DT/DTX SERIES UNIT COOLER

Technical Bulletin: 0406_225

DT/DTX Series Unit Cooler

Standard Features

Efficient Coil Design
Tubes are 3/4" O.D. staggered in the direction of air flow. Turbo-Spacers are located between tubes to provide nominal fin spacing and improve fin efficiency by turbulating the air flow.

- Steel coils, including internal framing, are hot dip galvanized after assembly.
- Aluminum tube/fin and copper tube/aluminum fin coils are supplied for applications where weight is a consideration, electric defrost or halocarbon refrigerant is being used.
- Copper tube/aluminum fin coils cannot be used for ammonia applications.

Fans and Motors
Fully guarded, 22" diameter, aluminum bladed propeller fans are direct driven at 1140 RPM by TEAO motors with internal overload protection for both single and three-phase service.

- Motors are factory wired to a NEMA 4x non-fused disconnect located on the casing covering the connections on the header end of the unit. All fan motors can be cycled with one contactor. External overload devices are not required.
- Fan guards conform to UL requirements and have a 10-15 mil fluidic bath coating of black vinyl PVC for corrosion resistance.
- An inverter-ready motor is available for both the 1/3 and 1/2-hp motors in 230/3 and 460/3 power levels.
- Units with 575/3/60 power will use the 1/2 hp motor for all unit sizes.

Housing
Corrosion resistant heavy-gauge mill galvanized steel is used for the outer casing.

- Fans are individually compartmented by continuous tube sheets for uniform air flow and to prevent reverse rotation in the event of motor failure.
- End covers are removable for easy access to TEV and pan to coil check valve.

Drain Pan
For applications with the room above freezing, the drain pan is aluminum with an optional closed cell insulation and mill galvanized cover.

Krack's exclusive stainless steel "coil-less waffle" design is provided for hot gas heated drain pan requirements. Hot gas pans are provided with closed cell insulation between the pan and mill galvanized cover. Drain pans are factory mounted.

Air Defrost
(Above +36˚F Room Temperature)

- Units should be selected at low face velocity (630 FPM or less) to prevent moisture carryover. For high humidity applications, consult Factory Rep for selection.
- Drain pan is aluminum for long life and corrosion protection. Pan with closed cell insulation between the pan and mill galvanized cover is optional.

Hot Gas Defrost Coil Only
(Above +33˚F Room Temperature)

- Hot gas defrost for the coil with an unheated aluminum drain pan.
- Optional pan with closed cell insulation between the pan and mill galvanized cover is recommended.
- For steel and aluminum DX unit applications, hot gas defrost coils are supplied with a hot gas header which by-passes the capillaries for rapid defrost.

Hot Gas Defrost Unit
(Below +32˚F Room Temperature)

- The unique "waffle" (Krack exclusive) stainless steel drain pan allows for the fastest hot gas defrost available. The design assures maximum pan heat in a minimum time.
- Drain pan provided with closed cell insulation between the pan and mill galvanized cover.
- The hot gas outlet connection of the drain pan is connected to the coil with factory mounted interpiping including a check valve. The hot gas inlet connection has a gasket and flange shipped with the unit to connect with the hot gas supply piping.
- For steel and aluminum DX unit applications, hot gas defrost units are supplied with a hot gas header which by-passes the capillaries for rapid defrost.

Electric Defrost

- Available models listed are limited to copper tube/ aluminum fin or all aluminum coil models. (Not for flooded ammonia applications)
- Tubular heaters are inserted through fin Turbo-Spacers and efficiently defrost the coil from the inside out.
- See Page 11 for heater kilowatts and amperage levels.

Water Defrost

- Supply water temperature not to exceed 60˚F.
- Drain pan is aluminum without insulation.
- For six row units only.
- See Page 13 for water flow rates required.

Application

Draw-Thru (DT/DTX) Unit Coolers can be used in medium and low temperature holding coolers, freezers, shipping docks, carcass chill, assembly and process areas.

Blow-Thru (BT/BTX) Unit Coolers should be used in rooms above +20˚F only. BT units are not recommended for carcass chill applications. These unit coolers are not to be used for applications requiring external static pressure by the fans.

Units should be located away from walls a distance equal to the unit height. Air discharge should be free of all obstructions. It is not necessary to locate units near walls of high palletized coolers or freezers. It is best to locate units so that an aisle is behind the unit to allow good return air circulation.

Thermostatic Expansion Valve (TEV)
TEV for DXA must be externally equalized and the discharge tube removed, except for DT1 and DTX1 models using a single circuit coil requiring a TEV with the discharge tube.

50 Hertz Application
50 Hz applications result in a 17% reduction in fan motor speed. Fan pitch will be increased to compensate for 50 Hz derating. Unit capacity derate is not required.

Relative Sound Ratings
Consult factory.

Low Temperature DX R-22, R-404A and R-507
Capacity correction factors for low temperature R-22, R-404A and R507 operation applied to the DX rating are as follows:

-20˚F Suction and Above	1.0
-21˚F to -30˚F Suction	0.9
-31˚F to -40˚F Suction	0.8

Fan Motor Data
Fan motor nameplate amps are total for the unit. Motors have internal over-heat protection and are wired in parallel and cycled with one contactor.

- NEC limits total parallel motor ampacity to 15.0 amps at 600 volts and 20.0 amps at 125 volts or less. Higher capacity models for 115 or 208-230/1/60 service can be provided when more than one parallel motor circuit is used.
- Ampacity will increase as room temperature is lowered (8% at 32˚F; 18% at -10˚F) due to the denser air. As the air temperature lowers TEAO motor capability increases at a faster rate than the imposed fan load.

Coil Connections
Ammonia connection sizes shown in coil connection data are adequate for the following design TD:

Saturated Suction ˚F	-40˚F	-30˚F	-20˚F	+10˚F	+20˚F
3 to 1					
Recirculated	10	13	16	18	18
Direct Expansion	–	–	–	15	18
Flooded	10	13	16	18	18

Consult factory for recirculated halocarbon, brine and heat reclaim inlet and outlet connections.

