FORM 115.23-EG2 (602)

YORK®

Horizontal Classroom Unit Ventilator

ENGINEERING GUIDE

ETL® LISTED

…the most energy efficient system
for maintaining the thermal environment
most conducive to learning

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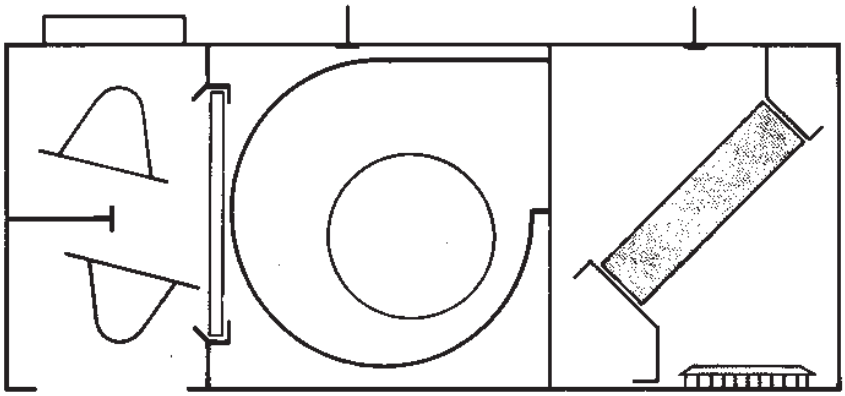
Introduction



The YORK horizontal classroom unit ventilator is designed for ceiling mounting. In performance, it is unmatched: air distribution and ventilation are unequalled; temperature control is provided on an individual room basis; should one unit become inoperative, no other units are affected; quiet operation, so essential to the learning environment is assured; and maintenance is minimal and easy to perform.

Not just a floor unit adapted for ceiling application, the YORK horizontal unit ventilator is designed for functional efficiency not only from the standpoint of operation, but maintenance as well. Virtually maintenance free, it can be concealed within the ceiling sandwich for ducted discharge and return air, soffit mounted, semi-recessed or fully exposed. Seven collar and grille locations are available to accommodate a wide variety of application arrangements. The requirement for outdoor air can be achieved through louvered wall intakes at the perimeter of the building, roof intakes, air plenums or shafts, whatever suits the building and the budget.

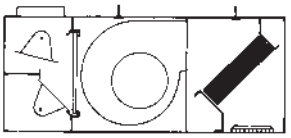
Available for year-round operation with mechanical cooling or heating, ventilating and natural cooling, the YORK horizontal unit ventilator can also provide for future mechanical cooling. In addition, complete system versatility is offered with units for hydronic or electric heating and natural cooling, electric heating with hydronic or direct expansion cooling, or hydronic heating and direct expansion cooling. All systems are available in five sizes with air capacities ranging from 750 to 2000 Cfm.

The YORK horizontal unit ventilator truly provides the practical, efficient and economical solution in meeting the complex problems of the learning environment.

Complete System Versatility

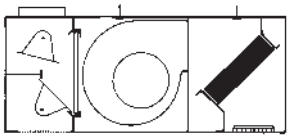
HOT WATER HEATING **HOA/HOW**

YORK ceiling mounted unit ventilators for use on hot water heating systems employ valve control with high capacity type heat transfer elements. They are available in five sizes with air capacities ranging from 750 to 2000 Cfm.



STEAM HEATING **HOS**

The steam unit ventilator incorporates the steam distributing tube heat transfer element which provides even temperature distribution across the face of the coil as well as maximum freeze protection. Units are available with air capacities ranging from 750 to 2000 Cfm.

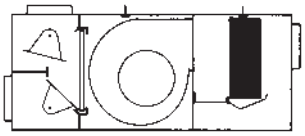


ELECTRIC HEATING **HOE**

Resistance heating element assemblies consist of a bank of 3 to 9 individual finned tubular heating elements together with a high temperature limit switch, wired and enclosed in a galvanized steel casing. All wiring within this assembly is heat resistant. Five unit sizes, 750 to 2000 Cfm.

