YORK® OVERHEAD ACTIVE CHILLED BEAM

Total comfort control

YORK® ACTIVE CHILLED BEAM WITH
PERFORATED RETURN DIFFUSER

YORK®
BY JOHNSON CONTROLS

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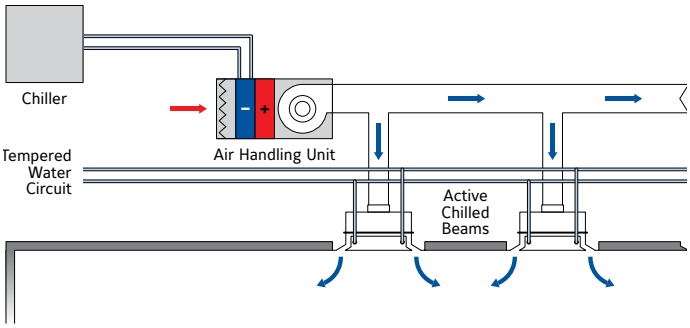
York® Overhead Active Chilled Beam systems are designed to maintain a comfortable indoor climate, and engineered for low energy consumption and compatibility in a low-height ceiling void. These systems provide full cooling, heating, ventilation and humidity control – all with near-silent operation and minimal maintenance requirements.

Concept

The principle of the active chilled beam system is to use terminal chilled water heat exchangers in the ceiling to offset the room sensible cooling loads or to provide sensible heating. The ventilation and humidity control requirements are taken care of using a separate primary conditioned air supplied by a central air handling unit.



Overhead Active Chilled Beam System

Due to the relatively high supply chilled water temperatures – approximately 57°F (14°C) – the heat exchangers operate dry avoiding many of the maintenance and health concerns that are associated with other systems that use terminal heat exchangers such as fan coil units.

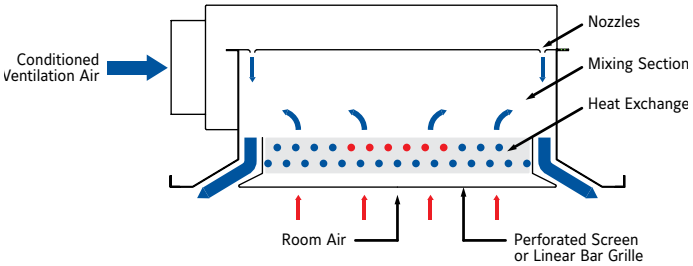
The system provides large energy savings primarily because the amount of air circulated throughout the building can be reduced very close to the ventilation and humidity control requirements. This will result in large reductions in air handling unit fan power and energy consumption.

Further energy savings result from the use of high chilled water temperatures serving the heat exchangers. This can allow the water chiller to operate at higher water temperatures improving chiller operating efficiency and energy consumption.

Technology

York® Overhead Active Chilled Beams integrate the primary air distribution function with the secondary air heat exchange using a proprietary air nozzle technology to induce secondary room air into the unit and through the heat exchanger before mixing with the primary air. The resulting mixture of primary air and induced secondary room air is then supplied to the room through the contoured diffusers which are designed to keep the air close to the ceiling using the Coandă effect.

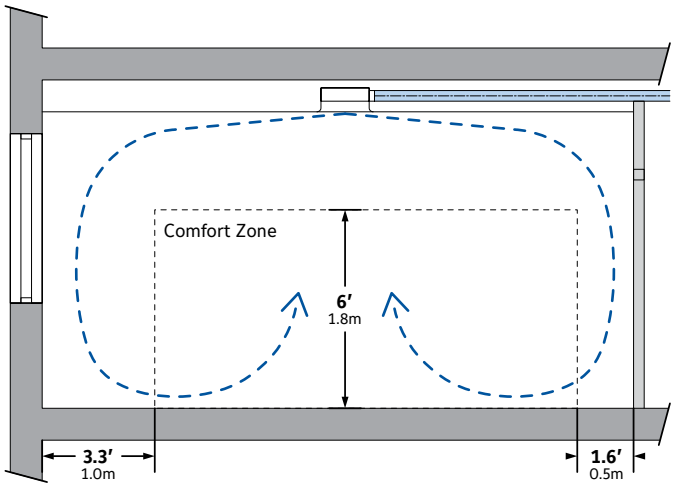
York® Overhead Active Chilled Beams series units are designed with a nominal width of 24" (600mm) to integrate with the ceiling grids of the most common ceiling configurations. Standard nominal unit lengths are 48"–120" (1200mm–3000mm) in 12" (300mm) increments; special lengths are also available to satisfy specific ceiling requirements.



Operating Principle of the Active Chilled Beam

Air Distribution

The shape of the supply slot diffusers are specifically designed to create two opposing discharge air flows from the active chilled beam, which travel along the suspended ceiling. The velocity of the supply air along the suspended ceiling creates a Coandă effect, whereby velocity differences in cool air flow press the air stream against the suspended ceiling, extending air throw and preventing cool air from dropping into the comfort zone prematurely. It is necessary for the suspended ceiling to be flat and free of any obstacles, such as light fixtures situated close to the supply slots, as any obstructions can interfere with the Coandă effect.

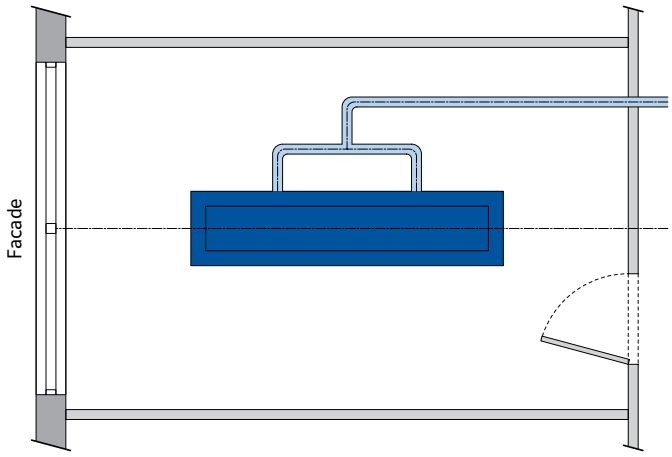


Overhead Active Chilled Beam System

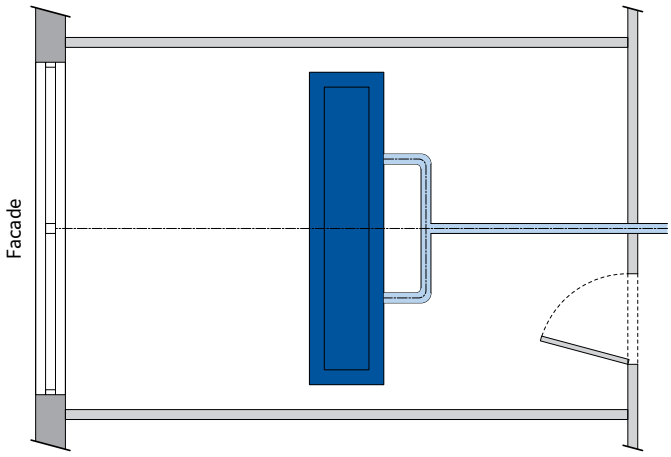
Facade Orientation

Orientation of the active chilled beam in relation to the facade has no influence on operation. The choice between the two most common installation arrangements, perpendicular and parallel, is generally determined by:

- Aesthetics (fitting into the pattern of the suspended ceiling)
- Level of flexibility to create offices within the floor plan
- Number of active chilled beams required to condition the space
- Available distance for air throw – the air must have the opportunity to mix with room air before intersecting a wall or an opposing air stream from another chilled beam
- Obstructions in the suspended ceiling that might interfere with air flow, such as lighting fixtures
- Obstructions in the facade or floor that might interfere with air flow, such as radiators or floor convectors



Perpendicular to Facade



Parallel to Facade

Product Features

High Capacity Nozzle Configurations

YORK® Overhead Active Chilled Beams series active chilled beams are available with eight (8) optional nozzle configurations. Each is designed to provide high induction rates for secondary room air, resulting in high cooling and heating capacities. This makes them suitable for applications in building perimeter zones with higher loads, as well as internal zones. Nozzles are factory installed and can be blanked if single-side discharge is required.

High Efficiency Air Nozzles

Low Height

The YORK® Overhead Active Chilled Beams series is available up to a maximum height of 8-1/4" (210mm), providing compatibility with reduced height ceiling voids to maximize ceiling heights. Alternatively the building slab-to-slab height can be reduced, allowing more floors in a given building height.

Flexible Sizes

Units are available in lengths between 48"–120" (1200mm–3000mm), providing compatibility with most common ceiling configurations. Unit lengths can also be custom tailored to match specific installation requirements.

Diffuser Options

The YORK® Overhead Active Chilled Beams series is available with either perforated return air diffusers or linear blade diffusers. Performance is identical for both configurations; options are offered to best match the aesthetic requirements of the building. Exposed metal surfaces are powder coated with a standard finish color RAL 9010 (20% gloss); other RAL colors are available to match project requirements. Units can also be supplied with either perforated or linear blade center diffusers.

Perforated Return Diffuser

Linear Blade Return Diffuser

Simple Mounting

Units can be easily suspended from the overhead concrete slab, using threaded rod or hanging wire support systems to match with metal panel, fiber board or plaster ceilings. Units can also be installed without false ceilings.

Minimal Noise

Efficiently shaped nozzles create maximum induction at a minimum sound level.

Low Maintenance

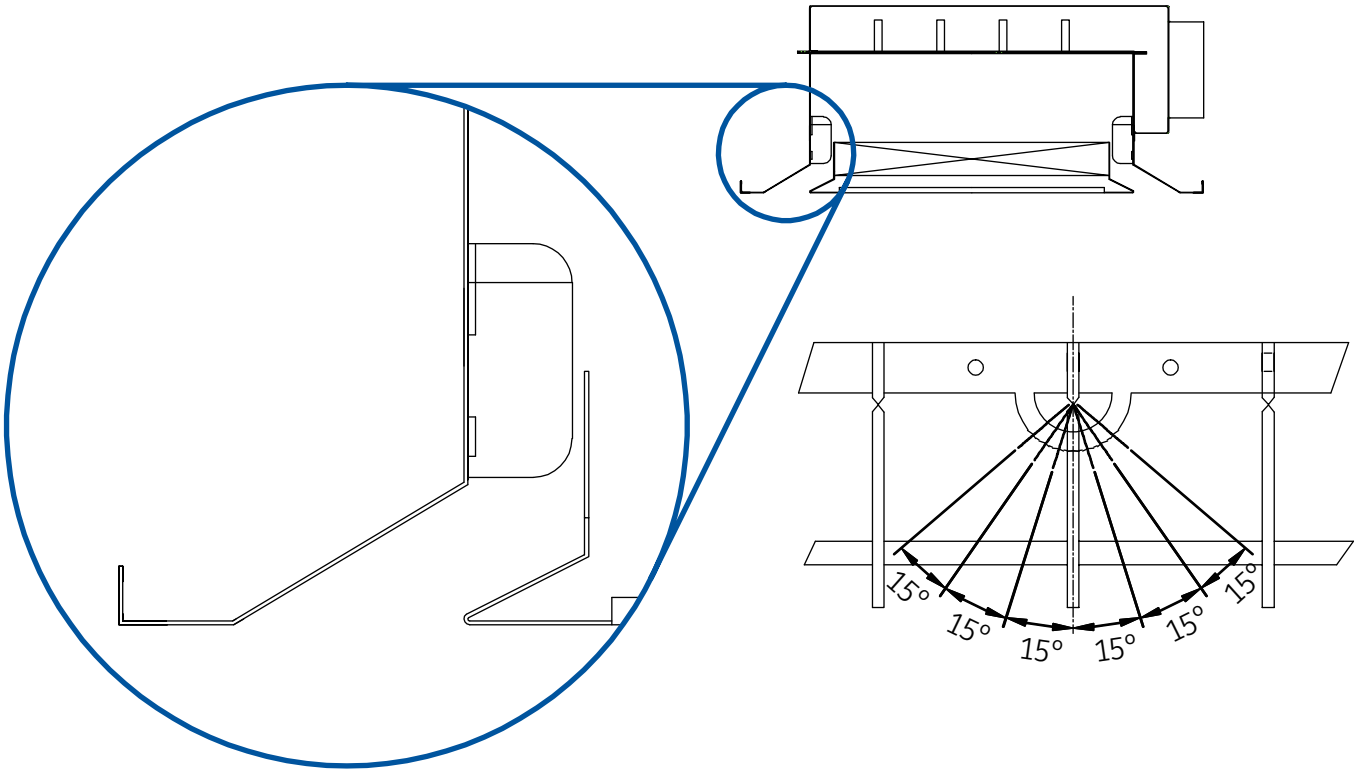
YORK® Overhead Active Chilled Beams series active chilled beams include no filter, fan, drain pan or any other moving parts. As a result, maintenance is limited to cleaning exposed metal surfaces and using a standard vacuum hose to remove dust from the heat exchanger every 2–5 years, depending on the cleanliness of the supply air. The heat exchanger can be easily accessed by releasing the center diffuser, which is equipped with safety hanging wires.

Controls

The YORK® Overhead Active Chilled Beams can be supplied with constant air volume controllers for primary air, water control valves with room control sensors, as well as balancing and isolation valves and condensation sensors.