- Halocarbon distributors will be brass with copper leads.
- Aluminum tube coils will be furnished with a steel companion flange kit, including the flange, bolts, nuts, isolation kits, and gaskets for the coil refrigerant connections.

Optional Features

- Optional long throw adapters will provide a throw of 80-100 feet.
- Electric heat tape on the insulated drain pan cover.
- Hot gas, water, brine or electric reheat.
- Stainless steel sheetmetal.
- The coil fully dipped and dried with a corrosion resistant coating.
- Two speed motor (1/2 hp, three phase only, can be used on any unit model).
- Inverter ready motor (1/2 hp, three phase only, can be used on any unit model).

Models DT 1 to DT 3

Performance Data
(BT/BTX available for 6 rows only)

DT/BT MODEL	CAPACITY BTUH/1˚F TD				AIR DATA		FANS NO./HP*
	WET		FROSTED			FACE	
	DX	REC	DX	REC	CFM	FPM	
1-185	1680	1930	1590	1850	3490	602	(1) 1/3
1-235	2080	2450	1970	2350	3470	598	(1) 1/3
1-200	1820	2190	1720	2000	3375	582	(1) 1/3
1-245	2180	2680	2060	2450	3300	569	(1) 1/3
1-205	–	–	1765	2050	4420	762	(1) 1/2
1-255	–	–	2140	2550	4080	703	(1) 1/2
1-210	–	–	1810	2100	3965	684	(1) 1/2
1-265	–	–	2230	2650	3820	659	(1) 1/2
1-215	1970	2370	–	–	3270	564	(1) 1/3
2-370	3365	4035	3055	3700	6980	602	(2) 1/3
2-475	4390	5230	3990	4750	6940	598	(2) 1/3
2-395	3640	4370	3305	3950	6750	582	(2) 1/3
2-500	4625	5505	4200	5000	6600	569	(2) 1/3
2-415	–	–	3435	4150	8840	762	(2) 1/2
2-525	–	–	4410	5250	8160	703	(2) 1/2
2-425	–	–	3545	4250	7930	684	(2) 1/2
2-535	–	–	4490	5350	8160	703	(2) 1/2
2-430	3940	4730	–	–	6540	564	(2) 1/3
3-550	5045	6050	4585	5500	10450	604	(3) 1/3
3-695	6430	7650	5840	6950	10410	602	(3) 1/3
3-595	5460	6550	4960	5950	10100	584	(3) 1/3
3-750	6940	8255	6300	7500	9900	572	(3) 1/3
3-615	–	–	5145	6155	13250	766	(3) 1/2
3-775	–	–	6510	7750	12240	708	(3) 1/2
3-635	–	–	5320	6350	11890	687	(3) 1/2
3-800	–	–	6720	8000	11460	662	(3) 1/2
3-645	5910	7100	–	–	9800	566	(3) 1/3

* 575/3 volt applications require a 1/2 hp motor.

Notes

Models DT 1 to DT 3

Physical Data
(BT/BTX available for 6 rows only)

DT/BT MODEL	ROWS	FINS INCH	FACE FT.^{2}	SURFACE FT.^{2}	COIL VOL. FT.^{2}	APPROX. SHIPPING WEIGHT		
						STEEL	COPPER	ALUM.
1-185	6	3	5.8	377	0.7	530	340	295
1-235	8	3	5.8	501	0.9	570	355	315
1-200	6	4	5.8	482	0.7	560	360	320
1-245	8	4	5.8	641	0.9	610	380	340
1-205	6	3	5.8	377	0.7	530	340	295
1-255	8	3	5.8	501	0.9	570	355	315
1-210	6	4	5.8	482	0.7	560	360	320
1-265	8	4	5.8	641	0.9	610	380	340
1-215	6	6	5.8	693	0.7	640	410	360
2-370	6	3	11.6	754	1.2	910	590	510
2-475	8	3	11.6	1002	1.6	990	625	545
2-395	6	4	11.6	964	1.2	970	630	540
2-500	8	4	11.6	1282	1.6	1070	670	590
2-415	6	3	11.6	754	1.2	910	590	510
2-525	8	3	11.6	1002	1.6	990	625	545
2-425	6	4	11.6	964	1.2	970	630	540
2-535	8	4	11.6	1282	1.6	1070	670	590
2-430	6	6	11.6	1386	1.2	1130	730	630
3-550	6	3	17.3	1131	1.8	1290	840	720
3-695	8	3	17.3	1503	2.4	1400	890	770
3-595	6	4	17.3	1446	1.8	1380	900	770
3-750	8	4	17.3	1923	2.4	1530	960	845
3-615	6	3	17.3	1131	1.8	1290	840	720
3-775	8	3	17.3	1503	2.4	1400	890	770
3-635	6	4	17.3	1446	1.8	1380	900	770
3-800	8	4	17.3	1923	2.4	1530	960	845
3-645	6	6	17.3	2079	1.8	1620	1050	900

Notes

Models DT 4 to DT 6

Performance Data
(BT/BTX available for 6 rows only)

DT/BT MODEL	CAPACITY BTUH/1˚F TD				AIR DATA		FANS NO./HP*
	WET		FROSTED			FACE	
	DX	REC	DX	REC	CFM	FPM	
4-735	6760	8115	6145	7350	13950	604	(4) 1/3
4-925	8555	10185	7770	9250	13880	601	(4) 1/3
4-795	7305	8750	6640	7950	13500	584	(4) 1/3
4-1000	9250	11010	8400	10000	13200	571	(4) 1/3
4-825	–	–	6850	8250	17700	766	(4) 1/2
4-1045	–	–	8780	10450	16320	706	(4) 1/2
4-850	–	–	7100	8500	15850	686	(4) 1/2
4-1075	–	–	8990	10700	15280	661	(4) 1/2
4-860	7900	9480	–	–	13050	565	(4) 1/3
5-915	8405	10100	7630	9150	17450	604	(5) 1/3
5-1155	10680	12715	9700	11550	17350	600	(5) 1/3
5-990	9090	10910	8255	9905	16850	583	(5) 1/3
5-1250	11560	13760	10500	12500	16500	571	(5) 1/3
5-1030	–	–	8580	10300	22100	765	(5) 1/2
5-1305	–	–	10960	13050	20400	706	(5) 1/2
5-1060	–	–	8870	10600	19850	687	(5) 1/2
5-1340	–	–	11260	13400	19100	661	(5) 1/2
5-1070	9820	11785	–	–	16350	566	(5) 1/3
6-1100	10080	12100	9150	11000	20900	602	(6) 1/3
6-1385	12805	15250	11630	13850	20820	600	(6) 1/3
6-1190	10920	13100	9915	11900	20250	584	(6) 1/3
6-1500	13870	16515	12600	15000	19800	571	(6) 1/3
6-1235	–	–	10290	12350	26500	764	(6) 1/2
6-1555	–	–	13060	15550	24480	705	(6) 1/2
6-1275	–	–	10630	12750	23750	684	(6) 1/2
6-1605	–	–	13480	16050	22920	661	(6) 1/2
6-1290	11820	14200	–	–	19600	565	(6) 1/3