TWO PIPE CHILLED WATER COOLING/ HOT WATER HEATING **HBO**

Year-round unit ventilators for two pipe systems offer the precise capacity control and positive heat shut off by the combination of a modulating valve and specially circuited heat transfer element. Year-round comfort is achieved for the least cost. Air capacities range from 750 to 2000 Cfm.



FOUR PIPE CHILLED WATER COOLING **HCW** HOT WATER HEATING

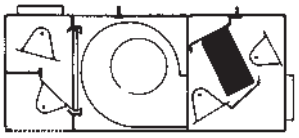
The four pipe unit ventilator employs a heat transfer element with separate circuits for hot water and chilled water. A modulating valve controls heating; a separate valve controls cooling. The system can supply heating and cooling simultaneously to meet individual room requirements. Air capacities range from 750 to 2000 Cfm.

DIRECT EXPANSION COOLING **HX/HX/HXE** HYDRONIC OR ELECTRIC HEATING

Year-round unit ventilators with direct expansion coil and thermostatic expansion valve with external equalizer and venturi type refrigeration distributor are available in the full range of air capacities from 750 to 2000 Cfm. Matched condensing units are mounted remote.

CHILLED WATER COOLING **HAO/HOB** HOT WATER HEATING BYPASS CONTROL

Year-round unit ventilators which control both heating and cooling through the use of dampers that allow the air to pass through or around the heating/cooling coil. Bypass control maintains positive dehumidification in the cooling mode. Unit sizes are available in five sizes with air capacities ranging from 750 to 2000 Cfm.



YORK Horizontal Unit Ventilators offer all these features . . .

Quiet Operation

The low sound levels of the YORK horizontal unit ventilator start with oversized fans specifically designed to deliver the required Cfm at low speeds. Fans are dynamically and statically balanced, direct driven and have long life bearings that require lubrication only once every five years; critical to units mounted at the ceiling.

YORK Long-Life Motor

The motor for the YORK horizontal unit ventilator has a sealed sleeve bearings that require no lubrication for the life of the motor. In addition, the motor is located in the entering air stream for cooler operation.

Two Year Warranty

All YORK unit ventilators come with a two year warranty which is considered the best in the industry.

Positive Ventilation Control

Two one-piece steel, roll type ventilation dampers automatically control the proportions of room air and outdoor air. Sandwich type construction makes these dampers rigid to ensure tight closure, preventing infiltration of unwanted outdoor air. Dampers rotate on maintenance free nylon bearings.

Complete Versatility

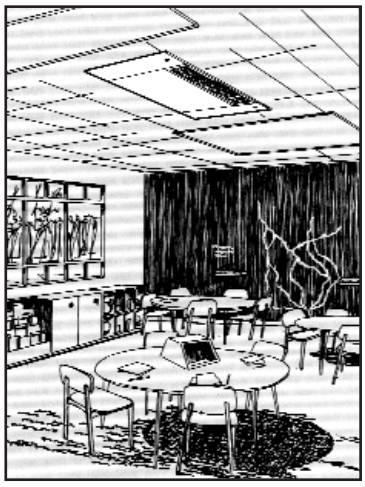
The broad spectrum of heating/cooling elements offered for use with the YORK horizontal unit ventilators permits matching the system to your precise requirements.

Hot water and steam heating elements are available with valve control. Steam heating elements have steam distributing tubes to provide uniform temperature distribution and guard against freeze-up.

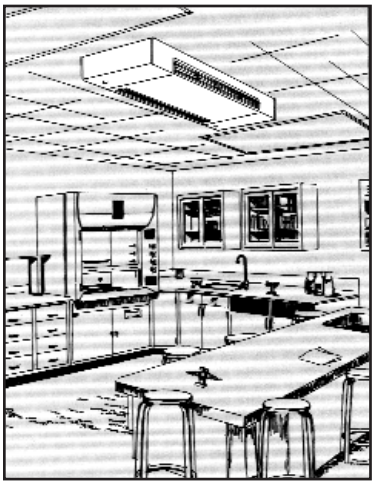
Electric resistance heating assemblies consist of a bank of individually finned tubular heating elements and high temperature switch, wired and enclosed in a galvanized steel casing Chilled water cooling/hot water heating elements are available in three types, each used with a specific control arrangement: one type is made for 2-pipe bypass control; another for 2-pipe valve controlled units; and a third type is especially designed for 4-pipe valve control of cooling and separately circuited valve controlled heating. Direct expansion cooling coils incorporate a thermal expansion valve with an external equalizer permitting operation throughout a wide temperature range.

