	6	30	0.15	15	1374	1.00	4.20	9.40	2.10	1469	1512	1533	4.6	2-4-7	
			40	0.26	15	1660					1809	1874	1907		3-5-8	
			50	0.41	19	1905					2109	2197	2243		4-6-9	
			60	0.58	24	2118					2377	2491	2550		5-7-10	
	A2	6	55	0.18	19	1740					1909	1981	2019	3.7	4-5-9	
			70	0.29	25	2007					2242	2343	2396		5-7-10	
			85	0.43	30	2235					2535	2668	2739		6-8-11	
			100	0.60	35	2433					2801	2965	3052		7-9-12	
	A3	8	85	0.21	15	1878					2090	2181	2229	2.9	4-6-10	
			110	0.35	20	2168					2463	2593	2663		6-8-12	
			135	0.53	25	2413					2792	2961	3051		7-9-13	
			160	0.74	30	2618					3079	3288	3401		8-10-14	
8	A1	8	40	0.16	15	1779	1.40	5.40	1.50	2.70	1933	1999	2032	4.6	3-4-8	
			53	0.27	15	2129					2362	2462	2513		4-6-9	
			66	0.42	15	2423					2737	2874	2944		5-7-10	
			79	0.60	15	2676					3073	3247	3338		6-8-11	
	A2	8	70	0.18	15	2168					2417	2524	2579	3.7	4-6-10	
			95	0.33	17	2583					2956	3120	3205		5-8-12	
			120	0.53	23	2912					3411	3633	3751		7-9-13	
			145	0.77	28	3190					3811	4091	4243		8-10-14	
	A3	8	110	0.23	18	2356					2672	2811	2882	2.9	5-7-12	
			145	0.40	26	2730					3180	3379	3485		6-9-13	
			180	0.62	31	3033					3612	3873	4015		8-10-15	
			215	0.88	34	3282					3986	4310	4487		9-11-16	
10	A1	8	55	0.19	15	2292	1.70	6.70	1.90	3.40	2548	2657	2713	4.6	4-5-9	
			70	0.30	15	2647					3005	3160	3240		4-7-10	
			85	0.44	16	2947					3410	3613	3719		5-8-11	
			100	0.61	20	3207					3775	4026	4158		6-9-12	
	A2	8	90	0.20	15	2650					3018	3178	3260	3.7	5-7-11	
			120	0.35	22	3095					3629	3865	3988		6-9-13	
			150	0.55	28	3446					4142	4456	4623		8-10-15	
			180	0.79	32	3738					4592	4983	5196		9-11-16	
	A3	8	130	0.22	22	2734					3152	3334	3429	2.9	5-8-13	
			170	0.38	29	3138					3722	3981	4119		7-10-14	
			210	0.58	34	3462					4207	4546	4728		8-11-16	
			250	0.75	35	3666					4527	4924	5141		10-12-17	