* 575/3 volt applications require a 1/2 hp motor.

Notes

Models DT 4 to DT 6

Physical Data
(BT/BTX available for 6 rows only)

DT/BT MODEL	ROWS	FINS INCH	FACE FT.^{2}	SURFACE FT.^{2}	COIL VOL. FT.^{2}	APPROX. SHIPPING WEIGHT		
						STEEL	COPPER	ALUM.
4-735	6	3	23.1	1508	2.3	1670	1090	930
4-925	8	3	23.1	2004	3.1	1820	1160	1000
4-795	6	4	23.1	1928	2.3	1790	1170	1000
4-1000	8	4	23.1	2564	3.1	2000	1250	1100
4-825	6	3	23.1	1508	2.3	1670	1090	930
4-1045	8	3	23.1	2004	3.1	1820	1160	1000
4-850	6	4	23.1	1928	2.3	1790	1170	1000
4-1075	8	4	23.1	2564	3.1	2000	1250	1100
4-860	6	6	23.1	2772	2.3	2110	1370	1175
5-915	6	3	28.9	1885	2.8	2050	1340	1145
5-1155	8	3	28.9	2505	3.7	2230	1420	1230
5-990	6	4	28.9	3410	2.8	2200	1440	1225
5-1250	8	4	28.9	3205	3.7	2450	1540	1350
5-1030	6	3	28.9	1885	2.8	2050	1340	1145
5-1305	8	3	28.9	2505	3.7	2230	1420	1230
5-1060	6	4	28.9	3410	2.8	2200	1440	1225
5-1340	8	4	28.9	3205	3.7	2450	1540	1350
5-1070	6	6	28.9	3465	2.8	2600	1690	1450
6-1100	6	3	34.7	2262	3.4	2430	1540	1355
6-1385	8	3	34.7	3006	4.5	2650	1690	1460
6-1190	6	4	34.7	2892	3.4	2610	1710	1455
6-1500	8	4	34.7	3846	4.5	2910	1830	1600
6-1235	6	3	34.7	2262	3.4	2430	1540	1355
6-1555	8	3	34.7	3006	4.5	2650	1690	1460
6-1275	6	4	34.7	2892	3.4	2610	1710	1455
6-1605	8	4	34.7	3846	4.5	2910	1830	1600
6-1290	6	6	34.7	4158	3.4	3090	2010	1720

Notes

DTX Series

Models DTX 1 to DTX 3

Performance Data (BT/BTX available for 6 rows only)

DTX/BTX Model	Capacity BTUH/1˚F TD				Air Data		Fans No./HP*
	Wet		Frosted				
	DX	REC	DX	REC	CFM	Face FPM	
1-240	2190	2640	2000	2400	4600	622	(1) 1/3
1-250	2330	2800	2120	2550	4500	608	(1) 1/3
1-260	–	–	2160	2600	5500	743	(1) 1/2
1-270	–	–	2240	2700	5000	676	(1) 1/2
1-330	3050	3630	2770	3300	4570	618	(1) 1/2
1-340	3150	3740	2860	3400	4310	582	(1) 1/2
1-280	2560	3080	–	–	4300	581	(1) 1/2
2-470	4380	5280	3980	4800	9200	617	(2) 1/3
2-510	4650	5650	4230	5100	9000	604	(2) 1/3
2-520	–	–	4320	5200	11000	738	(2) 1/2
2-540	–	–	4480	5400	10000	671	(2) 1/2
2-655	6050	7205	5500	6550	9140	613	(2) 1/2
2-680	6280	7480	5710	6800	8620	579	(2) 1/2
2-560	5110	6160	–	–	8600	577	(2) 1/2
3-720	6570	7920	5980	7200	13800	619	(3) 1/3
3-760	6980	8410	6350	7650	13500	605	(3) 1/3
3-780	–	–	6470	7800	16500	740	(3) 1/2
3-810	–	–	6720	8100	15000	673	(3) 1/2
3-985	9100	10835	8275	9850	13710	615	(3) 1/2
3-1025	9430	11220	8570	10200	12930	580	(3) 1/2
3-840	7670	9240	–	–	12900	578	(3) 1/2

Physical Data (BT/BTX available for 6 rows only)

DTX/BTX Model	Rows	Fins Inch	Face Ft.^{2}	Surface Ft.^{2}	Coil Vol. Ft.^{2}	Approx. Shipping Weight		
						Steel	Copper	Alum.
1-240	6	3	7.4	485	0.9	660	425	370
1-250	6	4	7.4	620	0.9	700	450	390
1-260	6	3	7.4	485	0.9	660	425	370
1-270	6	4	7.4	620	0.9	700	450	390
1-330	8	3	7.4	645	1.2	720	455	400
1-340	8	4	7.4	825	1.2	780	485	430
1-280	6	6	7.4	890	0.9	800	515	800
2-470	6	3	14.9	970	1.5	1140	740	635
2-510	6	4	14.9	1240	1.5	1210	790	675
2-520	6	3	14.9	970	1.5	1140	740	635
2-540	6	4	14.9	1240	1.5	1210	790	675
2-655	8	3	14.9	1290	2.0	1260	800	700
2-680	8	4	14.9	1650	2.0	1370	860	760
2-560	6	6	14.9	1780	1.5	1410	915	785
3-720	6	3	22.3	1455	2.3	1610	1050	900
3-760	6	4	22.3	1860	2.3	1720	1125	960
3-780	6	3	22.3	1455	2.3	1610	1050	900
3-810	6	4	22.3	1860	2.3	1720	1125	960
3-985	8	3	22.3	1935	3.1	1790	1140	990
3-1025	8	4	22.3	2475	3.1	1960	1230	1080
3-840	6	6	22.3	2670	2.3	2030	1315	1130

* 575/3 volt applications require a 1/2 hp motor.