Reduced Maintenance

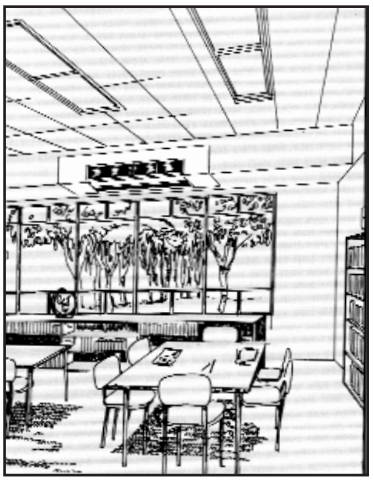
Four hinged access panels provide quick, easy access to the interior of the YORK horizontal unit ventilator should the need arise. Panels are supplied with safety chains, as standard. Panels are easily removable if required.



Fully recessed



Fully exposed



Semi-recessed

Horizontal Unit Ventilators

HEATING UNITS–HOT WATER; STEAM & ELECTRIC — HOB, HOW, HOS, HOE

	UNIT SIZE	750 CFM	1000 CFM	1250 CFM	1500 CFM	2000 CFM
AIR DELIVERY	CFM (Std.)	750	1000	1250	1500	2000
	Discharge Velocity–FPM	450	600	500	600	600
	Fan Speed–RPM	600	720	600	720	600
MOTOR ELECTRICAL DATA	Power Input–Watts	140	235	250	315	335
	Input Current–Amps	1.6	2.5	2.7	3.2	3.8
	Motor H.P.–Nominal	1/12	1/6	1/6	1/6	1/3
FAN DATA	Number of Fans	1	1	1	1	1
	Fan Size (D x W)	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2
FILTER DATA	Number Cells	1	1	1	1	1
	Size– Length x 10 3/4 x 5/8	45 1/2	45 1/2	65 1/2	65 1/2	85 1/2
	Gross Area–Sq. Ft.	3.7	3.7	5.3	5.3	6.9
Approx. Shipping Weight (Pounds) Hydronic		381		532		674
	Electric	389		545		697

HEATING UNITS–HOT WATER; STEAM & ELECTRIC — HBO, HAO

	UNIT SIZE	750 CFM		1000 CFM		1250 CFM		1500 CFM		2000 CFM	
	CONTROL TYPE	Valve	Bypass	Valve	Bypass	Valve	Bypass	Valve	Bypass	Valve	Bypass
AIR DELIVERY	CFM (Std.)	750		1000		1250		1500		2000	
	Discharge Velocity–FPM	450		400		500		450		600	
	Fan Speed–RPM	640	690	540	580	660	710	580	600	720	750
MOTOR ELECTRICAL DATA	Power Input–Watts	160	180	165	185	225	250	245	260	355	375
	Input Current–Amps	1.8	1.9	1.9	2.0	2.6	2.7	2.8	3.0	4.1	4.3
	Motor H.P.–Nominal	1/12		1/6		1/6		1/3		1/3	
FAN DATA	Number of Fans	1		2		2		3		3	
	Fan Size (D x W)	9 1/2 x 9 1/2		9 1/2 x 9 1/2		9 1/2 x 9 1/2		9 1/2 x 9 1/2		9 1/2 x 9 1/2	
FILTER DATA	Number Cells	1		1		1		1		1	
	Size– Length x 10 3/4 x 5/8	45 1/2		65 1/2		65 1/2		85 1/2		85 1/2	
	Gross Area–Sq. Ft.	3.7		5.3		5.3		6.9		6.9	
Approx. Shipping Weight (Pounds) Hydronic		404		565				718			
	Electric	393		549				697			