Air Distribution Control (Optional)

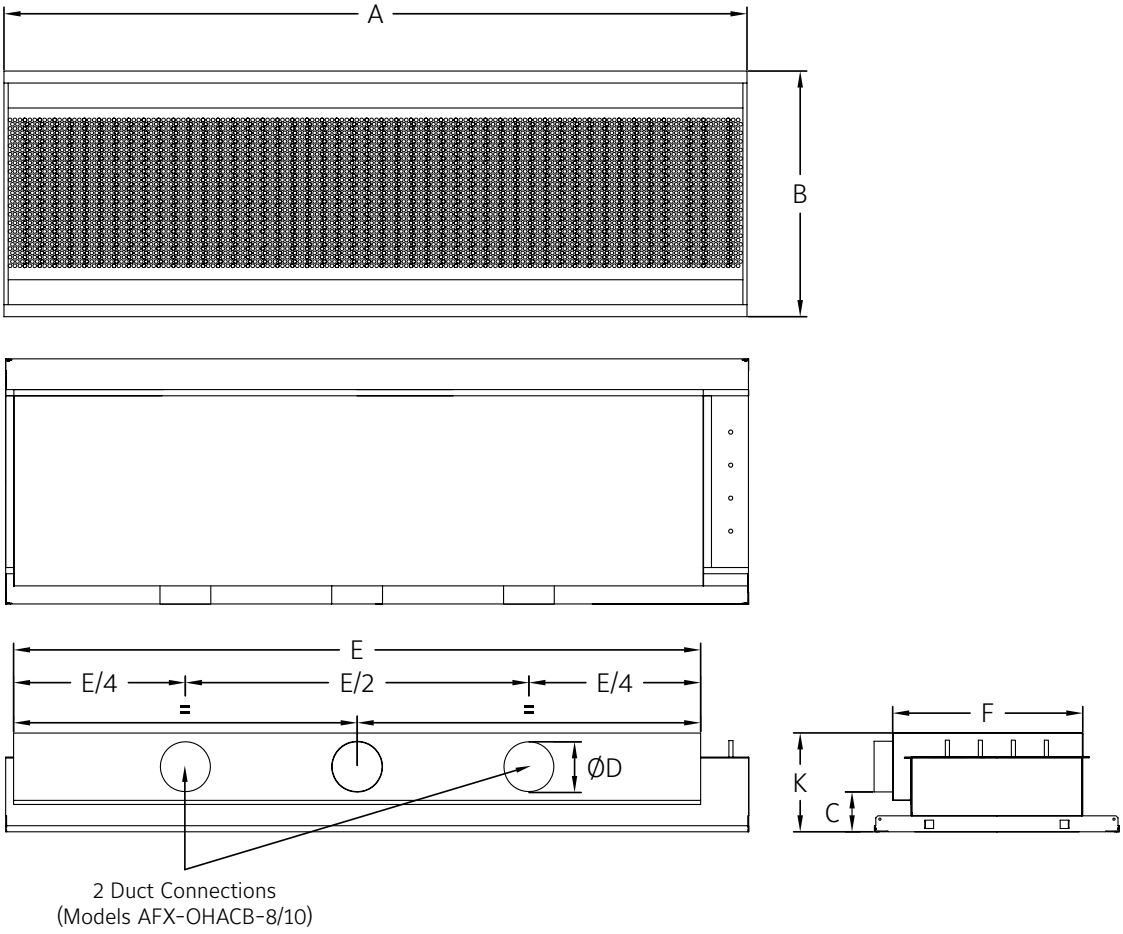
YORK® Overhead Active Chilled Beams series units can be supplied with optional air discharge deflectors, which create a variable air discharge pattern. These deflectors can be independently adjusted to provide an array of distribution patterns.



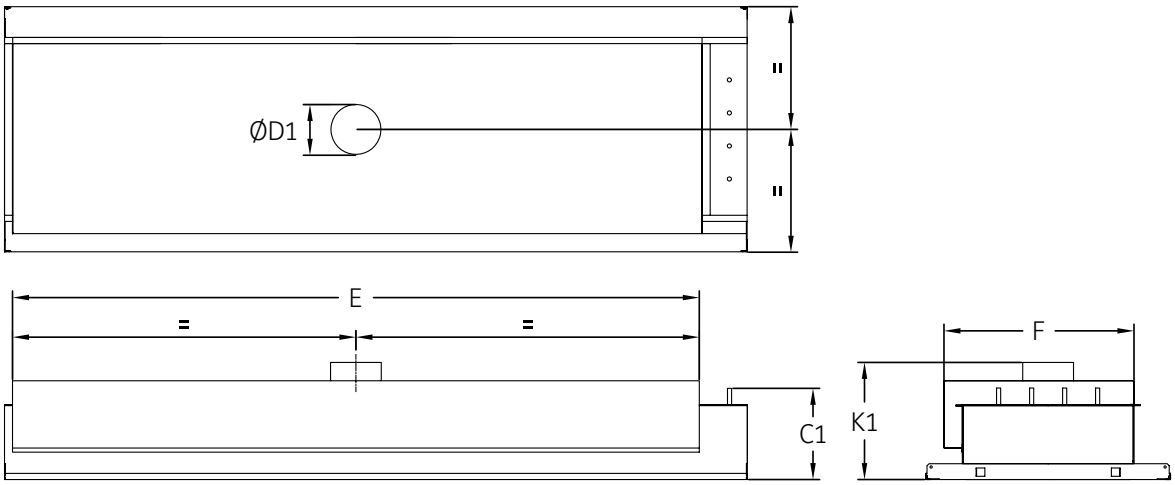
Air Discharge Deflectors for Distribution Control

Dimensions

Side Duct Connection



Top Duct Connection

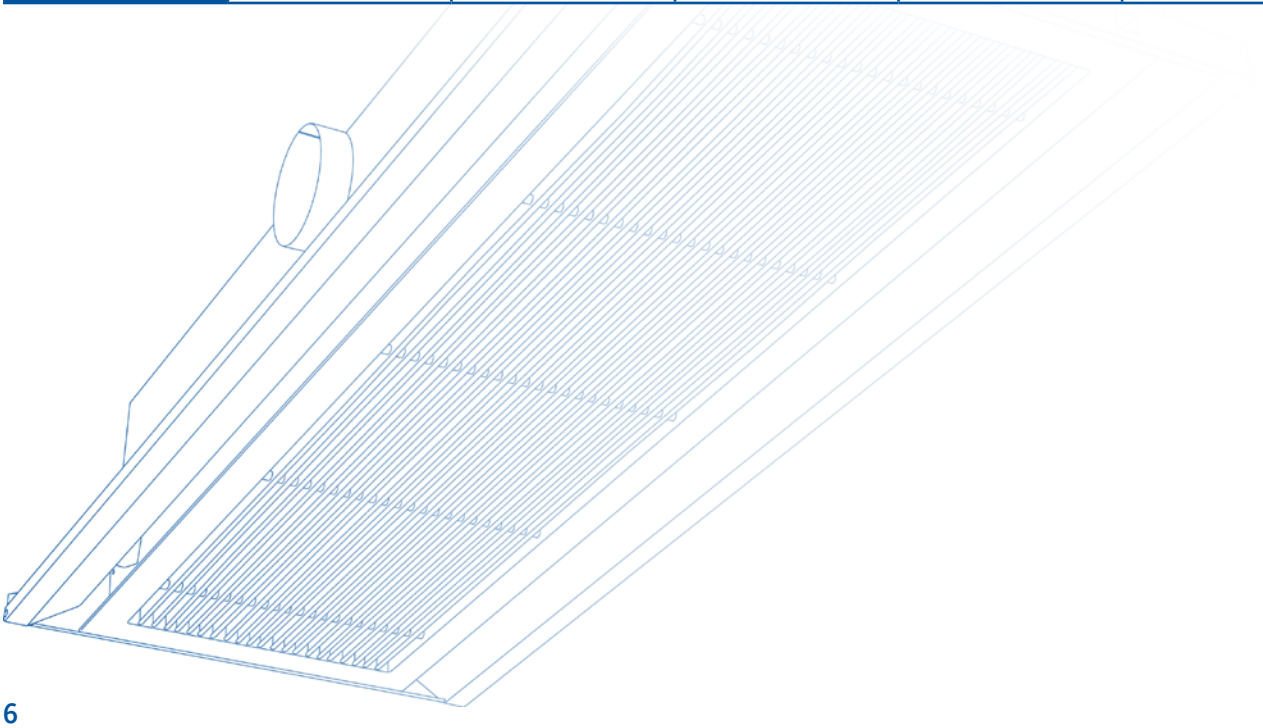


Water Connections (Nominal Diameter)

UNIT SIZE	4'–6' (1.2m–1.8m)	7'–10' (2.4m–3.0m)
CHILLED WATER	1/2" (12mm)	5/8" (15mm)
HOT WATER	1/2" (12mm)	1/2" (12mm)

Dimensional Data (Nominal)

UNIT SIZE	48" (1200mm)	60" (1500mm)	72" (1800mm)	96" (2400mm)	120" (3000mm)
A	47-3/4" (1195mm)	59-3/4" (1495mm)	71-3/4" (1795mm)	95-3/4" (2395mm)	119-3/4" (2995mm)
B	23-3/4" (595mm)	23-3/4" (595mm)	23-3/4" (595mm)	23-3/4" (595mm)	23-3/4" (595mm)
C	3-3/4" (96mm)	3-3/4" (96mm)	3-3/4" (96mm)	3-3/4" (96mm)	3-3/4" (96mm)
C1	8-5/8" (221mm)	8-5/8" (221mm)	8-5/8" (221mm)	8-5/8" (221mm)	8-5/8" (221mm)
D	(1x) Ø 5" (123mm)	(1x) Ø 5" (123mm)	(1x) Ø 5" (123mm)	(2x) Ø 5" (123mm)	(2x) Ø 5" (123mm)
D1	(1x) Ø 5" (123mm)	(1x) Ø 5" (123mm)	(1x) Ø 5" (123mm)	(1x) Ø 6" (158mm)	(1x) Ø 8" (198mm)
E	41-7/8" (1064mm)	53-11/16" (1364mm)	65-1/2" (1664mm)	89-1/8" (2264mm)	112-3/4" (2864mm)
F	18-1/16" (460mm)	18-1/16" (460mm)	18-1/16" (460mm)	18-1/16" (460mm)	18-1/16" (460mm)
K	8-1/4" (210mm)	8-1/4" (210mm)	8-1/4" (210mm)	8-1/4" (210mm)	8-1/4" (210mm)
K1	11-1/4" (285mm)	11-1/4" (285mm)	11-1/4" (285mm)	11-1/4" (285mm)	11-1/4" (285mm)
UNIT WEIGHT	55lb (25 kg)	66lb (30kg)	75lb (34kg)	97lb (44kg)	119lb (54kg)



Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam – 4 (4')