Models DTX 4 to DTX 6

Performance Data (BT/BTX available for 6 rows only)

DTX/BTX MODEL	CAPACITY BTUH/1˚F TD				AIR DATA		FANS
	WET		FROSTED			FACE	
	DX	REC	DX	REC	CFM	FPM	NO./HP*
4-960	8760	10560	7970	9600	18400	620	(4) 1/3
4-1020	9310	11220	8470	10200	18000	606	(4) 1/3
4-1040	–	–	8630	10400	22000	741	(4) 1/2
4-1080	–	–	8960	10800	20000	673	(4) 1/2
4-1310	12100	14410	11000	13100	18280	615	(4) 1/2
4-1360	12570	14960	11425	13600	17240	580	(4) 1/2
4-1120	10230	12320	–	–	17200	579	(4) 1/2
5-1200	10960	13200	9960	12000	23000	618	(5) 1/3
5-1270	11640	14020	10580	12750	22500	605	(5) 1/3
5-1300	–	–	10790	13000	27500	739	(5) 1/2
5-1350	–	–	11200	13500	25000	672	(5) 1/2
5-1640	15150	18040	13775	16400	22850	614	(5) 1/2
5-1700	15700	18700	14280	17000	21550	579	(5) 1/2
5-1400	12780	15400	–	–	21500	578	(5) 1/2
6-1440	13150	15840	11950	14400	27600	619	(6) 1/3
6-1530	13970	16830	12700	15300	27000	605	(6) 1/3
6-1560	–	–	12950	15600	33000	740	(6) 1/2
6-1620	–	–	13450	16200	30000	673	(6) 1/2
6-1965	18160	21615	16510	19650	27420	615	(6) 1/2
6-2025	18710	22275	17010	20250	25860	580	(6) 1/2
6-1680	15340	18480	–	–	25800	578	(6) 1/2

Physical Data (BT/BTX available for 6 rows only)

DTX/BTX MODEL	ROWS	FINS INCH	FACE FT.^{2}	SURFACE FT.^{2}	COIL VOL. FT.^{2}	APPROX. SHIPPING WEIGHT		
						STEEL	COPPER	ALUM.
4-960	6	3	29.7	1940	3.0	2090	1365	1165
4-1020	6	4	29.7	2480	3.0	2240	1465	1250
4-1040	6	3	29.7	1940	3.0	2090	1365	1165
4-1080	6	4	29.7	2480	3.0	2240	1465	1250
4-1310	8	3	29.7	2580	4.0	2330	1485	1280
4-1360	8	4	29.7	3300	4.0	2560	1605	1410
4-1120	6	6	29.7	3560	3.0	2640	1715	1470
5-1200	6	3	37.2	2425	3.6	2560	1675	1425
5-1270	6	4	37.2	3100	3.6	2750	1800	1530
5-1300	6	3	37.2	2425	3.6	2560	1675	1425
5-1350	6	4	37.2	3100	3.6	2750	1800	1530
5-1640	8	3	37.2	3225	4.8	2860	1825	1570
5-1700	8	4	37.2	4125	4.8	3150	1975	1730
5-1400	6	6	37.2	4450	3.6	3250	2115	1810
6-1440	6	3	44.6	2910	4.4	3040	1990	1695
6-1530	6	4	44.6	3720	4.4	3260	2140	1815
6-1560	6	3	44.6	2910	4.4	3040	1990	1695
6-1620	6	4	44.6	3720	4.4	3260	2140	1815
6-1965	8	3	44.6	3870	5.9	3400	2170	1870
6-2025	8	4	44.6	4950	5.9	3740	2350	2060
6-1680	6	6	44.6	5340	4.4	3860	2515	2150

* 575/3 volt applications require a 1/2 hp motor.

Coil Connection Data

Ammonia/Steel Tube Connections – MPT

MODEL	RECIRCULATED			DIRECT RECIRCULATED			FLOODED			DRAIN PAN (FPT)		
	LIQ,	SUCT.	HG	LIQ,	SUCT.	HG	LIQ,	SUCT.	HG	STD,	WATER	HG
DT/BT1	3/4"	1-1/2"	3/4"	1/2"	3/4"	3/4"	1-1/2"	1-1/2"	3/4"	1"	2"	2@1"
DT/BT2	3/4"	2"	3/4"	1/2"	1"	3/4"	1-1/2"	2"	3/4"	1"	2"	2@1"
DT/BT3	3/4"	2"	3/4"	1/2"	1-1/4"	3/4"	1-1/2"	2"	3/4"	1"	2"	2@1"
DT/BT4	3/4"	2-1/2"	1"	1/2"	1-1/4"	1"	2"	2-1/2"	1"	1-1/4"	2-1/2"	2@1-1/2"
DT/BT5	3/4"	2-1/2"	1"	1/2"	1-1/2"	1"	2"	2-1/2"	1"	1-1/4"	2-1/2"	2@1-1/2"
DT/BT6	3/4"	2-1/2"	1"	1/2"	1-1/2"	1"	2-1/2"	3"	1"	1-1/4"	2-1/2"	2@1-1/2"
DTX/BTX1	3/4"	1-1/2"	1"	1/2"	3/4"	3/4"	1-1/2"	1-1/2"	1"	1"	2"	2@1"
DTX/BTX2	3/4"	2"	1"	1/2"	1-1/4"	1"	1-1/2"	2"	1"	1"	2"	2@1"
DTX/BTX3	3/4"	2-1/2"	1"	1/2"	1-1/2"	1"	2"	2-1/2"	1"	1"	2"	2@1"
DTX/BTX4	3/4"	2-1/2"	1-1/2"	1/2"	1-1/2"	1-1/4"	2"	2-1/2"	1-1/2"	1-1/4"	2-1/2"	2@1-1/2"
DTX/BTX5	3/4"	2-1/2"	1-1/2"	1/2"	2"	1-1/4"	2"	3"	1-1/2"	1-1/4"	2-1/2"	2@1-1/2"
DTX/BTX6	1"	3"	1-1/2"	1/2"	2"	1-1/4"	2-1/2"	3"	1-1/2"	1-1/4"	2-1/2"	2@1-1/2"