COOLING/HEATING UNITS–DIRECT EXPANSION/HOT WATER, STEAM, ELECTRIC
CHILLED WATER (2-PIPE VALVE/ELECTRIC) — HBE, HXW, HXS, HXE

	UNIT SIZE	750 CFM	1000 CFM	1250 CFM	1500 CFM	2000 CFM
AIR DELIVERY	CFM (Std.)	750	1000	1250	1500	2000
	Discharge Velocity–FPM	450	400	500	450	600
	Fan Speed–RPM	640	540	660	580	720
MOTOR ELECTRICAL DATA	Power Input–Watts	160	165	225	245	355
	Input Current–Amps	1.8	1.9	2.6	2.8	4.1
	Motor H.P.–Nominal	1/6	1/6	1/6	1/3	1/3
FAN DATA	Number of Fans	1	2	2	3	3
	Fan Size (D x W)	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2	9 1/2 x 9 1/2
FILTER DATA	Number Cells	1	1	1	1	1
	Size– Length x 10 3/4 x 5/8	45 1/2	65 1/2	65 1/2	85 1/2	85 1/2
	Gross Area–Sq. Ft.	3.7	5.3	5.3	6.9	6.9
Approx. Shipping Weight (Pounds)		412	578		730	

NOTES: Input Voltage–Hydronic: 120, 208, 240, 277 Volt, 60 Hz, 1 Ph - 2 wire
Electric: 208, 240, 480 Volt, 60 Hz, 3 Ph - 3 wire
Fan Motor Voltage – 115 Volt, 60 Hz, 1 Ph

Horizontal Unit Ventilators

STATIC PRESSURE APPLICATIONS

When operation against static resistance of a duct is required, duct runs should be kept to a minimum and duct velocities low. The unit ventilator is capable of operating against a small amount of external static resistance while utilizing standard motors. The tables below show the fan RPM and motor HP for all the types of YORK horizontal Unit Ventilators at various External Static Pressures.

When operating against external static pressure, the unit should be located outside the space to be served, with 70° or more of the duct resistance on the discharge side.

FAN RPM AND MOTOR H.P. FOR VARIOUS EXTERNAL STATIC PRESSURES

CFM	EXTERNAL STATIC PRESSURES											
	0		0.1		0.2		0.3		0.4		0.5	
	HP	RPM	HP	RPM	HP	RPM	HP	RMP	HP	RPM	HP	RPM
HEATING UNITS — HOT WATER, STEAM, ELECTRIC												**HOB, HOW, HOS, HOE**
750	1/12	600	1/12	690	1/6	780	1/4	860	1/4	940	1/4	1010
1000	1/6	720	1/6	800	1/4	890	1/4	970	1/4	1040	1/4	1110
1250	1/6	600	1/3	690	1/3	780	1/2	860	1/2	940	1/2	1010
1500	1/6	720	1/3	800	1/3	890	1/2	970	3/4	1040	3/4	1110
2000	1/3	600	1/3	720	3/4	820	3/4	910	3/4	1000	3/4	1070
CHILLED WATER COOLING/HOT WATER HEATING — 2 PIPE BYPASS CONTROL												**HAO**
750	1/12	690	1/6	810	1/6	810	1/4	1005	1/4	1095	1/4	1170
1000	1/6	580	1/6	680	1/3	680	1/2	855	1/2	930	1/2	990
1250	1/6	710	1/6	815	1/3	815	1/2	990	1/2	1055	1/2	1125
1500	1/3	600	1/3	710	1/3	710	3/4	885	3/4	960	3/4	1040
2000	1/3	750	1/3	860	3/4	860	3/4	1030	3/4	13.3%[1]	3/4	25.7%[2]
CHILLED WATER COOLING/HOT WATER HEATING — 2 PIPE & 4 PIPE VALVE CONTROL												**HBO, HCW**
750	1/12	640	1/6	740	1/6	740	1/4	920	1/4	990	1/4	1060
1000	1/6	540	1/6	605	1/3	605	1/2	750	1/2	810	1/2	870
1250	1/6	660	1/6	740	1/3	740	1/2	930	1/2	1000	1/2	1070
1500	1/3	580	1/3	650	1/3	650	3/4	780	3/4	835	3/4	890
2000	1/3	720	1/3	810	3/4	810	3/4	980	3/4	1060	3/4	10%[3]
CHILLED WATER COOLING/ELECTRIC HEATING DIRECT EXPANSION COOLING/HOT WATER, STEAM & ELECTRIC HEATING												**HBE, HXW, HXW, HXE**
750	1/6	640	1/6	750	1/4	840	1/4	920	1/4	990	1/4	1060
1000	1/6	540	1/6	620	1/3	715	1/2	800	1/2	880	1/2	950
1250	1/6	660	1/6	740	1/3	835	1/2	920	1/2	1000	1/2	1070
1500	1/3	680	1/3	665	1/3	760	3/4	840	3/4	920	3/4	990
2000	1/3	740	1/3	845	3/4	940	3/4	1020	3/4	1100	—	—