Note: Reference page U24 for operational conditions used for performance notes

CBAL-12 / 4-PIPE HEATING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Heating (Btu/h)								Induction ratio	Throw ft.
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM			
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL		
4	A1	5	26	0.22	15	2488	0.24	0.96	2.16	3.84	2656	2731	2769	4.6	3-4-6
			32	0.34	15	2844					3074	3175	3228		3-5-7
			38	0.47	19	3161					3454	3583	3651		4-5-8
			44	0.64	23	3446					3801	3961	4044		4-6-8
	A2	6	36	0.14	15	2625					2819	2905	2949		3-4-7
			48	0.25	17	3134					3427	3557	3625		4-6-8
			60	0.39	23	3568					3962	4139	4231		5-7-9
			72	0.56	28	3941					4435	4657	4775		6-7-10
	A3	8	55	0.15	15	2831					3075	3182	3237		3-5-8
			75	0.28	15	3397					3766	3932	4019		5-7-10
			95	0.45	18	3865					4360	4583	4702		6-8-11
			115	0.66	23	4259					4880	5163	5316		7-8-12
6	A1	6	30	0.15	15	3053	0.35	1.38	3.11	5.54	3265	3360	3406	4.6	2-4-7
			40	0.26	15	3690					4021	4164	4237		3-5-8
			50	0.41	19	4233					4687	4882	4984		4-6-9
			60	0.58	24	4706					5282	5534	5667		5-7-10
	A2	6	55	0.18	19	3866					4242	4403	4486	4-5-9	
			70	0.29	25	4460					4981	5207	5325	5-7-10	
			85	0.43	30	4966					5633	5930	6087	6-8-11	
			100	0.60	35	5407					6225	6589	6783	7-9-12	
	A3	8	85	0.21	15	4174					4645	4847	4953	4-6-10	
			110	0.35	20	4818					5473	5763	5918	6-8-12	
			135	0.53	25	5362					6204	6580	6780	7-9-13	
			160	0.74	30	5818					6842	7306	7557	8-10-14	
8	A1	8	40	0.16	15	3954	0.46	1.83	4.11	7.30	4296	4443	4516	4.6	3-4-8
			53	0.27	15	4731					5248	5471	5584		4-6-9
			66	0.42	15	5385					6083	6387	6543		5-7-10
			79	0.60	15	5948					6828	7215	7418		6-8-11
	A2	8	70	0.18	15	4817					5370	5609	5731	4-6-10	
			95	0.33	17	5741					6569	6933	7122	5-8-12	
			120	0.53	23	6472					7580	8073	8336	7-9-13	
			145	0.77	28	7090					8468	9090	9429	8-10-14	
	A3	8	110	0.23	18	5235					5939	6247	6405	5-7-12	
			145	0.40	26	6066					7066	7508	7743	6-9-13	
			180	0.62	31	6740					8027	8607	8921	8-10-15	
			215	0.88	34	7293					8857	9577	9971	9-11-16	
10	A1	8	55	0.19	15	5093	0.57	2.26	5.09	9.05	5661	5905	6030	4.6	4-5-9
			70	0.30	15	5882					6677	7023	7200		4-7-10
			85	0.44	16	6550					7579	8030	8264		5-8-11
			100	0.61	20	7126					8389	8946	9241		6-9-12
	A2	8	90	0.20	15	5889					6706	7062	7245	5-7-11	
			120	0.35	22	6878					8065	8588	8863	6-9-13	
			150	0.55	28	7658					9205	9901	10274	8-10-15	
			180	0.79	32	8307					10204	11073	11546	9-11-16	
	A3	8	130	0.22	22	6076					7004	7410	7620	5-8-13	
			170	0.38	29	6972					8270	8846	9153	7-10-14	
			210	0.58	34	7694					9349	10101	10507	8-11-16	
			250	0.75	35	8147					10060	10942	11423	10-12-17	



Note: Reference page U24 for operational conditions used for performance notes

CBAL-12 / 2-PIPE COOLING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Sensible Cooling (Btu/h)								Induction ratio	Throw ft.		
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM					
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL				
4	A1	5	26	0.22	15	1194	1.00		3.80	8.70	1.10	1275	1311	1329	4.6	3-4-6	
			32	0.34	15	1365						1476	1524	1549		3-5-7	
			38	0.47	19	1517						1658	1720	1752		4-5-8	
			44	0.64	23	1654						1825	1901	1941		4-6-8	
	A2	6	36	0.14	15	1260						1353	1394	1416		3.7	3-4-7
			48	0.25	17	1504						1645	1707	1740			4-6-8
			60	0.39	23	1713						1902	1987	2031			5-7-9
			72	0.56	28	1892						2129	2235	2292			6-7-10
	A3	8	55	0.15	15	1359						1476	1527	1554		2.9	3-5-8
			75	0.28	15	1631						1808	1888	1929			5-7-10
			95	0.45	18	1855						2093	2200	2257			6-8-11
			115	0.66	23	2044						2342	2478	2552			7-8-12
6	A1	6	30	0.15	15	1465	1.40	5.50	1.60	2.90	1567	1613	1635	4.6	2-4-7		
			40	0.26	15	1771					1930	1999	2034		3-5-8		
			50	0.41	19	2032					2250	2343	2392		4-6-9		
			60	0.58	24	2259					2535	2657	2720		5-7-10		
	A2	6	55	0.18	19	1856					2036	2114	2153	3.7	4-5-9		
			70	0.29	25	2141					2391	2499	2556		5-7-10		
			85	0.43	30	2384					2704	2846	2922		6-8-11		
			100	0.60	35	2596					2988	3163	3256		7-9-12		
	A3	8	85	0.21	15	2003					2229	2327	2378	2.9	4-6-10		
			110	0.35	20	2313					2627	2766	2840		6-8-12		
			135	0.53	25	2574					2978	3158	3255		7-9-13		
			160	0.74	30	2793					3284	3507	3627		8-10-14		
8	A1	8	40	0.16	15	1898	1.80	7.30	3.90	6.90	2062	2133	2168	4.6	3-4-8		
			53	0.27	15	2271					2519	2626	2680		4-6-9		
			66	0.42	15	2585					2920	3066	3141		5-7-10		
			79	0.60	15	2855					3278	3463	3561		6-8-11		
	A2	8	70	0.18	15	2312					2578	2692	2751	3.7	4-6-10		
			95	0.33	17	2756					3153	3328	3419		5-8-12		
			120	0.53	23	3107					3639	3875	4001		7-9-13		
			145	0.77	28	3403					4065	4363	4526		8-10-14		
	A3	8	110	0.23	18	2513					2851	2998	3075	2.9	5-7-12		
			145	0.40	26	2912					3391	3604	3717		6-9-13		
			180	0.62	31	3235					3853	4131	4282		8-10-15		
			215	0.88	34	3501					4252	4597	4786		9-11-16		
10	A1	8	55	0.19	15	2445	2.20	8.90	5.30	9.50	2717	2834	2894	4.6	4-5-9		
			70	0.30	15	2823					3205	3371	3456		4-7-10		
			85	0.44	16	3144					3638	3854	3967		5-8-11		
			100	0.61	20	3421					4027	4294	4436		6-9-12		
	A2	8	90	0.20	15	2827					3219	3390	3478	3.7	5-7-11		
			120	0.35	22	3302					3871	4122	4254		6-9-13		
			150	0.55	28	3676					4419	4753	4932		8-10-15		
			180	0.79	32	3987					4898	5315	5542		9-11-16		
	A3	8	130	0.22	22	2916					3362	3557	3658	2.9	5-8-13		
			170	0.38	29	3347					3970	4246	4393		7-10-14		
			210	0.58	34	3693					4488	4849	5043		8-11-16		
			250	0.75	35	3910					4829	5252	5483		10-12-17		