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=20°F	COOLING (T_{RC} - T_{CHS} = 18°F)												HEATING (T_{HWS} - T_{RH} = 70°F)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(cfm)	(in. w.c.)	(NC)	(Btu/hr)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)
A0	13	0.14	≤15	282	0.63	1.17	1297	36	0.95	2.64	1467	35	1.27	4.68	1570	35	0.32	0.50	2500	46	0.48	1.17	3184	44	0.63	2.04	3526	42
	17	0.26	≤15	369	0.63	1.17	1604	37	0.95	2.64	1808	36	1.27	4.68	1945	35	0.32	0.50	3333	51	0.48	1.17	4246	48	0.63	2.04	4663	45
	21	0.40	≤15	456	0.63	1.17	1843	38	0.95	2.64	2081	36	1.27	4.68	2218	35	0.32	0.50	4015	55	0.48	1.17	5080	51	0.63	2.04	5573	48
	25	0.58	≤15	543	0.63	1.17	2013	38	0.95	2.64	2320	37	1.27	4.68	2457	36	0.32	0.50	4545	58	0.48	1.17	5762	54	0.63	2.04	6331	50
	30	0.79	17	651	0.63	1.17	2184	39	0.95	2.64	2491	37	1.27	4.68	2661	36	0.32	0.50	4999	60	0.48	1.17	6331	56	0.63	2.04	6975	52
A1	17	0.17	≤15	369	0.63	1.17	1399	36	0.95	2.64	1570	35	1.27	4.68	1672	35	0.32	0.50	3144	50	0.48	1.17	3943	47	0.63	2.04	4360	44
	21	0.26	≤15	456	0.63	1.17	1672	37	0.95	2.64	1945	36	1.27	4.68	2047	35	0.32	0.50	3787	53	0.48	1.17	4777	50	0.63	2.04	5269	47
	25	0.38	≤15	543	0.63	1.17	1945	38	0.95	2.64	2218	37	1.27	4.68	2354	36	0.32	0.50	4318	56	0.48	1.17	5459	53	0.63	2.04	5990	49
	30	0.52	≤15	651	0.63	1.17	2150	39	0.95	2.64	2457	37	1.27	4.68	2593	36	0.32	0.50	4772	59	0.48	1.17	6028	55	0.63	2.04	6634	51
	34	0.68	18	738	0.63	1.17	2320	39	0.95	2.64	2661	38	1.27	4.68	2832	37	0.32	0.50	5151	61	0.48	1.17	6520	57	0.63	2.04	7203	52
B1	25	0.19	≤15	543	0.63	1.17	1501	37	0.95	2.64	1740	36	1.27	4.68	1843	35	0.32	0.50	3447	52	0.48	1.17	4360	49	0.63	2.04	4814	46
	32	0.29	≤15	694	0.63	1.17	1774	38	0.95	2.64	2047	36	1.27	4.68	2184	35	0.32	0.50	3977	55	0.48	1.17	5042	51	0.63	2.04	5573	48
	38	0.42	18	825	0.63	1.17	2013	38	0.95	2.64	2320	37	1.27	4.68	2457	36	0.32	0.50	4431	57	0.48	1.17	5648	53	0.63	2.04	6179	50
	44	0.57	22	955	0.63	1.17	2218	39	0.95	2.64	2525	37	1.27	4.68	2696	36	0.32	0.50	4848	60	0.48	1.17	6141	55	0.63	2.04	6748	51
	51	0.75	26	1107	0.63	1.17	2388	40	0.95	2.64	2730	38	1.27	4.68	2900	37	0.32	0.50	5189	62	0.48	1.17	6596	57	0.63	2.04	7241	53
C1	38	0.23	≤15	825	0.63	1.17	1740	38	0.95	2.64	2013	36	1.27	4.68	2116	35	0.32	0.50	3598	53	0.48	1.17	4587	49	0.63	2.04	5042	46
	47	0.34	20	1020	0.63	1.17	1979	38	0.95	2.64	2252	37	1.27	4.68	2423	36	0.32	0.50	4090	55	0.48	1.17	5194	52	0.63	2.04	5724	48
	55	0.48	25	1194	0.63	1.17	2150	39	0.95	2.64	2491	37	1.27	4.68	2627	36	0.32	0.50	4507	58	0.48	1.17	5724	54	0.63	2.04	6293	50
	64	0.63	28	1389	0.63	1.17	2320	39	0.95	2.64	2661	38	1.27	4.68	2832	37	0.32	0.50	4848	60	0.48	1.17	6179	55	0.63	2.04	6786	51
	72	0.81	31	1562	0.63	1.17	2457	40	0.95	2.64	2832	38	1.27	4.68	3003	37	0.32	0.50	5189	61	0.48	1.17	6558	57	0.63	2.04	7241	53
E1	51	0.23	20	1107	0.63	1.17	1911	38	0.95	2.64	2184	37	1.27	4.68	2320	36	0.32	0.50	4053	55	0.48	1.17	5156	51	0.63	2.04	5648	48
	59	0.32	24	1280	0.63	1.17	2081	38	0.95	2.64	2388	37	1.27	4.68	2525	36	0.32	0.50	4431	57	0.48	1.17	5611	53	0.63	2.04	6179	49
	68	0.41	28	1476	0.63	1.17	2218	39	0.95	2.64	2559	37	1.27	4.68	2730	36	0.32	0.50	4772	59	0.48	1.17	6028	55	0.63	2.04	6634	51
	76	0.52	31	1649	0.63	1.17	2354	39	0.95	2.64	2696	38	1.27	4.68	2866	37	0.32	0.50	5075	61	0.48	1.17	6407	56	0.63	2.04	7051	52
	85	0.64	33	1845	0.63	1.17	2491	40	0.95	2.64	2832	38	1.27	4.68	3037	37	0.32	0.50	5340	62	0.48	1.17	6748	58	0.63	2.04	7430	53
F1	59	0.20	22	1280	0.63	1.17	1911	38	0.95	2.64	2218	37	1.27	4.68	2354	36	0.32	0.50	4090	55	0.48	1.17	5194	52	0.63	2.04	5724	48
	70	0.28	27	1519	0.63	1.17	2081	39	0.95	2.64	2388	37	1.27	4.68	2559	36	0.32	0.50	4469	57	0.48	1.17	5686	53	0.63	2.04	6255	50
	81	0.37	30	1758	0.63	1.17	2252	39	0.95	2.64	2559	37	1.27	4.68	2730	36	0.32	0.50	4810	59	0.48	1.17	6103	55	0.63	2.04	6710	51
	91	0.48	34	1975	0.63	1.17	2388	40	0.95	2.64	2730	38	1.27	4.68	2900	37	0.32	0.50	5113	61	0.48	1.17	6482	56	0.63	2.04	7127	52
	102	0.59	37	2213	0.63	1.17	2491	40	0.95	2.64	2866	38	1.27	4.68	3037	37	0.32	0.50	5378	62	0.48	1.17	6786	58	0.63	2.04	7468	53
G1	68	0.21	25	1476	0.63	1.17	1945	38	0.95	2.64	2218	37	1.27	4.68	2354	36	0.32	0.50	4204	56	0.48	1.17	5345	52	0.63	2.04	5876	49
	81	0.29	30	1758	0.63	1.17	2116	39	0.95	2.64	2423	37	1.27	4.68	2593	36	0.32	0.50	4507	58	0.48	1.17	5724	54	0.63	2.04	6293	50
	93	0.39	34	2018	0.63	1.17	2286	39	0.95	2.64	2627	38	1.27	4.68	2798	36	0.32	0.50	4810	59	0.48	1.17	6065	55	0.63	2.04	6672	51
	106	0.51	38	2300	0.63	1.17	2423	40	0.95	2.64	2764	38	1.27	4.68	2969	37	0.32	0.50	5037	61	0.48	1.17	6369	56	0.63	2.04	7013	52
	119	0.63	41	2582	0.63	1.17	2559	40	0.95	2.64	2934	38	1.27	4.68	3105	37	0.32	0.50	5265	62	0.48	1.17	6634	57	0.63	2.04	7316	53
H1	93	0.19	31	2018	0.63	1.17	2184	39	0.95	2.64	2491	37	1.27	4.68	2661	36	0.32	0.50	4393	57	0.48	1.17	5573	53	0.63	2.04	6141	49
	110	0.26	37	2387	0.63	1.17	2286	39	0.95	2.64	2627	38	1.27	4.68	2798	36	0.32	0.50	4659	58	0.48	1.17	5914	54	0.63	2.04	6482	50
	127	0.35	41	2756	0.63	1.17	2388	40	0.95	2.64	2764	38	1.27	4.68	2934	37	0.32	0.50	4886	60	0.48	1.17	6217	55	0.63	2.04	6824	51
	144	0.45	43	3125	0.63	1.17	2491	40	0.95	2.64	2866	38	1.27	4.68	3037	37	0.32	0.50	5113	61	0.48	1.17	6482	56	0.63	2.04	7127	52
	161	0.57	46	3494	0.63	1.17	2559	40	0.95	2.64	2934	38	1.27	4.68	3139	37	0.32	0.50	5302	62	0.48	1.17	6710	57	0.63	2.04	7392	53

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 20°F$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 20°F. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity Q_S = 1.085 x Airflow (cfm) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 18°F$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 18°F.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 70°F$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 70°F.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam – 4 (1200mm)

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=10°C	COOLING (T_{RC} - T_{CHS} = 10°C)												HEATING (T_{HWS} - T_{RH} = 35°C)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(l/s)	(Pa)	(NC)	(W)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)
A0	6	36	≤15	73	0.04	3.5	380	2.2	0.06	7.9	430	1.7	0.08	14	460	1.4	0.02	1.5	660	7.9	0.03	3.5	840	6.7	0.04	6.1	930	5.5
	8	64	≤15	97	0.04	3.5	470	2.8	0.06	7.9	530	2.1	0.08	14	570	1.7	0.02	1.5	880	10.6	0.03	3.5	1120	8.9	0.04	6.1	1230	7.3
	10	100	≤15	121	0.04	3.5	540	3.2	0.06	7.9	610	2.4	0.08	14	650	1.9	0.02	1.5	1060	12.6	0.03	3.5	1340	10.7	0.04	6.1	1470	8.8
	12	144	≤15	146	0.04	3.5	590	3.5	0.06	7.9	680	2.7	0.08	14	720	2.2	0.02	1.5	1200	14.3	0.03	3.5	1520	12.1	0.04	6.1	1670	10.0
	14	196	17	170	0.04	3.5	640	3.8	0.06	7.9	730	2.9	0.08	14	780	2.3	0.02	1.5	1320	15.8	0.03	3.5	1670	13.3	0.04	6.1	1840	11.0
A1	8	42	≤15	97	0.04	3.5	410	2.4	0.06	7.9	460	1.8	0.08	14	490	1.5	0.02	1.5	830	9.9	0.03	3.5	1040	8.3	0.04	6.1	1150	6.9
	10	66	≤15	121	0.04	3.5	490	2.9	0.06	7.9	570	2.3	0.08	14	600	1.8	0.02	1.5	1000	11.9	0.03	3.5	1260	10.0	0.04	6.1	1390	8.3
	12	95	≤15	146	0.04	3.5	570	3.4	0.06	7.9	650	2.6	0.08	14	690	2.1	0.02	1.5	1140	13.6	0.03	3.5	1440	11.5	0.04	6.1	1580	9.4
	14	129	≤15	170	0.04	3.5	630	3.7	0.06	7.9	720	2.9	0.08	14	760	2.3	0.02	1.5	1260	15.0	0.03	3.5	1590	12.7	0.04	6.1	1750	10.4
	16	169	18	194	0.04	3.5	680	4.1	0.06	7.9	780	3.1	0.08	14	830	2.5	0.02	1.5	1360	16.3	0.03	3.5	1720	13.7	0.04	6.1	1900	11.3
B1	12	47	≤15	146	0.04	3.5	440	2.6	0.06	7.9	510	2.0	0.08	14	540	1.6	0.02	1.5	910	10.9	0.03	3.5	1150	9.2	0.04	6.1	1270	7.6
	15	73	≤15	182	0.04	3.5	520	3.1	0.06	7.9	600	2.4	0.08	14	640	1.9	0.02	1.5	1050	12.6	0.03	3.5	1330	10.6	0.04	6.1	1470	8.8
	18	105	18	218	0.04	3.5	590	3.5	0.06	7.9	680	2.7	0.08	14	720	2.2	0.02	1.5	1170	14.0	0.03	3.5	1490	11.8	0.04	6.1	1630	9.8
	21	143	22	255	0.04	3.5	650	3.9	0.06	7.9	740	3.0	0.08	14	790	2.4	0.02	1.5	1280	15.3	0.03	3.5	1620	12.9	0.04	6.1	1780	10.6
	24	186	26	291	0.04	3.5	700	4.2	0.06	7.9	800	3.2	0.08	14	850	2.5	0.02	1.5	1370	16.4	0.03	3.5	1740	13.8	0.04	6.1	1910	11.4
C1	18	57	≤15	218	0.04	3.5	510	3.1	0.06	7.9	590	2.3	0.08	14	620	1.9	0.02	1.5	950	11.4	0.03	3.5	1210	9.6	0.04	6.1	1330	7.9
	22	85	20	267	0.04	3.5	580	3.5	0.06	7.9	660	2.6	0.08	14	710	2.1	0.02	1.5	1080	12.9	0.03	3.5	1370	10.9	0.04	6.1	1510	9.0
	26	119	25	315	0.04	3.5	630	3.8	0.06	7.9	730	2.9	0.08	14	770	2.3	0.02	1.5	1190	14.2	0.03	3.5	1510	12.0	0.04	6.1	1660	9.9
	30	158	28	364	0.04	3.5	680	4.1	0.06	7.9	780	3.1	0.08	14	830	2.5	0.02	1.5	1280	15.3	0.03	3.5	1630	12.9	0.04	6.1	1790	10.7
	34	203	31	412	0.04	3.5	720	4.3	0.06	7.9	830	3.3	0.08	14	880	2.6	0.02	1.5	1370	16.3	0.03	3.5	1730	13.8	0.04	6.1	1910	11.4
E1	24	58	20	291	0.04	3.5	560	3.3	0.06	7.9	640	2.6	0.08	14	680	2.0	0.02	1.5	1070	12.8	0.03	3.5	1360	10.8	0.04	6.1	1490	8.9
	28	79	24	340	0.04	3.5	610	3.6	0.06	7.9	700	2.8	0.08	14	740	2.2	0.02	1.5	1170	14.0	0.03	3.5	1480	11.8	0.04	6.1	1630	9.7
	32	103	28	388	0.04	3.5	650	3.9	0.06	7.9	750	3.0	0.08	14	800	2.4	0.02	1.5	1260	15.0	0.03	3.5	1590	12.7	0.04	6.1	1750	10.5
	36	130	31	437	0.04	3.5	690	4.1	0.06	7.9	790	3.2	0.08	14	840	2.5	0.02	1.5	1340	16.0	0.03	3.5	1690	13.5	0.04	6.1	1860	11.1
	40	160	33	485	0.04	3.5	730	4.3	0.06	7.9	830	3.3	0.08	14	890	2.6	0.02	1.5	1410	16.8	0.03	3.5	1780	14.2	0.04	6.1	1960	11.7
F1	28	50	22	340	0.04	3.5	560	3.4	0.06	7.9	650	2.6	0.08	14	690	2.0	0.02	1.5	1080	12.9	0.03	3.5	1370	10.9	0.04	6.1	1510	9.0
	33	70	27	400	0.04	3.5	610	3.7	0.06	7.9	700	2.8	0.08	14	750	2.2	0.02	1.5	1180	14.1	0.03	3.5	1500	11.9	0.04	6.1	1650	9.8
	38	93	30	461	0.04	3.5	660	3.9	0.06	7.9	750	3.0	0.08	14	800	2.4	0.02	1.5	1270	15.2	0.03	3.5	1610	12.8	0.04	6.1	1770	10.6
	43	119	34	522	0.04	3.5	700	4.2	0.06	7.9	800	3.2	0.08	14	850	2.5	0.02	1.5	1350	16.1	0.03	3.5	1710	13.6	0.04	6.1	1880	11.2
	48	148	37	582	0.04	3.5	730	4.4	0.06	7.9	840	3.3	0.08	14	890	2.7	0.02	1.5	1420	16.9	0.03	3.5	1790	14.3	0.04	6.1	1970	11.8
G1	32	52	25	388	0.04	3.5	570	3.4	0.06	7.9	650	2.6	0.08	14	690	2.1	0.02	1.5	1110	13.3	0.03	3.5	1410	11.2	0.04	6.1	1550	9.3
	38	73	30	461	0.04	3.5	620	3.7	0.06	7.9	710	2.8	0.08	14	760	2.3	0.02	1.5	1190	14.3	0.03	3.5	1510	12.0	0.04	6.1	1660	9.9
	44	97	34	534	0.04	3.5	670	4.0	0.06	7.9	770	3.1	0.08	14	820	2.4	0.02	1.5	1270	15.1	0.03	3.5	1600	12.8	0.04	6.1	1760	10.5
	50	126	38	607	0.04	3.5	710	4.2	0.06	7.9	810	3.2	0.08	14	870	2.6	0.02	1.5	1330	15.9	0.03	3.5	1680	13.4	0.04	6.1	1850	11.0
	56	158	41	679	0.04	3.5	750	4.5	0.06	7.9	860	3.4	0.08	14	910	2.7	0.02	1.5	1390	16.5	0.03	3.5	1750	14.0	0.04	6.1	1930	11.5
H1	44	47	31	534	0.04	3.5	640	3.8	0.06	7.9	730	2.9	0.08	14	780	2.3	0.02	1.5	1160	13.9	0.03	3.5	1470	11.7	0.04	6.1	1620	9.6
	52	66	37	631	0.04	3.5	670	4.0	0.06	7.9	770	3.1	0.08	14	820	2.4	0.02	1.5	1230	14.7	0.03	3.5	1560	12.4	0.04	6.1	1710	10.2
	60	88	41	728	0.04	3.5	700	4.2	0.06	7.9	810	3.2	0.08	14	860	2.6	0.02	1.5	1290	15.4	0.03	3.5	1640	13.0	0.04	6.1	1800	10.8
	68	113	43	825	0.04	3.5	730	4.4	0.06	7.9	840	3.3	0.08	14	890	2.7	0.02	1.5	1350	16.1	0.03	3.5	1710	13.6	0.04	6.1	1880	11.2
	76	142	46	922	0.04	3.5	750	4.5	0.06	7.9	860	3.4	0.08	14	920	2.7	0.02	1.5	1400	16.7	0.03	3.5	1770	14.1	0.04	6.1	1950	11.6