NOTES:

1. A 13.3% reduction in air capacity results in a 9.9% reduction in sensible heat, and a 7.2% reduction in total heat.
2. A 25.7% reduction in air capacity results in a 17.5% reduction in sensible heat, and a 13.3% reduction in total heat.
3. A 10% reduction in air capacity results in a 7.5% reduction in sensible heat, and a 5.4% reduction in total heat.

Horizontal Unit Ventilators

Coil Selection Guide

	STANDARD COILS			OPTIONAL COIL SIZES	
	ROWS OF COOLING	ROWS OF HEATING	SPECIAL NOTES	ROWS OF COOLING	ROWS OF HEATING
HOW	N/A	1	Water, Heating	N/A	2
HOA	N/A	3		N/A	
HOB	N/A	1	Face & Bypass	N/A	2
HOS	N/A	1	Steam Heating	N/A	N/A
HBO	3	3	1 Coil, Heating & Cooling	4	N/A
HAO	3	3	1 Coil, Heating & Cooling w Face & Bypass	4	N/A
HCW	3	1		4	2
HAB	3	1	Face & Bypass	4	2
HXW	3	1		4	2
HXB	3	1	Face & Bypass	4	2
HXS	3	1	Steam Heating	4	N/A
HXE	3	N/A	Electric Heating	4	N/A

Horizontal Unit Ventilators

HOT WATER COIL PERFORMANCE **HOW/HOB/HOA/HAO**

.625 OD Tube, 14 FPI
180° EWT @ 20° TD

MODEL	CFM	ROWS	EAT	GPM	FPD	TMBH	ATR	FPM
HOW/HOB	750	1	40	4.73	1.37	46.08	56.65	289
	750	1	50	4.32	1.16	42.12	51.78	289
	750	1	60	3.91	1.45	38.16	46.92	289
HOA/HAO	750	3	40	9.82	2.01	98.79	117.77	289
	750	3	50	9.06	1.73	88.30	108.61	289
	750	3	60	8.30	1.47	80.90	99.45	289
HOW/HOB	1000	1	40	5.65	1.68	55.10	50.80	386
	1000	1	50	5.16	1.43	50.35	46.42	386
	1000	1	60	4.68	1.19	45.60	42.05	386
HOA/HAO	1000	3	40	12.42	3.10	121.06	111.63	386
	1000	3	50	11.44	2.66	111.55	102.86	386
	1000	3	60	10.46	2.26	102.04	94.09	386
HOW/HOB	1250	1	40	7.81	4.11	76.14	56.17	325
	1250	1	50	7.15	3.51	69.76	54.46	325
	1250	1	60	6.50	2.96	63.39	46.76	325
HOA/HAO	1250	3	40	16.32	6.43	159.15	117.40	325
	1250	3	50	15.07	5.55	159.38	108.38	325
	1250	3	60	13.81	4.73	134.70	99.36	325
HOW/HOB	1500	1	40	8.74	5.03	85.22	52.39	390
	1500	1	50	8.01	4.30	78.07	47.99	390
	1500	1	60	7.27	3.62	70.92	43.60	390
HOA/HAO	1500	3	40	18.93	8.46	184.56	113.45	390
	1500	3	50	17.47	7.29	170.31	104.69	390
	1500	3	60	16.00	6.20	156.04	95.92	390
HOW/HOB	2000	1	40	11.85	11.03	116.54	53.28	393
	2000	1	50	10.87	9.45	105.99	48.86	393
	2000	1	60	9.89	7.98	104.46	44.46	393
HOA/HAO	2000	3	40	25.46	17.48	248.25	114.45	393
	2000	3	50	23.51	15.10	229.25	105.69	393
	2000	3	60	21.56	12.87	210.23	96.93	393