Note: Reference page U24 for operational conditions used for performance notes



CBAL-12 / 2-PIPE HEATING

Nominal Length ft	Nozzle Size	Primary Air			Sound NC	Coil Heating (Btu/h)								Induction ratio	Throw ft.
		Inlet Dia.	Flow Rate	Inlet ΔPS		1.0 GPM		2.0 GPM		3.0 GPM		4.0 GPM			
		Inches	CFM	(in. H2O)		qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL	qTOTAL	ΔCOIL		
4	A1	5	26	0.22	15	3317	0.96	3.84	3541	8.65	3641	1.06	4.6	3-4-6	
			32	0.34	15	3792			4099		4233			4303	3-5-7
			38	0.47	19	4215			4605		4777			4868	4-5-8
			44	0.64	23	4595			5068		5281			5392	4-6-8
	A2	6	36	0.14	15	3500			3759		3873			3932	3-4-7
			48	0.25	17	4178			4569		4742			4833	4-6-8
			60	0.39	23	4758			5282		5519			5641	5-7-9
			72	0.56	28	5255			5913		6209			6367	6-7-10
	A3	8	55	0.15	15	3775			4100		4242			4316	3-5-8
			75	0.28	15	4530			5021		5243			5358	5-7-10
			95	0.45	18	5154			5813		6111			6270	6-8-11
			115	0.66	23	5678			6506		6884			7088	7-8-12
6	A1	6	30	0.15	15	4070	1.38	5.54	4353	1.62	4541	2.87	4.6	2-4-7	
			40	0.26	15	4920			5361		5552			5649	3-5-8
			50	0.41	19	5644			6250		6510			6645	4-6-9
			60	0.58	24	6275			7043		7379			7556	5-7-10
	A2	6	55	0.18	19	5155			5656		5871		5982	4-5-9	
			70	0.29	25	5946			6642		6943		7101	5-7-10	
			85	0.43	30	6621			7511		7906		8116	6-8-11	
			100	0.60	35	7210			8299		8785		9044	7-9-12	
	A3	8	85	0.21	15	5565			6193		6463		6604	4-6-10	
			110	0.35	20	6424			7297		7684		7890	6-8-12	
			135	0.53	25	7149			8272		8773		9040	7-9-13	
			160	0.74	30	7757			9122		9741		10076	8-10-14	
8	A1	8	40	0.16	15	5272	1.83	7.30	5728	3.90	6022	6.93	4.6	3-4-8	
			53	0.27	15	6308			6998		7295			7445	4-6-9
			66	0.42	15	7180			8110		8516			8724	5-7-10
			79	0.60	15	7930			9104		9620			9891	6-8-11
	A2	8	70	0.18	15	6423			7160		7479		7641	4-6-10	
			95	0.33	17	7654			8759		9243		9496	5-8-12	
			120	0.53	23	8630			10107		10764		11114	7-9-13	
			145	0.77	28	9453			11291		12120		12572	8-10-14	
	A3	8	110	0.23	18	6980			7918		8329		8540	5-7-12	
			145	0.40	26	8089			9421		10011		10325	6-9-13	
			180	0.62	31	8987			10703		11475		11895	8-10-15	
			215	0.88	34	9724			11810		12769		13294	9-11-16	
10	A1	8	55	0.19	15	6790	2.23	8.91	7548	5.33	8040	9.47	4.6	4-5-9	
			70	0.30	15	7842			8903		9364			9601	4-7-10
			85	0.44	16	8733			10105		10706			11019	5-8-11
			100	0.61	20	9501			11185		11928			12321	6-9-12
	A2	8	90	0.20	15	7852			8941		9416		9660	5-7-11	
			120	0.35	22	9171			10754		11451		11818	6-9-13	
			150	0.55	28	10210			12274		13202		13699	8-10-15	
			180	0.79	32	11076			13605		14764		15395	9-11-16	
	A3	8	130	0.22	22	8101			9338		9880		10160	5-8-13	
			170	0.38	29	9296			11027		11795		12204	7-10-14	
			210	0.58	34	10258			12466		13468		14009	8-11-16	
			250	0.75	35	10862			13413		14589		15231	10-12-17	