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 10°C$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 10°C. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity W = 1.213 x Airflow (l/s) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 10°C$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 10°C.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 35°C$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 35°C.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–6 (6')

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=20°F	COOLING (T_{RC} - T_{CHS} = 18°F)												HEATING (T_{HWS} - T_{RH} = 70°F)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(cfm)	(in. w.c.)	(NC)	(Btu/hr)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)
A0	21	0.16	≤15	460	0.63	1.61	1945	6	0.95	3.61	2252	5	1.27	6.46	2388	4	0.48	1.47	3977	17	0.63	2.61	5037	16	0.79	4.05	5530	14
	28	0.27	≤15	598	0.63	1.61	2354	7	0.95	3.61	2696	6	1.27	6.46	2866	5	0.48	1.47	5265	22	0.63	2.61	6666	21	0.79	4.05	7348	19
	34	0.41	≤15	736	0.63	1.61	2696	9	0.95	3.61	3071	6	1.27	6.46	3276	5	0.48	1.47	6325	27	0.63	2.61	7992	25	0.79	4.05	8787	22
	40	0.58	≤15	874	0.63	1.61	2934	9	0.95	3.61	3378	7	1.27	6.46	3583	6	0.48	1.47	7158	30	0.63	2.61	9090	29	0.79	4.05	9999	25
	47	0.78	17	1012	0.63	1.61	3173	10	0.95	3.61	3651	8	1.27	6.46	3856	6	0.48	1.47	7916	33	0.63	2.61	9999	32	0.79	4.05	10984	28
A1	28	0.18	≤15	598	0.63	1.61	2081	7	0.95	3.61	2388	5	1.27	6.46	2525	4	0.48	1.47	4924	21	0.63	2.61	6249	20	0.79	4.05	6855	17
	34	0.27	≤15	736	0.63	1.61	2491	8	0.95	3.61	2832	6	1.27	6.46	3037	5	0.48	1.47	5946	25	0.63	2.61	7537	24	0.79	4.05	8295	21
	40	0.39	≤15	874	0.63	1.61	2832	9	0.95	3.61	3242	7	1.27	6.46	3446	5	0.48	1.47	6780	29	0.63	2.61	8598	27	0.79	4.05	9469	24
	47	0.52	≤15	1012	0.63	1.61	3105	10	0.95	3.61	3583	8	1.27	6.46	3787	6	0.48	1.47	7499	32	0.63	2.61	9507	30	0.79	4.05	10453	26
	53	0.67	18	1150	0.63	1.61	3378	11	0.95	3.61	3856	8	1.27	6.46	4095	6	0.48	1.47	8143	34	0.63	2.61	10302	32	0.79	4.05	11325	29
B1	42	0.21	≤15	920	0.63	1.61	2491	8	0.95	3.61	2866	6	1.27	6.46	3037	5	0.48	1.47	5643	24	0.63	2.61	7158	23	0.79	4.05	7878	20
	51	0.30	≤15	1104	0.63	1.61	2764	9	0.95	3.61	3173	7	1.27	6.46	3378	5	0.48	1.47	6401	27	0.63	2.61	8105	26	0.79	4.05	8901	22
	59	0.41	18	1287	0.63	1.61	3003	9	0.95	3.61	3446	7	1.27	6.46	3651	6	0.48	1.47	7045	30	0.63	2.61	8901	28	0.79	4.05	9810	25
	68	0.53	22	1471	0.63	1.61	3207	10	0.95	3.61	3651	8	1.27	6.46	3890	6	0.48	1.47	7613	32	0.63	2.61	9620	30	0.79	4.05	10567	27
	76	0.67	26	1655	0.63	1.61	3378	11	0.95	3.61	3856	8	1.27	6.46	4129	7	0.48	1.47	8105	34	0.63	2.61	10264	32	0.79	4.05	11287	28
C1	117	0.22	≤15	2529	0.63	1.61	2730	9	0.95	3.61	3139	7	1.27	6.46	3344	5	0.48	1.47	6325	27	0.63	2.61	7992	25	0.79	4.05	8787	22
	163	0.31	20	3541	0.63	1.61	2969	9	0.95	3.61	3412	7	1.27	6.46	3617	6	0.48	1.47	6893	29	0.63	2.61	8711	27	0.79	4.05	9582	24
	216	0.41	25	4690	0.63	1.61	3173	10	0.95	3.61	3651	8	1.27	6.46	3890	6	0.48	1.47	7423	31	0.63	2.61	9393	30	0.79	4.05	10302	26
	278	0.53	28	6024	0.63	1.61	3378	11	0.95	3.61	3856	8	1.27	6.46	4095	6	0.48	1.47	7878	33	0.63	2.61	9961	31	0.79	4.05	10946	28
	345	0.65	31	7495	0.63	1.61	3549	11	0.95	3.61	4060	9	1.27	6.46	4299	7	0.48	1.47	8257	35	0.63	2.61	10453	33	0.79	4.05	11514	29
E1	81	0.23	20	1747	0.63	1.61	2798	9	0.95	3.61	3207	7	1.27	6.46	3378	5	0.48	1.47	6401	27	0.63	2.61	8105	26	0.79	4.05	8901	22
	93	0.31	24	2023	0.63	1.61	3037	10	0.95	3.61	3480	7	1.27	6.46	3685	6	0.48	1.47	7007	29	0.63	2.61	8863	28	0.79	4.05	9734	25
	106	0.41	28	2299	0.63	1.61	3242	10	0.95	3.61	3719	8	1.27	6.46	3958	6	0.48	1.47	7537	32	0.63	2.61	9507	30	0.79	4.05	10453	26
	119	0.51	31	2575	0.63	1.61	3412	11	0.95	3.61	3924	8	1.27	6.46	4163	7	0.48	1.47	7992	34	0.63	2.61	10113	32	0.79	4.05	11097	28
	131	0.62	33	2851	0.63	1.61	3583	11	0.95	3.61	4129	9	1.27	6.46	4368	7	0.48	1.47	8408	35	0.63	2.61	10643	34	0.79	4.05	11703	30
F1	93	0.20	22	2023	0.63	1.61	2798	9	0.95	3.61	3207	7	1.27	6.46	3753	6	0.48	1.47	6477	27	0.63	2.61	8181	26	0.79	4.05	9014	23
	110	0.28	27	2391	0.63	1.61	3037	10	0.95	3.61	3515	7	1.27	6.46	3719	6	0.48	1.47	7083	30	0.63	2.61	8938	28	0.79	4.05	9847	25
	127	0.37	30	2759	0.63	1.61	3276	10	0.95	3.61	3753	8	1.27	6.46	3992	6	0.48	1.47	7613	32	0.63	2.61	9620	30	0.79	4.05	10567	27
	144	0.48	34	3127	0.63	1.61	3446	11	0.95	3.61	3958	8	1.27	6.46	4231	7	0.48	1.47	8067	34	0.63	2.61	10188	32	0.79	4.05	11211	28
	161	0.59	37	3495	0.63	1.61	3617	11	0.95	3.61	4163	9	1.27	6.46	4436	7	0.48	1.47	8446	36	0.63	2.61	10681	34	0.79	4.05	11779	30
G1	114	0.24	25	2483	0.63	1.61	2934	9	0.95	3.61	3344	7	1.27	6.46	3583	6	0.48	1.47	6666	28	0.63	2.61	8408	27	0.79	4.05	9279	23
	131	0.31	30	2851	0.63	1.61	3139	10	0.95	3.61	3617	8	1.27	6.46	3822	6	0.48	1.47	7120	30	0.63	2.61	9014	28	0.79	4.05	9923	25
	148	0.39	34	3219	0.63	1.61	3344	11	0.95	3.61	3822	8	1.27	6.46	4060	6	0.48	1.47	7575	32	0.63	2.61	9582	30	0.79	4.05	10529	27
	165	0.49	38	3587	0.63	1.61	3515	11	0.95	3.61	4026	8	1.27	6.46	4265	7	0.48	1.47	7916	33	0.63	2.61	10037	32	0.79	4.05	11059	28
	182	0.60	41	3954	0.63	1.61	3685	12	0.95	3.61	4197	9	1.27	6.46	4470	7	0.48	1.47	8257	35	0.63	2.61	10453	33	0.79	4.05	11514	29
H1	153	0.20	31	3311	0.63	1.61	3207	10	0.95	3.61	3685	8	1.27	6.46	3924	6	0.48	1.47	6931	29	0.63	2.61	8787	28	0.79	4.05	9658	24
	178	0.28	37	3862	0.63	1.61	3378	11	0.95	3.61	3856	8	1.27	6.46	4095	6	0.48	1.47	7348	31	0.63	2.61	9317	29	0.79	4.05	10226	26
	203	0.36	41	4414	0.63	1.61	3515	11	0.95	3.61	4026	8	1.27	6.46	4265	7	0.48	1.47	7726	32	0.63	2.61	9772	31	0.79	4.05	10756	27
	229	0.46	43	4966	0.63	1.61	3617	11	0.95	3.61	4163	9	1.27	6.46	4436	7	0.48	1.47	8067	34	0.63	2.61	10188	32	0.79	4.05	11211	28
	254	0.57	46	5518	0.63	1.61	3753	12	0.95	3.61	4299	9	1.27	6.46	4572	7	0.48	1.47	8332	35	0.63	2.61	10567	33	0.79	4.05	11628	29

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 20°F$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 20°F. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity Q_S = 1.085 x Airflow (cfm) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 18°F$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 18°F.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 70°F$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 70°F.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–6 (1800mm)