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
ATR = Air temperature rise in ° F
FPM = Air velocity in feet per minute through the coil face area

Horizontal Unit Ventilators

HOT WATER 1 ROW COIL PERFORMANCE **HCW/HXW/HXB/HAB**

.625 OD Tube, 14 FPI
180° EWT @ 20° TD

CFM	EAT	GPM	FPD	TMBH	ATR	FPM
750	40	4.73	1.37	46.08	56.65	289
750	50	4.32	1.16	42.12	51.78	289
750	60	3.91	1.45	38.16	46.92	289
1000	40	5.65	1.68	55.10	50.80	386
1000	50	5.16	1.43	50.35	46.42	386
1000	60	4.68	1.19	45.60	42.05	386
1250	40	7.81	4.11	76.14	56.17	325
1250	50	7.15	3.51	69.76	54.46	325
1250	60	6.50	2.96	63.39	46.76	325
1500	40	8.74	5.03	85.22	52.39	390
1500	50	8.01	4.30	78.07	47.99	390
1500	60	7.27	3.62	70.92	43.60	390
2000	40	11.85	11.03	116.54	53.28	393
2000	50	10.87	9.45	105.99	48.86	393
2000	60	9.89	7.98	104.46	44.46	393

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
ATR = Air temperature rise in ° F
FPM = Air velocity in feet per minute through the coil face area

Horizontal Unit Ventilators

1 ROW STEAM COIL PERFORMANCE

HOD/HOS

Non-freeze Design
.625 OD Tube, 14 FPI
2# Steam @ 219° F

CFM	EAT	TMBH	ATR	LBS/HOUR	FPM
750	-20	83.93	103.1	86.9	320
750	0	81.55	100.2	84.4	320
750	20	74.06	91.0	76.7	320
750	40	66.56	81.8	68.9	320
750	60	59.07	72.6	61.1	320
1000	-20	96.21	88.7	99.6	427
1000	0	88.64	81.7	91.7	427
1000	20	80.98	74.6	93.8	427
1000	40	77.04	71.0	79.7	427
1000	60	68.37	63.0	70.8	427
1250	-20	129.48	95.5	134.0	348
1250	0	119.60	88.2	123.8	348
1250	20	109.53	80.8	113.4	348
1250	40	99.27	73.2	102.7	348
1250	60	88.82	65.5	91.9	348
1500	-20	144.84	89.0	149.9	390
1500	0	133.95	82.3	139.6	390
1500	20	122.82	75.5	127.1	390
1500	40	111.45	68.5	115.4	390
1500	60	99.85	61.4	103.3	390
2000	-20	146.50	108.0	151.6	258
2000	0	135.51	99.9	140.3	258
2000	20	124.27	91.6	128.6	258
2000	40	112.78	83.2	116.7	258
2000	60	101.05	74.5	104.6	258

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
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Horizontal Unit Ventilators