Halocarbon Copper Tube Connections – ODS

DT/BT MODEL	DIRECT EXPANSION ABOVE +10˚F		DIRECT EXPANSION BELOW +10˚F		HOT GAS CONNECTIONS		DRAIN PAN (FPT)	
	LIQ.	SUCT.	LIQ.	SUCT.	COIL	DRAIN PAN	STD.	WATER
DT/BT1	7/8"	1-1/8"	7/8"	1-3/8"	*5/8'*	*2 @ 7/8"*	1"	2"
DT/BT2	7/8"	1-5/8"	7/8"	2-1/8"	*7/8"*	*2 @ 7/8"*	1"	2"
DT/BT3	7/8"	1-5/8"	1-1/8"	2-1/8"	*7/8"*	*2 @ 7/8"*	1"	2"
DT/BT4	7/8"	1-5/8"	1-3/8"	2-1/8"	*1-1/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"
DT/BT5	7/8"	2-1/8"	1-3/8"	2-5/8"	*1-3/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"
DT/BT6	1-3/8"	2-1/8"	1-3/8"	2-5/8"	*1-3/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"
DTX/BTX1	7/8"	1-1/8"	1-1/8"	1-5/8"	*7/8"*	*2 @ 7/8"*	1"	2"
DTX/BTX2	7/8"	1-3/8"	1-3/8"	2-1/8"	*7/8"*	*2 @ 7/8"*	1"	2"
DTX/BTX3	1-1/8"	1-5/8"	1-3/8"	2-5/8"	*1-1/8"*	*2 @ 7/8"*	1"	2"
DTX/BTX4	1-3/8"	2-1/8"	1-5/8"	2-5/8"	*1-3/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"
DTX/BTX5	1-3/8"	2-1/8"	1-5/8"	3-1/8"	*1-3/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"
DTX/BTX6	1-3/8"	2-1/8"	1-5/8"	3-1/8"	*1-3/8"*	*2 @ 1-3/8"*	1-1/4"	2-1/2"

Note:
Water, glycol, brine coil connections – see factory drawing after order is placed.

Electric Defrost Data

		ED						EDL					
		TOTAL HTRS	NO. OF CIRCUITS – AMPS PER CIRCUIT			TOTAL HTRS	NO. OF CIRCUITS – AMPS PER CIRCUIT	TOTAL HTRS	NO. OF CIRCUITS – AMPS PER CIRCUIT			TOTAL HTRS	NO. OF CIRCUITS - AMPS PER CIRCUIT
UNIT	**ROWS**	**KW**	**230V/3**	**460V/3**	**575V/3**	**KW**	**380V/3**	**KW**	**230V/3**	**460V/3**	**575V/3**	**KW**	**380V/3**
DT/BT 1	6	3.0	1 x 7.5	1 x 3.8	1 x 3.0	2.7	1 x 4.1	5.4	1 x 13.6	1 x 6.8	1 x 5.4	4.9	1 x 7.5
DT 1	8	4.5	1 x 11.3	1 x 5.6	1 x 4.5	4.1	1 x 6.2	6.9	1 x 17.3	1 x 8.7	1 x 6.9	6.3	1 x 9.5
DT/BT 2	6	6.0	1 x 15.1	1 x 7.5	1 x 6.0	5.5	1 x 8.3	10.4	1 x 26.2	1 x 13.1	1 x 10.5	9.5	1 x 14.4
DT 2	8	9.0	1 x 22.6	1 x 11.3	1 x 9.0	8.2	1 x 12.4	13.4	1 x 33.7	1 x 16.9	1 x 13.5	12.2	1 x 18.6
DT/BT 3	6	9.0	1 x 22.6	1 x 11.3	1 x 9.0	8.2	1 x 12.4	15.4	1 x 38.8	1 x 19.4	1 x 15.5	14.1	1 x 21.4
DT 3	8	13.5	1 x 33.9	1 x 16.9	1 x 13.6	12.3	1 x 18.7	19.9	1 x 33.9	1 x 25.0	1 x 20.0	18.1	1 x 27.6
									1 x 16.2				
DT/BT 4	6	12.0	1 x 30.1	1 x 15.1	1 x 12.0	10.9	1 x 16.6	20.5	2 x 25.7	1 x 25.7	1 x 20.5	18.6	1 x 28.3
DT 4	8	18.0	1 x 45.2	1 x 22.6	1 x 18.1	16.4	1 x 24.9	26.5	2 x 33.2	1 x 33.2	1 x 26.6	24.1	1 x 36.6
DT/BT 5	6	15.0	1 x 37.7	1 x 18.8	1 x 15.1	13.6	1 x 20.7	25.5	1 x 37.6	1 x 32.0	1 x 25.6	23.2	1 x 35.2
									1 x 26.3				
DT 5	8	22.5	1 x 33.9	1 x 28.2	1 x 22.6	20.5	1 x 31.1	33.0	2 x 33.9	1 x 41.4	1 x 33.1	30.0	1 x 45.6
			1 x 22.6						1 x 15.0				
DT/BT 6	6	18.0	1 x 45.2	1 x 22.6	1 x 18.1	16.4	1 x 24.9	30.5	2 x 38.3	1 x 38.3	1 x 30.6	27.8	1 x 42.2
DT 6	8	27.0	2 x 33.9	1 x 33.9	1 x 27.1	24.6	1 x 37.3	39.5	2 x 33.9	2 x 24.8	1 x 39.7	35.9	2 x 27.3
									1 x 31.4				
DTX/BTX 1	6	4.5	1 x 11.3	1 x 5.6	1 x 4.5	4.1	1 x 6.2	6.9	1 x 17.3	1 x 8.7	1 x 6.9	6.3	1 x 9.5
DTX 1	8	6.0	1 x 15.1	1 x 7.5	1 x 6.0	5.5	1 x 8.3	8.4	1 x 21.1	1 x 10.5	1 x 8.4	7.6	1 x 11.6
DTX/BTX 2	6	9.0	1 x 22.6	1 x 11.3	1 x 9.0	8.2	1 x 12.4	13.4	1 x 33.7	1 x 16.7	1 x 13.5	12.2	1 x 18.6
DTX 2	8	12.0	1 x 30.1	1 x 15.1	1 x 12.0	10.9	1 x 16.6	16.4	1 x 41.2	1 x 20.6	1 x 16.5	14.9	1 x 22.7
DTX/BTX 3	6	13.5	1 x 33.9	1 x 16.9	1 x 13.6	12.3	1 x 18.7	19.9	1 x 33.9	1 x 25.0	1 x 20.0	18.1	1 x 27.6
									1 x 16.2				
DTX 3	8	18.0	1 x 45.2	1 x 22.6	1 x 18.1	16.4	1 x 24.9	24.4	1 x 33.9	1 x 30.7	1 x 24.5	22.2	1 x 33.8
									1 x 27.5				
DTX/BTX 4	6	18.0	1 x 45.2	1 x 22.6	1 x 18.1	16.4	1 x 24.9	26.5	2 x 33.2	1 x 33.2	1 x 26.6	24.1	1 x 36.6
DTX 4	8	24.0	2 x 30.1	1 x 30.1	1 x 24.1	21.8	1 x 33.2	32.5	2 x 40.7	1 x 40.7	1 x 32.6	29.5	1 x 44.9
DTX/BTX 5	6	22.5	1 x 33.9	1 x 28.2	1 x 22.6	20.5	1 x 31.1	33.0	2 x 33.9	1 x 41.4	1 x 33.1	30.0	1 x 45.6
			1 x 22.6						1 x 15.1				
DTX 5	8	30.0	1 x 45.2	1 x 37.7	1 x 30.1	27.3	1 x 41.5	40.5	1 x 33.9	1 x 30.1	1 x 40.7	36.8	1 x 33.2
			1 x 30.1						1 x 26.3	1 x 20.7			1 x 22.8
									1 x 41.4				
DTX/BTX 6	6	27.0	2 x 33.9	1 x 33.9	1 x 27.1	24.6	1 x 37.3	39.5	2 x 33.9	2 x 24.8	1 x 39.7	35.9	2 x 27.3
									1 x 31.4				
DTX 6	8	36.0	2 x 45.2	1 x 45.2	1 x 36.1	32.8	1 x 24.9	48.5	2 x 45.2	2 x 30.4	2 x 24.4	44.1	2 x 33.5
									1 @ 31.4				