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=10°C	COOLING (T_{RC} - T_{CHS} = 10°C)												HEATING (T_{HWS} - T_{RH} = 35°C)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(l/s)	(Pa)	(NC)	(W)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)
A0	10	40	≤15	121	0.04	4.8	570	3.4	0.06	10.8	660	2.6	0.08	19.3	700	2.1	0.03	4.4	1050	8.3	0.04	7.8	1330	7.9	0.05	12.1	1460	7.0
	13	68	≤15	158	0.04	4.8	690	4.1	0.06	10.8	790	3.2	0.08	19.3	840	2.5	0.03	4.4	1390	11.1	0.04	7.8	1760	10.5	0.05	12.1	1940	9.3
	16	103	≤15	194	0.04	4.8	790	4.7	0.06	10.8	900	3.6	0.08	19.3	960	2.9	0.03	4.4	1670	13.3	0.04	7.8	2110	12.6	0.05	12.1	2320	11.1
	19	145	21	230	0.04	4.8	860	5.2	0.06	10.8	990	3.9	0.08	19.3	1050	3.1	0.03	4.4	1890	15.1	0.04	7.8	2400	14.3	0.05	12.1	2640	12.6
	22	195	24	267	0.04	4.8	930	5.6	0.06	10.8	1070	4.2	0.08	19.3	1130	3.4	0.03	4.4	2090	16.6	0.04	7.8	2640	15.8	0.05	12.1	2900	13.9
A1	13	45	≤15	158	0.04	4.8	610	3.6	0.06	10.8	700	2.8	0.08	19.3	740	2.2	0.03	4.4	1300	10.4	0.04	7.8	1650	9.8	0.05	12.1	1810	8.7
	16	68	≤15	194	0.04	4.8	730	4.3	0.06	10.8	830	3.3	0.08	19.3	890	2.6	0.03	4.4	1570	12.5	0.04	7.8	1990	11.9	0.05	12.1	2190	10.4
	19	96	18	230	0.04	4.8	830	4.9	0.06	10.8	950	3.8	0.08	19.3	1010	3.0	0.03	4.4	1790	14.3	0.04	7.8	2270	13.5	0.05	12.1	2500	11.9
	22	129	22	267	0.04	4.8	910	5.4	0.06	10.8	1050	4.2	0.08	19.3	1110	3.3	0.03	4.4	1980	15.8	0.04	7.8	2510	15.0	0.05	12.1	2760	13.2
	25	166	26	303	0.04	4.8	990	5.9	0.06	10.8	1130	4.5	0.08	19.3	1200	3.6	0.03	4.4	2150	17.1	0.04	7.8	2720	16.2	0.05	12.1	2990	14.3
B1	20	52	16	243	0.04	4.8	730	4.4	0.06	10.8	840	3.3	0.08	19.3	890	2.7	0.03	4.4	1490	11.9	0.04	7.8	1890	11.3	0.05	12.1	2080	9.9
	24	75	21	291	0.04	4.8	810	4.8	0.06	10.8	930	3.7	0.08	19.3	990	2.9	0.03	4.4	1690	13.4	0.04	7.8	2140	12.8	0.05	12.1	2350	11.2
	28	102	25	340	0.04	4.8	880	5.2	0.06	10.8	1010	4.0	0.08	19.3	1070	3.2	0.03	4.4	1860	14.8	0.04	7.8	2350	14.0	0.05	12.1	2590	12.3
	32	133	29	388	0.04	4.8	940	5.6	0.06	10.8	1070	4.3	0.08	19.3	1140	3.4	0.03	4.4	2010	16.0	0.04	7.8	2540	15.2	0.05	12.1	2790	13.3
	36	168	32	437	0.04	4.8	990	5.9	0.06	10.8	1130	4.5	0.08	19.3	1210	3.6	0.03	4.4	2140	17.0	0.04	7.8	2710	16.2	0.05	12.1	2980	14.2
C1	55	55	23	340	0.04	4.8	800	4.8	0.06	10.8	920	3.7	0.08	19.3	980	2.9	0.03	4.4	1670	13.3	0.04	7.8	2110	12.6	0.05	12.1	2320	11.1
	77	77	27	400	0.04	4.8	870	5.2	0.06	10.8	1000	4.0	0.08	19.3	1060	3.2	0.03	4.4	1820	14.5	0.04	7.8	2300	13.8	0.05	12.1	2530	12.1
	102	102	31	461	0.04	4.8	930	5.6	0.06	10.8	1070	4.3	0.08	19.3	1140	3.4	0.03	4.4	1960	15.6	0.04	7.8	2480	14.8	0.05	12.1	2720	13.0
	131	131	34	522	0.04	4.8	990	5.9	0.06	10.8	1130	4.5	0.08	19.3	1200	3.6	0.03	4.4	2080	16.5	0.04	7.8	2630	15.7	0.05	12.1	2890	13.8
	163	163	36	582	0.04	4.8	1040	6.2	0.06	10.8	1190	4.7	0.08	19.3	1260	3.8	0.03	4.4	2180	17.4	0.04	7.8	2760	16.5	0.05	12.1	3040	14.5
E1	38	58	29	461	0.04	4.8	820	4.9	0.06	10.8	940	3.7	0.08	19.3	990	3.0	0.03	4.4	1690	13.5	0.04	7.8	2140	12.8	0.05	12.1	2350	11.2
	44	78	33	534	0.04	4.8	890	5.3	0.06	10.8	1020	4.0	0.08	19.3	1080	3.2	0.03	4.4	1850	14.7	0.04	7.8	2340	14.0	0.05	12.1	2570	12.3
	50	101	35	607	0.04	4.8	950	5.7	0.06	10.8	1090	4.3	0.08	19.3	1160	3.4	0.03	4.4	1990	15.8	0.04	7.8	2510	15.0	0.05	12.1	2760	13.2
	56	126	39	679	0.04	4.8	1000	6.0	0.06	10.8	1150	4.6	0.08	19.3	1220	3.6	0.03	4.4	2110	16.8	0.04	7.8	2670	15.9	0.05	12.1	2930	14.0
	62	155	42	752	0.04	4.8	1050	6.3	0.06	10.8	1210	4.8	0.08	19.3	1280	3.8	0.03	4.4	2220	17.6	0.04	7.8	2810	16.8	0.05	12.1	3090	14.7
F1	44	50	31	534	0.04	4.8	820	4.9	0.06	10.8	940	3.7	0.08	19.3	1100	3.0	0.03	4.4	1710	13.6	0.04	7.8	2160	12.9	0.05	12.1	2380	11.4
	52	69	35	631	0.04	4.8	890	5.3	0.06	10.8	1030	4.1	0.08	19.3	1090	3.3	0.03	4.4	1870	14.9	0.04	7.8	2360	14.1	0.05	12.1	2600	12.4
	60	93	39	728	0.04	4.8	960	5.7	0.06	10.8	1100	4.4	0.08	19.3	1170	3.5	0.03	4.4	2010	16.0	0.04	7.8	2540	15.2	0.05	12.1	2790	13.3
	68	119	42	825	0.04	4.8	1010	6.1	0.06	10.8	1160	4.6	0.08	19.3	1240	3.7	0.03	4.4	2130	16.9	0.04	7.8	2690	16.1	0.05	12.1	2960	14.1
	76	148	45	922	0.04	4.8	1060	6.4	0.06	10.8	1220	4.9	0.08	19.3	1300	3.9	0.03	4.4	2230	17.8	0.04	7.8	2820	16.9	0.05	12.1	3110	14.8
G1	54	59	35	655	0.04	4.8	860	5.1	0.06	10.8	980	3.9	0.08	19.3	1050	3.1	0.03	4.4	1760	14.0	0.04	7.8	2220	13.3	0.05	12.1	2450	11.7
	62	77	39	752	0.04	4.8	920	5.5	0.06	10.8	1060	4.2	0.08	19.3	1120	3.4	0.03	4.4	1880	15.0	0.04	7.8	2380	14.2	0.05	12.1	2620	12.5
	70	98	42	849	0.04	4.8	980	5.8	0.06	10.8	1120	4.5	0.08	19.3	1190	3.6	0.03	4.4	2000	15.9	0.04	7.8	2530	15.1	0.05	12.1	2780	13.3
	78	122	44	946	0.04	4.8	1030	6.1	0.06	10.8	1180	4.7	0.08	19.3	1250	3.7	0.03	4.4	2090	16.7	0.04	7.8	2650	15.8	0.05	12.1	2920	13.9
	86	149	46	1043	0.04	4.8	1080	6.4	0.06	10.8	1230	4.9	0.08	19.3	1310	3.9	0.03	4.4	2180	17.4	0.04	7.8	2760	16.5	0.05	12.1	3040	14.5
H1	72	51	41	873	0.04	4.8	940	5.6	0.06	10.8	1080	4.3	0.08	19.3	1150	3.4	0.03	4.4	1830	14.6	0.04	7.8	2320	13.8	0.05	12.1	2550	12.2
	84	69	43	1019	0.04	4.8	990	5.9	0.06	10.8	1130	4.5	0.08	19.3	1200	3.6	0.03	4.4	1940	15.5	0.04	7.8	2460	14.7	0.05	12.1	2700	12.9
	96	90	46	1164	0.04	4.8	1030	6.1	0.06	10.8	1180	4.7	0.08	19.3	1250	3.7	0.03	4.4	2040	16.2	0.04	7.8	2580	15.4	0.05	12.1	2840	13.6
	108	114	48	1310	0.04	4.8	1060	6.4	0.06	10.8	1220	4.9	0.08	19.3	1300	3.9	0.03	4.4	2130	16.9	0.04	7.8	2690	16.1	0.05	12.1	2960	14.1
	120	141	51	1456	0.04	4.8	1100	6.6	0.06	10.8	1260	5.0	0.08	19.3	1340	4.0	0.03	4.4	2200	17.5	0.04	7.8	2790	16.6	0.05	12.1	3070	14.7

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 10°C$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 10°C. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity W = 1.213 x Airflow (l/s) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 10°C$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 10°C.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 35°C$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 35°C.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–8 (8')

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	Noise Criteria	AIR COOLING CAPACITY ΔT=20°F	COOLING (T_{RC} - T_{CHS} = 18°F)												HEATING (T_{HWS} - T_{RH} = 70°F)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(cfm)	(in. w.c.)	(NC)	(Btu/hr)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)
A0	30	0.17	≤15	644	0.95	1.14	2832	6	1.43	2.58	3207	4	1.90	4.62	3344	4	0.63	1.77	5416	17	0.79	3.14	6855	17	0.95	4.92	7537	16
	38	0.28	≤15	828	0.95	1.14	3378	7	1.43	2.58	3822	5	1.90	4.62	3992	4	0.63	1.77	7196	23	0.79	3.14	9128	23	0.95	4.92	10037	21
	47	0.42	≤15	1012	0.95	1.14	3787	8	1.43	2.58	4333	6	1.90	4.62	4504	5	0.63	1.77	8635	27	0.79	3.14	10908	28	0.95	4.92	12006	25
	55	0.59	≤15	1196	0.95	1.14	4163	9	1.43	2.58	4743	7	1.90	4.62	4948	5	0.63	1.77	9810	31	0.79	3.14	12385	31	0.95	4.92	13635	29
	64	0.79	17	1379	0.95	1.14	4470	9	1.43	2.58	5084	7	1.90	4.62	5323	6	0.63	1.77	10794	34	0.79	3.14	13673	35	0.95	4.92	15036	32
A1	40	0.20	≤15	874	0.95	1.14	3105	7	1.43	2.58	3549	5	1.90	4.62	3685	4	0.63	1.77	6742	21	0.79	3.14	8522	22	0.95	4.92	9355	20
	49	0.30	≤15	1058	0.95	1.14	3651	8	1.43	2.58	4163	6	1.90	4.62	4333	5	0.63	1.77	8105	26	0.79	3.14	10264	26	0.95	4.92	11325	24
	57	0.42	≤15	1241	0.95	1.14	4095	9	1.43	2.58	4641	7	1.90	4.62	4845	5	0.63	1.77	9279	29	0.79	3.14	11741	30	0.95	4.92	12915	27
	66	0.55	≤15	1425	0.95	1.14	4470	9	1.43	2.58	5084	7	1.90	4.62	5323	6	0.63	1.77	10264	32	0.79	3.14	12991	33	0.95	4.92	14279	30
	74	0.70	18	1609	0.95	1.14	4811	10	1.43	2.58	5494	8	1.90	4.62	5698	6	0.63	1.77	11097	35	0.79	3.14	14052	35	0.95	4.92	15453	32
B1	59	0.22	≤15	1287	0.95	1.14	3446	7	1.43	2.58	3924	6	1.90	4.62	4095	4	0.63	1.77	7726	24	0.79	3.14	9772	25	0.95	4.92	10719	23
	70	0.31	≤15	1517	0.95	1.14	3856	8	1.43	2.58	4368	6	1.90	4.62	4572	5	0.63	1.77	8711	27	0.79	3.14	11059	28	0.95	4.92	12158	26
	81	0.41	18	1747	0.95	1.14	4197	9	1.43	2.58	4777	7	1.90	4.62	4982	5	0.63	1.77	9620	30	0.79	3.14	12158	31	0.95	4.92	13370	28
	91	0.52	22	1977	0.95	1.14	4504	9	1.43	2.58	5084	7	1.90	4.62	5323	6	0.63	1.77	10378	33	0.79	3.14	13143	33	0.95	4.92	14430	30
	102	0.65	26	2207	0.95	1.14	4743	10	1.43	2.58	5391	8	1.90	4.62	5630	6	0.63	1.77	11059	35	0.79	3.14	13976	35	0.95	4.92	15377	32
C1	78	0.21	≤15	1701	0.95	1.14	3685	8	1.43	2.58	4197	6	1.90	4.62	4368	5	0.63	1.77	8598	27	0.79	3.14	10908	28	0.95	4.92	12006	25
	93	0.29	20	2023	0.95	1.14	4129	9	1.43	2.58	4675	7	1.90	4.62	4879	5	0.63	1.77	9431	30	0.79	3.14	11931	30	0.95	4.92	13105	28
	108	0.40	25	2345	0.95	1.14	4504	9	1.43	2.58	5118	7	1.90	4.62	5323	6	0.63	1.77	10113	32	0.79	3.14	12802	32	0.95	4.92	14089	30
	123	0.51	28	2667	0.95	1.14	4811	10	1.43	2.58	5459	8	1.90	4.62	5698	6	0.63	1.77	10756	34	0.79	3.14	13597	34	0.95	4.92	14961	31
	138	0.64	31	2989	0.95	1.14	5084	11	1.43	2.58	5767	8	1.90	4.62	6039	6	0.63	1.77	11287	36	0.79	3.14	14317	36	0.95	4.92	15718	33
E1	102	0.20	20	2207	0.95	1.14	3753	8	1.43	2.58	4265	6	1.90	4.62	4436	5	0.63	1.77	8749	28	0.79	3.14	11059	28	0.95	4.92	12158	26
	123	0.29	24	2667	0.95	1.14	4197	9	1.43	2.58	4777	7	1.90	4.62	4982	5	0.63	1.77	9544	30	0.79	3.14	12120	31	0.95	4.92	13294	28
	144	0.40	28	3127	0.95	1.14	4572	10	1.43	2.58	5186	7	1.90	4.62	5391	6	0.63	1.77	10264	32	0.79	3.14	12991	33	0.95	4.92	14317	30
	161	0.53	31	3495	0.95	1.14	4879	10	1.43	2.58	5528	8	1.90	4.62	5767	6	0.63	1.77	10908	34	0.79	3.14	13786	35	0.95	4.92	15188	32
	186	0.67	33	4046	0.95	1.14	5152	11	1.43	2.58	5869	8	1.90	4.62	6108	6	0.63	1.77	11476	36	0.79	3.14	14506	37	0.95	4.92	15983	34
F1	127	0.20	22	2759	0.95	1.14	3958	8	1.43	2.58	4470	6	1.90	4.62	4675	5	0.63	1.77	8825	28	0.79	3.14	11173	28	0.95	4.92	12309	26
	153	0.29	27	3311	0.95	1.14	4333	9	1.43	2.58	4948	7	1.90	4.62	5152	5	0.63	1.77	9658	30	0.79	3.14	12234	31	0.95	4.92	13446	28
	178	0.39	30	3862	0.95	1.14	4675	10	1.43	2.58	5323	7	1.90	4.62	5528	6	0.63	1.77	10378	33	0.79	3.14	13143	33	0.95	4.92	14430	30
	203	0.51	34	4414	0.95	1.14	4982	10	1.43	2.58	5630	8	1.90	4.62	5869	6	0.63	1.77	10984	35	0.79	3.14	13900	35	0.95	4.92	15301	32
	229	0.65	37	4966	0.95	1.14	5221	11	1.43	2.58	5937	8	1.90	4.62	6176	6	0.63	1.77	11552	36	0.79	3.14	14620	37	0.95	4.92	16059	34
G1	148	0.21	25	3219	0.95	1.14	4026	8	1.43	2.58	4572	6	1.90	4.62	4777	5	0.63	1.77	9090	29	0.79	3.14	11514	29	0.95	4.92	12650	27
	174	0.29	30	3770	0.95	1.14	4368	9	1.43	2.58	4982	7	1.90	4.62	5186	5	0.63	1.77	9734	31	0.79	3.14	12347	31	0.95	4.92	13559	29
	199	0.38	34	4322	0.95	1.14	4675	10	1.43	2.58	5323	7	1.90	4.62	5562	6	0.63	1.77	10340	33	0.79	3.14	13067	33	0.95	4.92	14355	30
	225	0.49	38	4874	0.95	1.14	4948	10	1.43	2.58	5630	8	1.90	4.62	5869	6	0.63	1.77	10832	34	0.79	3.14	13711	35	0.95	4.92	15074	32
	250	0.60	41	5426	0.95	1.14	5186	11	1.43	2.58	5903	8	1.90	4.62	6142	6	0.63	1.77	11287	36	0.79	3.14	14317	36	0.95	4.92	15718	33
H1	191	0.17	31	4138	0.95	1.14	4402	9	1.43	2.58	5016	7	1.90	4.62	5221	5	0.63	1.77	9469	30	0.79	3.14	11968	30	0.95	4.92	13180	28
	233	0.26	37	5058	0.95	1.14	4709	10	1.43	2.58	5323	7	1.90	4.62	5562	6	0.63	1.77	10037	32	0.79	3.14	12726	32	0.95	4.92	13976	29
	275	0.36	41	5978	0.95	1.14	4948	10	1.43	2.58	5630	8	1.90	4.62	5869	6	0.63	1.77	10567	33	0.79	3.14	13370	34	0.95	4.92	14695	31
	318	0.48	43	6897	0.95	1.14	5152	11	1.43	2.58	5869	8	1.90	4.62	6108	6	0.63	1.77	10984	35	0.79	3.14	13938	35	0.95	4.92	15301	32
	360	0.61	46	7817	0.95	1.14	5357	11	1.43	2.58	6074	9	1.90	4.62	6347	7	0.63	1.77	11400	36	0.79	3.14	14430	36	0.95	4.92	15870	33