1 ROW STEAM COIL PERFORMANCE

HCS/HXS

Non-freeze Design
.625 OD Tube, 14 FPI
2# Steam @ 219° F

CFM	EAT	TMBH	ATR	LBS/HOUR	FPM
750	-20	83.93	103.14	86.86	320
750	0	81.55	100.22	84.4	320
750	20	74.06	91.01	76.65	320
750	40	66.56	81.8	68.89	320
750	60	59.07	72.59	61.14	320
1000	-20	116.33	107.2	120.4	278
1000	0	107.34	98.9	111.1	278
1000	20	98.20	90.5	101.6	278
1000	40	88.92	82.0	92.0	278
1000	60	84.04	77.5	87.0	278
1250	-20	129.48	95.5	134.0	348
1250	0	119.60	88.2	123.8	348
1250	20	109.53	80.8	113.4	348
1250	40	99.27	73.2	102.7	348
1250	60	88.82	65.5	91.9	348
1500	-20	159.76	98.2	165.4	310
1500	0	147.94	90.9	153.1	310
1500	20	135.82	83.5	140.6	310
1500	40	123.41	75.8	127.7	310
1500	60	110.69	68.0	114.6	310
2000	-20	181.25	83.5	187.6	413
2000	0	168.18	77.5	174.1	413
2000	20	154.71	71.3	160.1	413
2000	40	140.84	64.9	145.8	413
2000	60	126.56	58.3	131.0	413

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
ATR = Air temperature rise in ° F
FPM = Air velocity in feet per minute through the coil face area

Horizontal Unit Ventilators

CHILLED WATER COIL PERFORMANCE **HBO/HBE/HCW/HCS/HAO/HAB**

.625 OD Tube, 14 FPI
45° EWT @ 10° TD

CFM	ROWS	EAT	GPM	FPD	TMBH	SMBH	LDB	LWB	FPM
750	3	75/63	3.85	1.6	21.80	17.12	54.0	53.4	222
750	3	80/67	5.86	3.5	29.36	20.33	55.0	54.5	222
750	3	82/69	6.72	4.5	33.64	21.50	55.6	54.1	222
750	3	85/71	7.74	5.8	38.76	21.32	55.8	55.4	222
750	4	75/63	4.36	0.8	21.85	17.39	53.6	53.3	222
750	4	80/67	5.98	1.4	59.96	20.72	54.5	54.2	222
750	4	82/69	6.92	1.8	34.63	22.05	54.9	54.6	222
750	4	85/71	7.96	2.4	39.85	24.59	55.2	54.8	222
1000	3	75/63	6.47	5.5	32.39	24.25	52.7	52.2	198
1000	3	80/67	8.64	9.3	42.28	28.82	53.4	53.0	198
1000	3	82/69	9.92	11.9	49.70	30.66	53.7	53.3	198
1000	3	85/71	11.31	15.1	56.63	33.63	54.0	53.4	198
1000	4	75/63	6.65	1.9	33.30	24.93	52.0	51.7	198
1000	4	80/67	9.01	3.5	45.11	29.75	52.6	52.3	198
1000	4	82/69	10.33	4.5	51.75	31.67	52.8	52.5	198
1000	4	85/71	11.8	5.8	59.08	34.81	52.9	52.6	198
1250	3	75/63	6.47	5.5	32.39	24.25	52.7	52.2	248
1250	3	80/67	8.64	9.3	42.28	28.82	53.4	53.0	248
1250	3	82/69	9.92	11.9	49.70	30.66	53.7	53.3	248
1250	3	85/71	11.31	15.1	56.63	33.63	54.0	53.4	248
1250	4	75/63	7.91	2.7	39.63	30.29	52.7	52.3	248
1250	4	80/67	10.74	4.8	53.46	36.07	54.8	53.4	248
1250	4	82/69	12.32	6.3	61.69	38.32	53.8	53.8	248
1250	4	85/71	14.05	8.0	70.38	42.05	54.0	54.0	248
1500	3	75/63	8.68	3.1	43.47	34.19	54.0	53.5	224
1500	3	80/67	11.69	5.5	58.55	40.58	55.1	56.0	224
1500	3	82/69	13.4	7.1	67.08	42.92	55.6	56.6	224
1500	3	85/71	15.36	6.2	76.89	47.16	56.0	57.1	224
1500	4	75/63	10.29	5.0	51.54	38.05	51.6	52.9	224
1500	4	80/67	13.87	8.8	69.48	45.37	52.1	54.0	224
1500	4	82/69	15.86	8.1	79.42	48.23	52.4	54.4	224
1500	4	85/71	18.12	10.4	90.73	53.07	52.4	54.7	224
2000	3	75/63	10.64	4.6	53.30	43.71	54.9	54.2	298
2000	3	80/67	14.31	8.1	81.68	51.32	56.4	55.7	298
2000	3	82/69	16.43	7.0	82.28	54.18	57.0	56.4	298
2000	3	85/71	18.84	9.1	94.34	59.44	57.6	57.0	298
2000	4	75/63	12.87	7.7	64.45	48.84	52.5	52.1	298
2000	4	80/67	17.31	9.6	95.66	57.91	53.3	52.9	298
2000	4	82/69	19.81	12.3	99.21	61.45	53.7	53.3	298
2000	4	85/71	22.7	15.8	113.67	67.64	53.8	53.5	298