Note: Reference page U24 for operational conditions used for performance notes



NOTES:

1. All performance data based on test performed in accordance with ASHRAE Standard 200-2015
2. ΔP_s values are measured in inches of water
3. NC values are based on room absorption of 10 dB. A dash (-) indicates an NC value less than 15.
4. Throw values are based on isothermal supply air and represent throw distances to terminal velocities of 150, 100 and 50 fpm respectively
5. ΔP_{Coil} values are measured in feet of water. ΔP_{Coil} values in shaded cells indicate use of a two circuit coil. All other values represent a single circuit coil.
6. Induction ratio is multiplied by the volume flow rate of primary air to estimate the volume flow rate of room air entrained through the coil

Cooling performance:

- Cooling capacity listed (qTOTAL) is the total sensible heat removal by the beam's integral coil. It does not include any contribution or offset by the primary air.
- Capacity is based on 18°F ΔT between the induced air and the chilled water supply. Table 1 provides correction factors for other temperature differentials.
- Primary air sensible cooling contribution can be calculated by the following equation:

$$q_{SENSPA} = 1.085 \times CFM_{PA} \times (T_{ROOM} - T_{PA})$$

- Primary air latent cooling can be calculated by the following equation:

$$q_{LATENT} = 0.69 \times CFM_{PA} \times (W_{ROOM} - W_{PA})$$

where W_{ROOM} and W_{PA} are the humidity ratio of the room and primary air respectively expressed in Grains of moisture per pound dry air

TABLE 4: CORRECTION FOR (ΔT) BETWEEN ENTERING AIR AND ENTERING CHILLED WATER

Actual ΔT	10	12	14	16	18	20	22	24
Multiply Table Value by:	0.56	0.67	0.78	0.89	1.00	1.11	1.22	1.33

Heating performance:

- Heating capacity listed (qTOTAL) is the sensible heat removal by the beam's integral coil. It does not include any contribution or offset by the primary air
- Capacity is based on 50°F ΔT between the induced air and the chilled water supply. Table 2 provides correction factors for other temperature differentials.
- Primary air sensible heating offset (or contribution) can be calculated by the following equation:

$$q_{SENSPA} = 1.085 \times CFM_{PA} \times (T_{PA} - T_{ROOM})$$

if the primary air temperature is lower than that of the room, it will offset the coil's heating

if the primary air temperature is higher than that of the room, it will contribute to the coil's heating

TABLE 2: CORRECTION FOR (ΔT) BETWEEN ENTERING AIR AND ENTERING CHILLED WATER

Actual ΔT	20	30	40	50	60	70	80	90	100	110	120
Multiply Table Value by:	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40

Legend:

ΔP_s = Unit Inlet Pressure [in wg]

q_{SENSPA} = Sensible Capacity, Primary Air [Btu/h]

T_{ROOM} = Temperature Room Air [°F]

qCoil = Sensible Capacity, Coil [Btu/h]

CFM_{PA} = Air Flowrate, Primary Air [CFM]

q_{SENSPA} = Latent Capacity, Primary Air [Btu/h]

$\Delta Coil$ = Water coil pressure drop [ft wg]

T_{PA} = Temperature Primary Air [°F]