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 20°F$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 20°F. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity Q_S = 1.085 x Airflow (cfm) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 18°F$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 18°F.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 70°F$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 70°F.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–8 (2400mm)

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	Noise Criteria	AIR COOLING CAPACITY ΔT=10°F	COOLING (T_{RC} - T_{CHS} = 18°F)												HEATING (T_{HWS} - T_{RH} = 70°F)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(l/s)	(Pa)	(NC)	(W)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)
A0	14	43	≤15	170	0.06	3.4	830	3.3	0.09	7.7	940	2.5	0.12	13.8	980	1.9	0.04	5.3	1430	8.6	0.05	9.4	1810	8.7	0.06	14.7	1990	7.9
	18	70	≤15	218	0.06	3.4	990	4.0	0.09	7.7	1120	3.0	0.12	13.8	1170	2.3	0.04	5.3	1900	11.4	0.05	9.4	2410	11.5	0.06	14.7	2650	10.6
	22	105	16	267	0.06	3.4	1110	4.5	0.09	7.7	1270	3.4	0.12	13.8	1320	2.6	0.04	5.3	2280	13.6	0.05	9.4	2880	13.8	0.06	14.7	3170	12.6
	26	147	20	315	0.06	3.4	1220	5.0	0.09	7.7	1390	3.8	0.12	13.8	1450	2.9	0.04	5.3	2590	15.4	0.05	9.4	3270	15.6	0.06	14.7	3600	14.3
	30	196	24	364	0.06	3.4	1310	5.3	0.09	7.7	1490	4.0	0.12	13.8	1560	3.1	0.04	5.3	2850	17.0	0.05	9.4	3610	17.2	0.06	14.7	3970	15.8
A1	19	51	≤15	230	0.06	3.4	910	3.7	0.09	7.7	1040	2.8	0.12	13.8	1080	2.2	0.04	5.3	1780	10.6	0.05	9.4	2250	10.7	0.06	14.7	2470	9.8
	23	75	≤15	379	0.06	3.4	1070	4.4	0.09	7.7	1220	3.3	0.12	13.8	1270	2.5	0.04	5.3	2140	12.8	0.05	9.4	2710	13.0	0.06	14.7	2990	11.9
	27	104	20	328	0.06	3.4	1200	4.9	0.09	7.7	1360	3.7	0.12	13.8	1420	2.8	0.04	5.3	2450	14.6	0.05	9.4	3100	14.8	0.06	14.7	3410	13.6
	31	137	23	376	0.06	3.4	1310	5.4	0.09	7.7	1490	4.1	0.12	13.8	1560	3.1	0.04	5.3	2710	16.2	0.05	9.4	3430	16.4	0.06	14.7	3770	15.0
	35	174	27	425	0.06	3.4	1410	5.8	0.09	7.7	1610	4.4	0.12	13.8	1670	3.3	0.04	5.3	2930	17.5	0.05	9.4	3710	17.7	0.06	14.7	4080	16.3
B1	28	55	17	340	0.06	3.4	1010	3.9	0.09	7.7	1150	3.0	0.12	13.8	1200	2.4	0.04	5.3	2040	12.2	0.05	9.4	2580	12.3	0.06	14.7	2830	11.3
	33	76	21	400	0.06	3.4	1130	4.5	0.09	7.7	1280	3.4	0.12	13.8	1340	2.7	0.04	5.3	2300	13.8	0.05	9.4	2920	13.9	0.06	14.7	3210	12.8
	38	101	25	461	0.06	3.4	1230	4.9	0.09	7.7	1400	3.7	0.12	13.8	1460	2.9	0.04	5.3	2540	15.1	0.05	9.4	3210	15.3	0.06	14.7	3530	14.1
	43	129	28	522	0.06	3.4	1320	5.3	0.09	7.7	1490	4.0	0.12	13.8	1560	3.1	0.04	5.3	2740	16.4	0.05	9.4	3470	16.6	0.06	14.7	3810	15.2
	48	161	31	582	0.06	3.4	1390	5.6	0.09	7.7	1580	4.2	0.12	13.8	1650	3.3	0.04	5.3	2920	17.4	0.05	9.4	3690	17.6	0.06	14.7	4060	16.2
C1	37	52	22	449	0.06	3.4	1080	4.1	0.09	7.7	1230	3.1	0.12	13.8	1280	2.6	0.04	5.3	2270	13.6	0.05	9.4	2880	13.8	0.06	14.7	3170	12.6
	44	73	27	534	0.06	3.4	1210	4.6	0.09	7.7	1370	3.5	0.12	13.8	1430	2.9	0.04	5.3	2490	14.8	0.05	9.4	3150	15.0	0.06	14.7	3460	13.8
	51	99	30	619	0.06	3.4	1320	5.0	0.09	7.7	1500	3.8	0.12	13.8	1560	3.1	0.04	5.3	2670	16.0	0.05	9.4	3380	16.2	0.06	14.7	3720	14.8
	58	127	34	704	0.06	3.4	1410	5.3	0.09	7.7	1600	4.1	0.12	13.8	1670	3.3	0.04	5.3	2840	16.9	0.05	9.4	3590	17.1	0.06	14.7	3950	15.7
	65	160	37	788	0.06	3.4	1490	5.7	0.09	7.7	1690	4.3	0.12	13.8	1770	3.5	0.04	5.3	2980	17.8	0.05	9.4	3780	18.0	0.06	14.7	4150	16.5
E1	48	50	26	582	0.06	3.4	1100	4.3	0.09	7.7	1250	3.3	0.12	13.8	1300	2.6	0.04	5.3	2310	13.8	0.05	9.4	2920	14.0	0.06	14.7	3210	12.8
	58	72	31	704	0.06	3.4	1230	4.9	0.09	7.7	1400	3.7	0.12	13.8	1460	2.9	0.04	5.3	2520	15.1	0.05	9.4	3200	15.3	0.06	14.7	3510	14.0
	68	99	35	825	0.06	3.4	1340	5.3	0.09	7.7	1520	4.0	0.12	13.8	1580	3.2	0.04	5.3	2710	16.2	0.05	9.4	3430	16.4	0.06	14.7	3780	15.0
	76	131	39	946	0.06	3.4	1430	5.7	0.09	7.7	1620	4.3	0.12	13.8	1690	3.4	0.04	5.3	2880	17.2	0.05	9.4	3640	17.4	0.06	14.7	4010	16.0
	88	166	42	1067	0.06	3.4	1510	6.0	0.09	7.7	1720	4.5	0.12	13.8	1790	3.6	0.04	5.3	3030	18.1	0.05	9.4	3830	18.3	0.06	14.7	4220	16.8
F1	60	50	30	728	0.06	3.4	1160	4.6	0.09	7.7	1310	3.4	0.12	13.8	1370	2.7	0.04	5.3	2330	13.9	0.05	9.4	2950	14.1	0.06	14.7	3250	12.9
	72	72	35	873	0.06	3.4	1270	5.0	0.09	7.7	1450	3.8	0.12	13.8	1510	3.0	0.04	5.3	2550	15.2	0.05	9.4	3230	15.4	0.06	14.7	3550	14.1
	84	97	39	1019	0.06	3.4	1370	5.4	0.09	7.7	1560	4.1	0.12	13.8	1620	3.2	0.04	5.3	2740	16.4	0.05	9.4	3470	16.6	0.06	14.7	3810	15.2
	96	127	42	1164	0.06	3.4	1460	5.7	0.09	7.7	1650	4.4	0.12	13.8	1720	3.4	0.04	5.3	2900	17.3	0.05	9.4	3670	17.6	0.06	14.7	4040	16.1
	108	161	46	1310	0.06	3.4	1530	6.0	0.09	7.7	1740	4.6	0.12	13.8	1810	3.6	0.04	5.3	3050	18.2	0.05	9.4	3860	18.4	0.06	14.7	4240	16.9
G1	70	53	34	849	0.06	3.4	1180	4.7	0.09	7.7	1340	3.5	0.12	13.8	1400	2.8	0.04	5.3	2400	14.3	0.05	9.4	3040	14.5	0.06	14.7	3340	13.3
	82	73	38	995	0.06	3.4	1280	5.1	0.09	7.7	1460	3.8	0.12	13.8	1520	3.0	0.04	5.3	2570	15.4	0.05	9.4	3260	15.6	0.06	14.7	3580	14.3
	94	95	41	1140	0.06	3.4	1370	5.4	0.09	7.7	1560	4.1	0.12	13.8	1630	3.2	0.04	5.3	2730	16.3	0.05	9.4	3450	16.5	0.06	14.7	3790	15.1
	106	121	44	1286	0.06	3.4	1450	5.7	0.09	7.7	1650	4.3	0.12	13.8	1720	3.4	0.04	5.3	2860	17.1	0.05	9.4	3620	17.3	0.06	14.7	3980	15.9
	118	150	47	1431	0.06	3.4	1520	6.0	0.09	7.7	1730	4.5	0.12	13.8	1800	3.6	0.04	5.3	2980	17.8	0.05	9.4	3780	18.0	0.06	14.7	4150	16.5
H1	90	43	37	1092	0.06	3.4	1290	5.2	0.09	7.7	1470	3.9	0.12	13.8	1530	3.0	0.04	5.3	2500	14.9	0.05	9.4	3160	15.1	0.06	14.7	3480	13.8
	110	64	42	1334	0.06	3.4	1380	5.5	0.09	7.7	1560	4.2	0.12	13.8	1630	3.2	0.04	5.3	2650	15.8	0.05	9.4	3360	16.0	0.06	14.7	3690	14.7
	130	90	46	1577	0.06	3.4	1450	5.8	0.09	7.7	1650	4.4	0.12	13.8	1720	3.4	0.04	5.3	2790	16.6	0.05	9.4	3530	16.8	0.06	14.7	3880	15.4
	150	119	50	1820	0.06	3.4	1510	6.1	0.09	7.7	1720	4.6	0.12	13.8	1790	3.6	0.04	5.3	2900	17.3	0.05	9.4	3680	17.6	0.06	14.7	4040	16.1
	170	153	55	2062	0.06	3.4	1570	6.2	0.09	7.7	1780	4.8	0.12	13.8	1860	3.7	0.04	5.3	3010	18.0	0.05	9.4	3810	18.2	0.06	14.7	4190	16.7

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 10°C$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 10°C. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity W = 1.213 x Airflow (l/s) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 10°C$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 10°C.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 35°C$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 35°C.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–10 (10')