Engineering Data

Coils

DT/DTX, BT/BTX Series propeller fan units are modular in design in one through six fans with two overall heights. Units are designed for medium and freezer temperatures above -40˚F suction in capacities from 2 to 20 nominal tons.

Maximum heat transfer is achieved by staggering 3/4" O.D. tubes in the direction of air flow. Circuits are cross fed with vertical headers resulting in equal circuit loading for horizontal air flow coils. Coils are 6 and 8 rows deep with 3, 4 or 6 fins/inch, fin spacing achieved by Turbo-Spacers.

Coils are constructed and listed in accordance with Underwriters Laboratories Standards. Each coil is tested underwater with 350 psig air, with all steel coils being tested before and after galvanizing.

Material of Construction

- Hot dipped galvanized steel tube and fins.
- Aluminum tube and fins. Aluminum coils are provided with steel companion flanges with bolts, nuts, isolation kits and gaskets, for refrigeration connections.
- Copper tube with aluminum fins. Optional copper fin is available.

Rating Data

Each coil is engineered for maximum efficiency for its specific design application.

- Ratings are based on sensible heat removal. Capacity listed is BTUH/˚F TD sensible heat removal with the coil wet, dry or frosted. Ratings are valid for TDs 20˚F or less. Wet coil heat transfer is more efficient than frosted resulting in higher ratings.
- Wet coil applications are for room temperatures above 32˚F. Selections should be limited to 630 FPM to prevent moisture carryover.
- Consult a Sales Rep for high humidity conditions for proper air velocity.

Fan Motor Heat

Motor heat is not included in the ratings and is usually included in the load estimate.

Coolers	4,000 BTUH/HP
Freezers	4,400 BTUH/HP

Temperature Difference (TD)

Temperature difference (TD) is the difference between return air temperature or room air and coil saturated refrigerant temperature. Rated capacity is multiplied by the TD to determine total sensible heat capacity in BTUH.

Refrigerant Feeds

Recirculated coils have graduated liquid feed orifices to balance static head and reduce hot gas blow-by during defrost. Units operating with an overfeed system must provide liquid at 5 psi above saturated suction pressure and the liquid temperature within 10˚F to 30˚F of saturated suction temperature depending on the suction temperature. Liquid feed temperature and pressure must be specified to assure proper coil design. Consult factory for recirculated low temperature R-22 applications.

- **RT** – Recirculated top feed is recommended for air, water, or electric defrost. Refrigerant oil flows downhill to the suction header. This application is not recommended for hot gas defrost units.
- **RB** – Recirculated bottom feed is recommended for hot gas defrost applications or very high TDs. Hot gas condensate and oil flow downhill, back-flowing through the liquid feed orifices which restrict gas blow-by. Condensate is relieved through the liquid header. Defrost condensate relief devices must be located below the liquid connection. Float drainer should be used in series piped units only (standard configuration); unrelieved vapor will prevent complete and proper defrost cycles.
- **DX** – Direct expansion coils are circuited to have a minimum pressure drop and maintain refrigerant velocity for oil return. Direct expansion coils employ distributors and capillaries to feed each circuit. TEVs must be externally equalized and, on ammonia applications, the discharge tubes must be removed. If a unit does not have a distributor, do not remove the TEV discharge tube. Ammonia TEV applications are not recommended for suction temperatures below 0˚F or with TD selections less than 12˚F. If sub-cooled liquid is used, it must be specified to assure proper coil circuiting.
- **FL** – Flooded coils are circuited to minimize internal losses while maintaining minimum surge drum operating level. When closed coupled, the liquid level in the drum should be four inches or more above the coil. Flooded coil ratings are the same as recirculated ratings.
- Coils can be circuited for water or brine (single-phase) refrigerants. Factory engineering is required for proper unit selection. Provide required capacity, brine type, brine concentration, room temperature, entering brine temperature and GPM for selection.