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=50°F	COOLING (T_{RC} - T_{CHS} = 18°F)												HEATING (T_{HWS} - T_{RH} = 70°F)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
					WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(cfm)	(in. w.c.)	(NC)	(Btu/hr)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)	(gpm)	(ft. w.c.)	(Btu/hr)	(°F)
A0	36	0.16	≤15	703	0.95	1.41	3173	7	1.43	3.14	3651	5	1.90	5.59	3958	4	0.63	2.07	6893	22	0.79	3.68	8711	22	0.95	5.75	9582	20
	47	0.26	≤15	911	0.95	1.41	3822	8	1.43	3.14	4402	6	1.90	5.59	4777	5	0.63	2.07	9128	29	0.79	3.68	11590	29	0.95	5.75	12726	27
	57	0.39	≤15	1119	0.95	1.41	4333	9	1.43	3.14	5016	7	1.90	5.59	5425	6	0.63	2.07	10946	35	0.79	3.68	13824	35	0.95	5.75	15226	32
	68	0.55	≤15	1324	0.95	1.41	4777	10	1.43	3.14	5528	8	1.90	5.59	5971	6	0.63	2.07	12423	39	0.79	3.68	15718	40	0.95	5.75	17309	36
	78	0.74	17	1532	0.95	1.41	5152	11	1.43	3.14	5937	8	1.90	5.59	6449	7	0.63	2.07	13673	43	0.79	3.68	17309	44	0.95	5.75	19051	40
A1	51	0.20	≤15	993	0.95	1.41	3617	8	1.43	3.14	4163	6	1.90	5.59	4538	5	0.63	2.07	8522	27	0.79	3.68	10794	27	0.95	5.75	11893	25
	61	0.30	≤15	1201	0.95	1.41	4231	9	1.43	3.14	4879	7	1.90	5.59	5289	6	0.63	2.07	10302	32	0.79	3.68	13029	33	0.95	5.75	14317	30
	72	0.41	≤15	1406	0.95	1.41	4743	10	1.43	3.14	5494	8	1.90	5.59	5937	6	0.63	2.07	11741	37	0.79	3.68	14885	38	0.95	5.75	16362	34
	83	0.54	≤15	1614	0.95	1.41	5186	11	1.43	3.14	6005	8	1.90	5.59	6483	7	0.63	2.07	12991	41	0.79	3.68	16438	41	0.95	5.75	18104	38
	93	0.69	18	1822	0.95	1.41	5562	12	1.43	3.14	6449	9	1.90	5.59	6995	7	0.63	2.07	14089	44	0.79	3.68	17839	45	0.95	5.75	19619	41
B1	72	0.20	≤15	1406	0.95	1.41	4197	9	1.43	3.14	4845	7	1.90	5.59	5255	6	0.63	2.07	9772	31	0.79	3.68	12385	31	0.95	5.75	13597	29
	87	0.29	≤15	1696	0.95	1.41	4572	10	1.43	3.14	5289	7	1.90	5.59	5732	6	0.63	2.07	11059	35	0.79	3.68	14014	35	0.95	5.75	15415	32
	102	0.40	18	1986	0.95	1.41	4913	10	1.43	3.14	5698	8	1.90	5.59	6176	6	0.63	2.07	12196	38	0.79	3.68	15415	39	0.95	5.75	16968	36
	117	0.53	22	2276	0.95	1.41	5221	11	1.43	3.14	6039	8	1.90	5.59	6551	7	0.63	2.07	13143	41	0.79	3.68	16665	42	0.95	5.75	18294	38
	131	0.67	26	2566	0.95	1.41	5494	12	1.43	3.14	6381	9	1.90	5.59	6893	7	0.63	2.07	14014	44	0.79	3.68	17725	45	0.95	5.75	19506	41
C1	106	0.24	≤15	2071	0.95	1.41	4333	9	1.43	3.14	5016	7	1.90	5.59	5459	6	0.63	2.07	10908	34	0.79	3.68	13824	35	0.95	5.75	15188	32
	123	0.32	20	2402	0.95	1.41	4811	10	1.43	3.14	5562	8	1.90	5.59	6039	6	0.63	2.07	11931	38	0.79	3.68	15112	38	0.95	5.75	16627	35
	140	0.41	25	2733	0.95	1.41	5221	11	1.43	3.14	6039	8	1.90	5.59	6551	7	0.63	2.07	12840	41	0.79	3.68	16248	41	0.95	5.75	17877	38
	157	0.52	28	3064	0.95	1.41	5562	12	1.43	3.14	6449	9	1.90	5.59	6961	7	0.63	2.07	13597	43	0.79	3.68	17233	43	0.95	5.75	18975	40
	174	0.64	31	3395	0.95	1.41	5869	12	1.43	3.14	6790	10	1.90	5.59	7370	8	0.63	2.07	14317	45	0.79	3.68	18142	46	0.95	5.75	19960	42
E1	131	0.21	20	2566	0.95	1.41	4402	9	1.43	3.14	5084	7	1.90	5.59	5528	6	0.63	2.07	11097	35	0.79	3.68	14052	35	0.95	5.75	15453	32
	157	0.29	24	3064	0.95	1.41	4879	10	1.43	3.14	5664	8	1.90	5.59	6142	6	0.63	2.07	12120	38	0.79	3.68	15339	39	0.95	5.75	16892	36
	182	0.40	28	3559	0.95	1.41	5289	11	1.43	3.14	6108	9	1.90	5.59	6654	7	0.63	2.07	13029	41	0.79	3.68	16476	42	0.95	5.75	18142	38
	208	0.52	31	4057	0.95	1.41	5630	12	1.43	3.14	6517	9	1.90	5.59	7097	7	0.63	2.07	13824	44	0.79	3.68	17498	44	0.95	5.75	19240	40
	233	0.65	33	4552	0.95	1.41	5971	13	1.43	3.14	6893	10	1.90	5.59	7473	8	0.63	2.07	14544	46	0.79	3.68	18407	46	0.95	5.75	20263	43
F1	159	0.19	22	3105	0.95	1.41	4538	10	1.43	3.14	5255	7	1.90	5.59	5698	6	0.63	2.07	11211	35	0.79	3.68	14165	36	0.95	5.75	15604	33
	191	0.28	27	3726	0.95	1.41	5016	11	1.43	3.14	5801	8	1.90	5.59	6278	7	0.63	2.07	12271	39	0.79	3.68	15529	39	0.95	5.75	17044	36
	222	0.38	30	4347	0.95	1.41	5391	11	1.43	3.14	6244	9	1.90	5.59	6756	7	0.63	2.07	13143	41	0.79	3.68	16665	42	0.95	5.75	18331	39
	254	0.50	34	4968	0.95	1.41	5732	12	1.43	3.14	6620	9	1.90	5.59	7200	8	0.63	2.07	13938	44	0.79	3.68	17650	45	0.95	5.75	19392	41
	286	0.63	37	5589	0.95	1.41	6039	13	1.43	3.14	6961	10	1.90	5.59	7575	8	0.63	2.07	14620	46	0.79	3.68	18521	47	0.95	5.75	20377	43
G1	182	0.20	25	3559	0.95	1.41	4572	10	1.43	3.14	5323	7	1.90	5.59	5767	6	0.63	2.07	11514	36	0.79	3.68	14582	37	0.95	5.75	16059	34
	220	0.29	30	4306	0.95	1.41	5084	11	1.43	3.14	5869	8	1.90	5.59	6381	7	0.63	2.07	12347	39	0.79	3.68	15642	39	0.95	5.75	17195	36
	259	0.40	34	5050	0.95	1.41	5494	12	1.43	3.14	6381	9	1.90	5.59	6893	7	0.63	2.07	13105	41	0.79	3.68	16551	42	0.95	5.75	18218	38
	297	0.53	38	5794	0.95	1.41	5869	12	1.43	3.14	6790	10	1.90	5.59	7370	8	0.63	2.07	13749	43	0.79	3.68	17385	44	0.95	5.75	19127	40
	335	0.67	41	6541	0.95	1.41	6176	13	1.43	3.14	7131	10	1.90	5.59	7746	8	0.63	2.07	14317	45	0.79	3.68	18142	46	0.95	5.75	17982	70
H1	254	0.19	31	4968	0.95	1.41	5186	11	1.43	3.14	6005	8	1.90	5.59	6517	7	0.63	2.07	12006	38	0.79	3.68	15188	38	0.95	5.75	16703	35
	307	0.28	37	6002	0.95	1.41	5528	12	1.43	3.14	6381	9	1.90	5.59	6927	7	0.63	2.07	12726	40	0.79	3.68	16135	41	0.95	5.75	17725	37
	360	0.38	41	7036	0.95	1.41	5801	12	1.43	3.14	6722	9	1.90	5.59	7268	8	0.63	2.07	13370	42	0.79	3.68	16930	43	0.95	5.75	18634	39
	413	0.50	43	8070	0.95	1.41	6039	13	1.43	3.14	6995	10	1.90	5.59	7575	8	0.63	2.07	13938	44	0.79	3.68	17650	45	0.95	5.75	19430	41
	466	0.64	46	9107	0.95	1.41	6244	13	1.43	3.14	7234	10	1.90	5.59	7848	8	0.63	2.07	14430	46	0.79	3.68	18294	46	0.95	5.75	20112	42

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 20°F$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 20°F. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity Q_S = 1.085 x Airflow (cfm) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 18°F$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 18°F.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 70°F$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 70°F.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Performance Data

2-Way Air Flow / 4-Pipe

YORK® Overhead Active Chilled Beam–8 (3000mm)

NOZZLE	PRIMARY AIRFLOW	PLENUM PRESSURE	NOISE CRITERIA	AIR COOLING CAPACITY ΔT=10°F	COOLING (T_{RC} - T_{CHS} = 10°C)												HEATING (T_{HWS}- T_{RH} = 35°C)											
					COOLING WATER FLOW 1				COOLING WATER FLOW 2				COOLING WATER FLOW 3				HEATING WATER FLOW 1				HEATING WATER FLOW 2				HEATING WATER FLOW 3			
	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER COOLING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER	WATER FLOW	WATER ΔP	WATER HEATING CAPACITY	ΔT WATER
	(l/s)	(Pa)	(NC)	(W)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)	(l/s)	(KPa)	(W)	(°C)
A0	17	39	≤15	206	0.06	4.2	930	3.7	0.09	9.4	1070	2.8	0.12	16.7	1160	2.3	0.04	6.2	1820	10.8	0.05	11	2300	11.0	0.06	17.2	2530	10.1
	22	65	≤15	267	0.06	4.2	1120	4.5	0.09	9.4	1290	3.4	0.12	16.7	1400	2.8	0.04	6.2	2410	14.4	0.05	11	3060	14.6	0.06	17.2	3360	13.4
	27	98	19	328	0.06	4.2	1270	5.1	0.09	9.4	1470	3.9	0.12	16.7	1590	3.2	0.04	6.2	2890	17.2	0.05	11	3650	17.5	0.06	17.2	4020	16.0
	32	138	24	388	0.06	4.2	1400	5.6	0.09	9.4	1620	4.3	0.12	16.7	1750	3.5	0.04	6.2	3280	19.6	0.05	11	4150	19.8	0.06	17.2	4570	18.2
	37	185	28	449	0.06	4.2	1510	6.0	0.09	9.4	1740	4.6	0.12	16.7	1890	3.8	0.04	6.2	3610	21.6	0.05	11	4570	21.8	0.06	17.2	5030	20.0
A1	24	51	≤15	291	0.06	4.2	1060	4.2	0.09	9.4	1220	3.2	0.12	16.7	1330	2.6	0.04	6.2	2250	13.5	0.05	11	2850	13.6	0.06	17.2	3140	12.5
	29	75	19	352	0.06	4.2	1240	4.9	0.09	9.4	1430	3.8	0.12	16.7	1550	3.1	0.04	6.2	2720	16.2	0.05	11	3440	16.4	0.06	17.2	3780	15.1
	34	102	23	412	0.06	4.2	1390	5.5	0.09	9.4	1610	4.3	0.12	16.7	1740	3.5	0.04	6.2	3100	18.5	0.05	11	3930	18.8	0.06	17.2	4320	17.2
	39	135	27	473	0.06	4.2	1520	6.0	0.09	9.4	1760	4.7	0.12	16.7	1900	3.8	0.04	6.2	3430	20.5	0.05	11	4340	20.8	0.06	17.2	4780	19.0
	44	172	30	534	0.06	4.2	1630	6.5	0.09	9.4	1890	5.0	0.12	16.7	2050	4.1	0.04	6.2	3720	22.2	0.05	11	4710	22.5	0.06	17.2	5180	20.6
B1	34	50	20	412	0.06	4.2	1230	4.9	0.09	9.4	1420	3.8	0.12	16.7	1540	3.1	0.04	6.2	2580	15.4	0.05	11	3270	15.6	0.06	17.2	3590	14.3
	41	73	25	497	0.06	4.2	1340	5.3	0.09	9.4	1550	4.1	0.12	16.7	1680	3.4	0.04	6.2	2920	17.4	0.05	11	3700	17.7	0.06	17.2	4070	16.2
	48	100	29	582	0.06	4.2	1440	5.7	0.09	9.4	1670	4.4	0.12	16.7	1810	3.6	0.04	6.2	3220	19.2	0.05	11	4070	19.4	0.06	17.2	4480	17.8
	55	131	32	667	0.06	4.2	1530	6.1	0.09	9.4	1770	4.7	0.12	16.7	1920	3.8	0.04	6.2	3470	20.7	0.05	11	4400	21.0	0.06	17.2	4830	19.2
	62	167	36	752	0.06	4.2	1610	6.4	0.09	9.4	1870	5.0	0.12	16.7	2020	4.0	0.04	6.2	3700	22.1	0.05	11	4680	22.4	0.06	17.2	5150	20.5
C1	50	59	28	607	0.06	4.2	1270	5.1	0.09	9.4	1470	3.9	0.12	16.7	1600	3.2	0.04	6.2	2880	17.2	0.05	11	3650	17.4	0.06	17.2	4010	16.0
	58	79	31	704	0.06	4.2	1410	5.6	0.09	9.4	1630	4.3	0.12	16.7	1770	3.5	0.04	6.2	3150	18.8	0.05	11	3990	19.1	0.06	17.2	4390	17.5
	66	103	35	801	0.06	4.2	1530	6.1	0.09	9.4	1770	4.7	0.12	16.7	1920	3.8	0.04	6.2	3390	20.2	0.05	11	4290	20.5	0.06	17.2	4720	18.8
	74	129	38	898	0.06	4.2	1630	6.5	0.09	9.4	1890	5.0	0.12	16.7	2040	4.1	0.04	6.2	3590	21.5	0.05	11	4550	21.7	0.06	17.2	5010	19.9
	82	159	42	995	0.06	4.2	1720	6.8	0.09	9.4	1990	5.3	0.12	16.7	2160	4.3	0.04	6.2	3780	22.6	0.05	11	4790	22.9	0.06	17.2	5270	21.0
E1	62	52	30	752	0.06	4.2	1290	5.1	0.09	9.4	1490	4.0	0.12	16.7	1620	3.2	0.04	6.2	2930	17.5	0.05	11	3710	17.7	0.06	17.2	4080	16.2
	74	73	36	898	0.06	4.2	1430	5.7	0.09	9.4	1660	4.4	0.12	16.7	1800	3.6	0.04	6.2	3200	19.1	0.05	11	4050	19.3	0.06	17.2	4460	17.7
	86	99	40	1043	0.06	4.2	1550	6.2	0.09	9.4	1790	4.8	0.12	16.7	1950	3.9	0.04	6.2	3440	20.5	0.05	11	4350	20.8	0.06	17.2	4790	19.1
	98	129	44	1189	0.06	4.2	1650	6.6	0.09	9.4	1910	5.1	0.12	16.7	2080	4.1	0.04	6.2	3650	21.8	0.05	11	4620	22.1	0.06	17.2	5080	20.2
	110	162	47	1334	0.06	4.2	1750	7.0	0.09	9.4	2020	5.4	0.12	16.7	2190	4.4	0.04	6.2	3840	22.9	0.05	11	4860	23.2	0.06	17.2	5350	21.3
F1	75	48	34	910	0.06	4.2	1330	5.3	0.09	9.4	1540	4.1	0.12	16.7	1670	3.3	0.04	6.2	2960	17.7	0.05	11	3740	17.9	0.06	17.2	4120	16.4
	90	70	40	1092	0.06	4.2	1470	5.8	0.09	9.4	1700	4.5	0.12	16.7	1840	3.7	0.04	6.2	3240	19.3	0.05	11	4100	19.6	0.06	17.2	4500	17.9
	105	95	44	1274	0.06	4.2	1580	6.3	0.09	9.4	1830	4.9	0.12	16.7	1980	3.9	0.04	6.2	3470	20.7	0.05	11	4400	21.0	0.06	17.2	4840	19.2
	120	124	47	1456	0.06	4.2	1680	6.7	0.09	9.4	1940	5.2	0.12	16.7	2110	4.2	0.04	6.2	3680	22.0	0.05	11	4660	22.3	0.06	17.2	5120	20.4
	135	157	50	1638	0.06	4.2	1770	7.0	0.09	9.4	2040	5.4	0.12	16.7	2220	4.4	0.04	6.2	3860	23.1	0.05	11	4890	23.4	0.06	17.2	5380	21.4
G1	86	50	36	1043	0.06	4.2	1340	5.4	0.09	9.4	1560	4.1	0.12	16.7	1690	3.4	0.04	6.2	3040	18.2	0.05	11	3850	18.4	0.06	17.2	4240	16.9
	104	72	42	1262	0.06	4.2	1490	5.9	0.09	9.4	1720	4.6	0.12	16.7	1870	3.7	0.04	6.2	3260	19.5	0.05	11	4130	19.7	0.06	17.2	4540	18.1
	122	100	46	1480	0.06	4.2	1610	6.4	0.09	9.4	1870	5.0	0.12	16.7	2020	4.0	0.04	6.2	3460	20.6	0.05	11	4370	20.9	0.06	17.2	4810	19.2
	140	131	49	1698	0.06	4.2	1720	6.8	0.09	9.4	1990	5.3	0.12	16.7	2160	4.3	0.04	6.2	3630	21.7	0.05	11	4590	21.9	0.06	17.2	5050	20.1
	158	167	53	1917	0.06	4.2	1810	7.2	0.09	9.4	2090	5.6	0.12	16.7	2270	4.5	0.04	6.2	3780	22.6	0.05	11	4790	22.9	0.06	17.2	5270	21.0
H1	120	48	44	1456	0.06	4.2	1520	6.1	0.09	9.4	1760	4.7	0.12	16.7	1910	3.8	0.04	6.2	3170	18.9	0.05	11	4010	19.2	0.06	17.2	4410	17.6
	145	69	48	1759	0.06	4.2	1620	6.4	0.09	9.4	1870	5.0	0.12	16.7	2030	4.0	0.04	6.2	3360	20.1	0.05	11	4260	20.3	0.06	17.2	4680	18.6
	170	95	51	2062	0.06	4.2	1700	6.8	0.09	9.4	1970	5.2	0.12	16.7	2130	4.2	0.04	6.2	3530	21.1	0.05	11	4470	21.4	0.06	17.2	4920	19.6
	195	125	53	2365	0.06	4.2	1770	7.0	0.09	9.4	2050	5.4	0.12	16.7	2220	4.4	0.04	6.2	3680	22.0	0.05	11	4660	22.3	0.06	17.2	5130	20.4
	220	160	58	2669	0.06	4.2	1830	7.3	0.09	9.4	2120	5.6	0.12	16.7	2300	4.6	0.04	6.2	3810	22.8	0.05	11	4830	23.1	0.06	17.2	5310	21.1