Reheat

- Hot Gas/Brine/Water Reheat:
  - When used with a six row coil, the cooling coil is the first four rows and the reheat is the last two rows. Contact the factory for cooling capacity.
  - When used with an eight row coil, the cooling coil is the first six rows and the reheat is the last two rows. The cooling capacity is similar to a standard six row coil with a similar face velocity.
  - Eight total row units can be DT/DTX only. Six total row units can be DT/DTX or BT/BTX.
- Electric Reheat:
  - A heater assembly is mounted between the coil face and the fan.
  - Assembly includes a built in overheat thermostat.
  - One 4.65 kw heater per fan section.
  - Heater is factory wired to a terminal block on the header end casing.
  - Can only be used with six row DT/DTX units.

Drain Pan Cover Heating

- In rooms that cannot have humidity condensate dripping from the drain pan cover, a heat tape is available to warm the cover.
- The electric heat tape is affixed to the inside of the pan cover with the tail out the side of the pan.
- 115/1 and 230/1 voltages.
- Amp draw shown on unit drawings when ordered.

Fan Motor Data – DT/DTX, BT/BTX

Fan Motor Nameplate Total Full Load AMPS

Fan No.	HP	115/1	208/1 230/1	208/3 230/3	460/3	380/3	575/3
1	1/3	5.40	2.70	1.70	0.85	0.55	-
1	1/2	7.80	3.90	2.00	1.00	1.10	0.76
2	1/3	10.80	5.40	3.40	1.70	1.10	-
2	1/2	15.60	7.80	4.00	2.00	2.20	1.52
3	1/3	16.20	8.10	5.10	2.55	1.65	-
3	1/2	–	11.70	6.00	3.00	3.30	2.28
4	1/3	–	10.80	6.80	3.40	2.20	-
4	1/2	–	–	8.00	4.00	4.40	3.04
5	1/3	–	13.50	8.50	4.25	2.75	-
5	1/2	–	–	10.00	5.00	5.50	3.80
6	1/3	–	–	10.20	5.10	3.30	-
6	1/2	–	–	12.00	6.00	6.60	4.56

Reheat Heater Total Full Load AMPS

Heater Quantity	KW	208/3 230/3	460/3	380/3	575/3
1	4.65	11.67	5.84	7.06	4.67
2	9.30	23.35	11.67	14.13	9.34
3	13.95	35.02	17.51	21.19	14.01
4	18.60	46.69	23.35	28.26	18.68
5	23.25	58.36	29.18	35.32	23.35
6	27.90	70.04	35.02	42.39	28.01

DT/DTX Water Defrost Data (6-Row Units)

Water defrost must be arranged so that all water pipes are free draining after a defrost cycle in rooms below +32˚F. Water flow requirements using 60˚F water for draw-thru or blow-thru are as follows:

Water Defrost

No. Fans	GPM	Connections No./Size (FPT)
1	8	1 / 1"
2	15	1 / 1"
3	23	1 / 1"
4	32	2 / 1"
5	39	2 / 1"
6	48	2 / 1"

Ordering Information

When Ordering, Please Specify:

- Quantity and complete model number
- SST-Saturated suction temperature
- Room temperature
- Fan motor construction and voltage
- Heater voltage (if applies)
- Control voltage
- Options and accessories
- Sub-cooled liquid-DXF feeds
- Number of drawings for approval – Not released for manufacture.
- Info-Manufacture commences with order approval.

Krack reserves the right to change or revise specifications and product design in connection with any feature of our products.

Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

Model Key

DT	3	A	750	-RB	A	-HGS	-HGR	-RH	-EF

DT/DTX Draw Thru
BT/BTX Blow Thru

NO. OF FANS
1 – 6

COIL MATERIAL
S – Steel Tube/Fin
A – Aluminum Tube/Fin
C – Copper Tube/Aluminum Fin

CAPACITY
Per 1F TD Recirculated or Flooded

REFRIGERANT FEED
DX – Direct Expansion
RT – Recirculated Top
RB – Recirculated Bottom
FL – Flooded
B – Brine/Glycol
C – Chilled Water

REFRIGERANT
A – Ammonia
R – Brine/Glycol
P – R507
S – R404A
V – R22
W – Chilled Water

COATING*
EF – Epoxy ElectroFin
HC – Heresite

COIL CONNECTION HAND
LH – Left Hand
RH – Right Hand

REHEAT*
HGR – Hot Gas
ERH – Electric
HBR – Hot Brine or Water Reheat

TYPE OF DEFROST
A – Air Defrost Unit
IA – Air Defrost Unit w/Insulated DP
ED – Electric Defrost Coil Only
IED – Electric Defrost Coil Only w/Insulated DP
EDL – Electric Defrost Unit
HGC – Hot Gas Coil Only
IHGC – Hot Gas Coil Only w/Insulated DP
HGP – Hot Gas Unit w/Waffle Style DP w/PRL Interpiping
HGS – Hot gas Unit w/Waffle Style DP w/SRS Interpiping
HTP – Hot Gas Unit w/Tube Style DP w/PRL Interpiping
HTS – Hot Gas Unit w/Tube Style DP w/SRS Interpiping
WD – Water Defrost (6 Rows Units Only)

*** Copper and aluminum tube coils only.**
PRL – Parallel
SRS – Series

Dimensions

FOR GENERAL REFERENCE – DO NOT USE FOR CONSTRUCTION PURPOSES

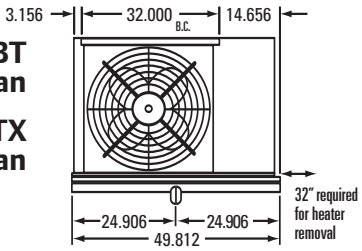
⌑ – Add one inch for insulation.