1) Air cooling capacities are based on $\Delta T_{AC} = T_{RC}-T_{CSA} = 10°C$. For other conditions, multiply the table air cooling capacity by the required ($T_{RC}-T_{CSA}$) divided by 10°C. Alternatively, air cooling capacity can be calculated from the formula: Air cooling capacity W = 1.213 x Airflow (l/s) x ($T_{RC}-T_{CSA}$).

2) Water cooling capacities are based on $T_{RC}-T_{CHS} = 10°C$. For other conditions multiply the table water cooling capacity by the required ($T_{RC}-T_{CHS}$) divided by 10°C.

3) Water heating capacities are based on 4-pipe chilled beams with $T_{HWS}-T_{RW} = 35°C$. For other conditions, multiply the table water heating capacity by the required ($T_{HWS}-T_{RW}$) divided by 35°C.

4) Performance ratings are subject to tolerances of plus/minus 5%.

Selection Example

Specified Data

Office (LxWxH):	25′ x 20′ x 9′ Area = 500 ft2
Occupants:	4
Occupant Load Per Person:	250 Btu/h Sensible / 155 Btu/h Latent
Summer Room Design Condition (T_{RS}):	75°F db / 50% RH / 55°F dp / W=0.00924 lbs/lb
Summer Primary Air Temperature (T_{CSA}):	55°F db / 51°F dp / W=0.00793 lbs/lb
Chilled Water Supply Temperature (T_{CHS}):	57°F
Summer Room Sensible Load:	8189 Btu/h
Winter Room Design Condition (T_{RW}):	70°F db / 50% RH
Heating Water Supply Temperature (T_{HWS}):	140°F db
Winter Supply Air Temperature ($T_{AIR,H}$):	55°F db
Winter Room Heating Requirement:	9212 Btu/h

Cooling Calculations

1. Quantify ventilation requirements according to ASHRAE 62-2010:
   - (4 people x 5 cfm) + (0.06 cfm/ft^2 x 500 ft^2) = 50 cfm

2. Calculate primary airflow rate to handle the latent cooling demand:
   - Q_{Latent} = Primary Air CFM (4840)(W_{Room} – $W_{Primary}$)
   - Primary Air CFM = $\dfrac{Q_{Latent}}{4840 \times (W_{Room} - W_{Primary})}$
   - $\dfrac{q = 500 \text{ gpm } \Delta T}{500 \text{ (gpm)}} = \dfrac{620 \text{ Btu/h}}{4840 \times (0.00924 - 0.00793)} = 97.8 \text{ cfm}$

   Primary air flow rate needed to condition latent load = 98 cfm.

3. Sensible load of primary air:
   - QS = 1.085 (98) (75F – 55F) = 2126 Btu/h

4. Temperature differences required to make cooling selection:
   - $\Delta T_{AC} = T_{RC} - T_{CHS}$ = 75F – 55F = 20F
   - $\Delta T_{WC} = T_{RC} - T_{CHS}$ = 75F – 57F = 18F

5. Capacities needed (two (2) units):
   - Primary Air = 49 cfm ea.
   - Total Capacity Needed = 8189 Btu/h / 2 = 4049 Btu/h ea.
   - Air Sensible Cooling = 2126 Btu/h / 2 = 1063 Btu/h ea.

Heating Calculations

1. Using two (2) 8′ units:
   - Primary Air = 49 cfm ea. @ 55°F db
   - Total Heating Needed = 9212 Btu/h / 2 = 4606 Btu/h
2. Deficit due to primary air:
   - QS = 1.085 (49 cfm)(55–70) = –797 Btu/h
3. Total heating needed from chilled beam:
   - QT = 4606 Btu/h + 797 Btu/h = 5403 Btu/h
4. Unit selection:
   - YK-OHACB-8 with A1 air nozzle will deliver cooling capacity of: 1241 Btu/h air side @ 57 cfm / 4095 Btu/h water side @ 0.95 gpm
   - YK-OHACB-8 with A1 air nozzle will deliver heating capacity of: 8105 Btu/h water side @ 0.95 gpm

Selection Summary

YORK® Overhead Active Chilled Beam–8

Unit Size	
Length x Width:	8′ x 24″ / (2) 5″Ø Connection
Room Conditions	
Cooling:	75°F db / 50% RH
Heating:	70°F db / 50% RH
Primary Air	
Cooling EAT:	55°F db / 55°F dp
Heating EAT:	55 F db
Air Volume Needed:	98 cfm total / 49 cfm ea. unit
Unit Air Pressure Drop:	0.3 in. w.g.
Sound Level:	≤15 NC
Cooling	
Chilled Water EWT:	57°F
Chilled Water LWT:	66°F
Water Volume:	0.95 gpm
Water Pressure Drop:	1.14 ft. w.g.
Air Sensible Cooling:	1214 Btu/h
Water Sensible Cooling:	4095 Btu/h
Total Sensible Cooling:	5336 Btu/h
Heating	
Hot Water EWT:	140°F
Hot Water LWT:	111°F
Water Flow:	0.63 gpm
Water Pressure Drop:	1.8 ft. w.g.
Air Heating Capacity:	–797 Btu/h
Water Heating Capacity:	9279 Btu/h
Total Heating Capacity:	8482 Btu/h

Guide Specifications

YORK® Overhead Active Chilled Beams series active chilled beams shall be used to compensate for external and internal heat loads of a building, and shall maintain thermal comfort in a room within specified comfort and noise criteria.

Functional Description

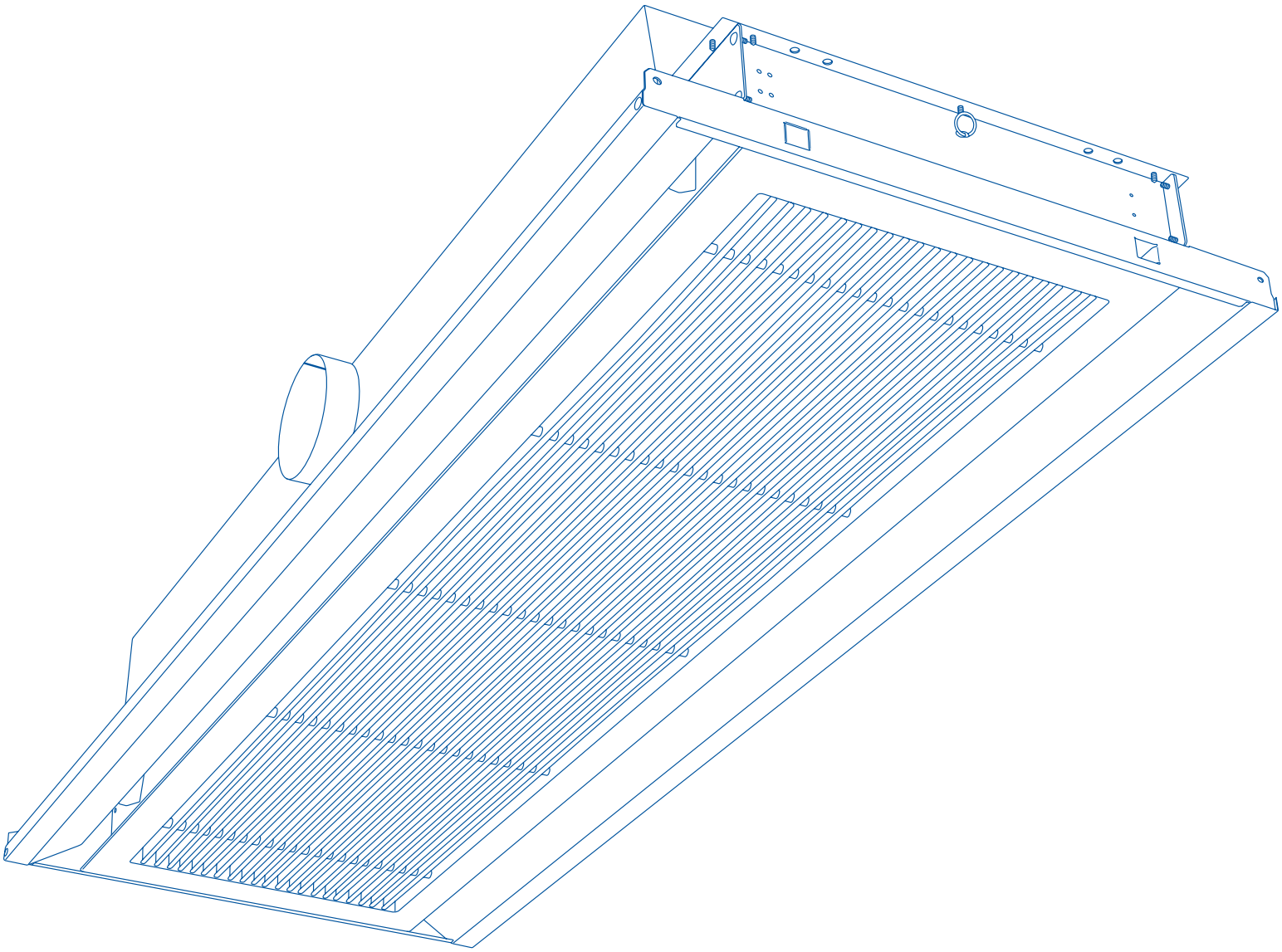
- Primary air will be supplied by the central air handling unit to the chilled beam air plenum box. The primary air shall then pass through the induction nozzles into the mixing section to mix with the induced room air before being distributed into the room by two slot supply diffusers.
- Induction nozzles shall induce air from the room through the inlet air diffuser and then through the fin and tube cooling/heating exchanger before mixing with the primary air and being supplied to the room. The size and quantity of induction nozzles shall be factory installed to provide the required unit capacity with the specified primary air flow, air inlet pressure and noise level.
- Heat exchangers shall be 2-pipe type for cooling only or cooling/heating changeover systems or 4 pipe type for systems with separate cooling and heating circuits.
- The units shall incorporate two linear slot air supply diffusers and shall be designed so that the supply air is discharged horizontally across the ceiling using the Coandă effect to increase air throw of the units and ensure air mixing with the room air above the occupied zone. The inlet air diffuser for the room air shall be perforated or provided with linear bar air inlet grille and shall be easily removable for cleaning the heat exchanger and shall be provided with safety hanging wires.

Construction of the Chilled Beam

- The primary air plenum box shall be manufactured from galvanized sheet steel and shall have one or more round air connections. The plenum should be internally insulated to prevent condensation if the primary supply air temperature is less than the surrounding air dew point.
- The nozzle plate and chilled beam body shall be manufactured from galvanized steel with a minimum thickness of 22 ga. (0.8mm).
- The heat exchangers shall be made from seamless copper tubes with aluminum fins and shall have 1/2" or 5/8" (12mm or 15mm) diameter water connections depending on unit size and connections. Heat exchangers shall be suitable to operate at 250 psi working pressure and shall be factory pressure tested at 300 psi pressure.
- The supply air diffuser and room air inlet diffuser shall be manufactured from galvanized steel with a minimum thickness of 20 ga. (1mm) and shall be finished with polyester powder paint to RAL9010 with 20% gloss or with an alternative finish to be specified.
- The active chilled beams shall be tested and rated in accordance with Standard EN15116.

Installation

The active chilled beam shall include 9/32" (7mm) diameter mounting holes for suspension by 1/4" (6mm) diameter threaded rod or suspension wires.



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