BC – Bolt hole center/hanger.

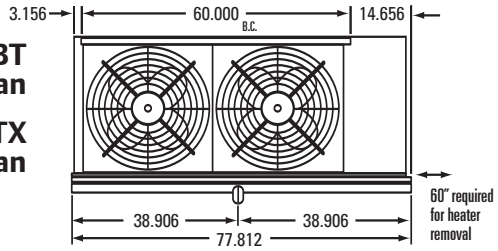
- Add 5" to overall unit height for water defrost.
- Add 5" to overall unit depth for long throw adapter.
- Hanger holes are 5/8" dia. for 1/2" dia. threaded rod.
- DTX/DT Right-hand units shown.
- BTX/BT Left-hand units shown.

* – Includes a captured 1/2 x 13 nut for hanger rods in center set of holes.

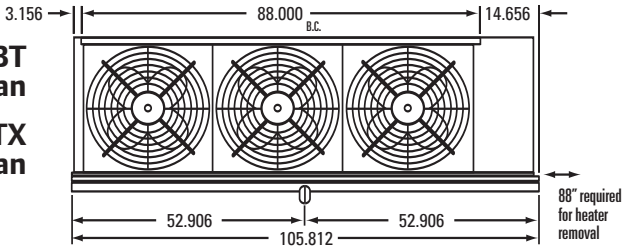
DT/BT 1-Fan
DTX/BTX 1-Fan



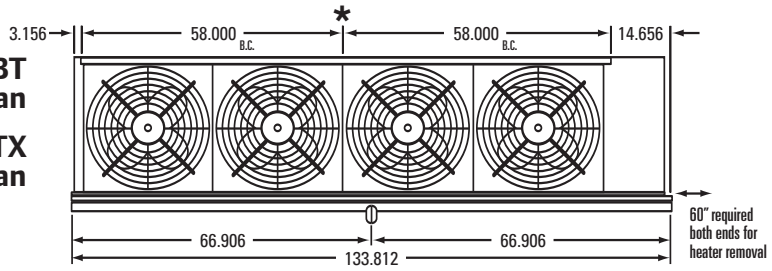
DT/BT 2-Fan
DTX/BTX 2-Fan



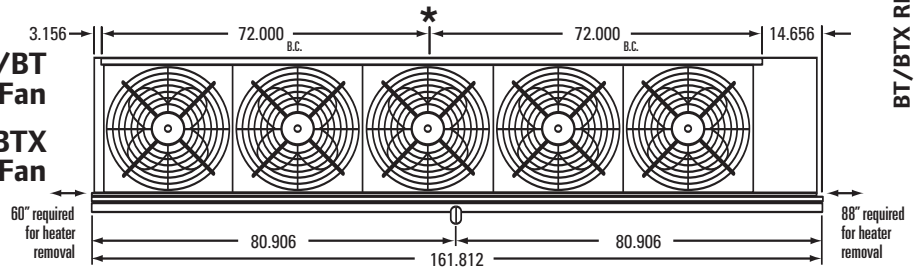
DT/BT 3-Fan
DTX/BTX 3-Fan



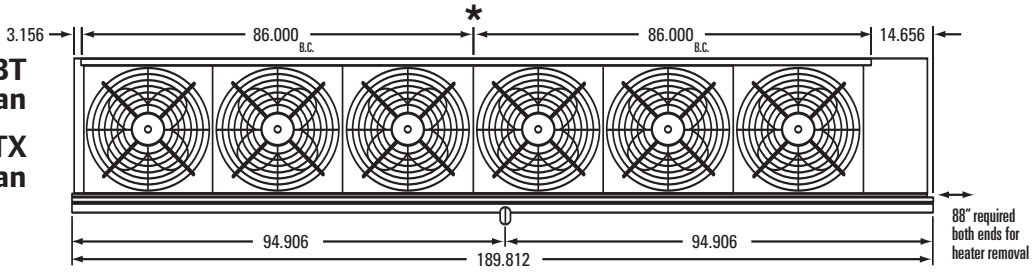
DT/BT 4-Fan
DTX/BTX 4-Fan



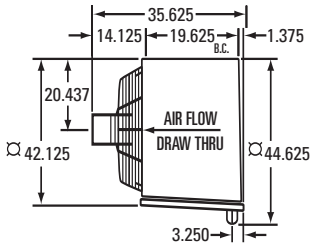
DT/BT 5-Fan
DTX/BTX 5-Fan



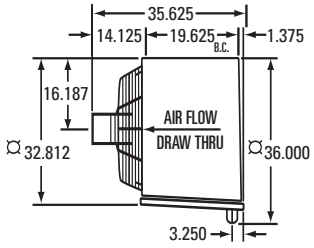
DT/BT 6-Fan
DTX/BTX 6-Fan



DTX UNIT

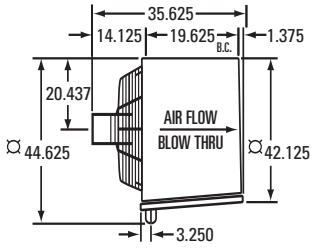


DT UNIT



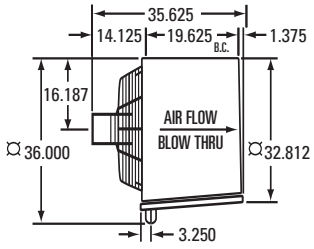
DT/DTX REF. CONN. COIL SIDE

BTX UNIT



BT/BTX REF. CONN. FAN SIDE

BT UNIT



Providing equipment and services to manage controlled-temperature environments for food and temperature sensitive products, our Climate Control Technologies sector encompasses both transport and stationary refrigeration solutions. Our product brands include Thermo King®, world leader in transport temperature control systems, and Hussmann®, a manufacturer of refrigeration and food merchandising equipment.

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