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
SMBH = Sensible heat in 1000/BTU hr
LDB = Leaving air dry bulb air temperature in ° F
LWB = Leaving air wet bulb air temperature in ° F
FPM = Air velocity in feet per minute through the coil face area

Horizontal Unit Ventilators

DX COIL PERFORMANCE **HXO/HXS/HXW/HXB/HXE**

.625 OD Tube, 14 FPI
45° SST - 100° Liq - R22

750, 1000, 1250 = 2 Circuits (Dist. Feeds) 1500 & 2000 = 4 Circuits (Dist. Feeds)

CFM	ROWS	EAT	TMBH	SMBH	LDB	LWB	FPM
750	3	75/63	21.45	16.98	54.1	53.4	247
750	3	80/67	29.26	20.09	55.3	54.5	247
750	3	82/69	55.71	21.34	55.8	54.1	247
750	3	85/71	38.37	23.35	56.3	55.5	247
750	4	75/63	26.06	19.17	51.5	53.3	247
750	4	80/67	34.72	22.59	52.2	51.8	247
750	4	82/69	39.52	23.96	52.6	52.1	247
750	4	85/71	45.06	26.33	52.7	52.2	247
1000	3	75/63	33.23	24.66	52.3	51.6	212
1000	3	80/67	44.59	29.16	53.1	52.5	212
1000	3	82/69	50.39	30.75	53.7	53.0	212
1000	3	85/71	55.93	33.15	54.5	53.8	212
1000	4	75/63	37.97	27.00	50.1	49.7	212
1000	4	80/67	48.90	31.28	51.2	50.8	212
1000	4	82/69	55.05	32.98	51.6	51.2	212
1000	4	85/71	60.92	35.49	52.3	51.9	212
1250	3	75/63	36.68	29.45	53.3	52.5	265
1250	3	80/67	51.30	34.32	64.6	53.8	265
1250	3	82/69	58.06	36.25	55.3	54.5	265
1250	3	85/71	65.06	39.29	56.0	55.2	265
1250	4	75/63	44.20	32.24	51.2	50.8	265
1250	4	80/67	57.16	37.33	52.5	62.0	265
1250	4	82/69	63.30	38.84	53.4	52.9	265
1250	4	85/71	70.15	41.81	54.2	53.7	265
1500	3	75/63	53.43	38.92	51.1	50.7	235
1500	3	80/67	71.05	45.88	61.8	61.4	235
1500	3	82/69	50.76	48.66	52.1	51.7	235
1500	3	85/71	90.77	52.95	52.5	52.1	235
1500	4	75/63	53.43	38.92	51.1	50.7	235
1500	4	80/67	71.05	45.88	61.8	61.4	235
1500	4	82/69	50.76	48.66	52.1	51.7	235
1500	4	85/71	90.77	52.95	52.5	52.1	235
2000	3	75/63	53.83	45.53	54.9	54.0	235
2000	3	80/67	73.18	51.24	56.4	55.4	235
2000	3	82/69	84.34	54.34	57.0	56.0	235
2000	3	85/71	95.87	59.37	57.6	56.7	235
2000	4	75/63	65.84	49.38	52.2	51.7	235
2000	4	80/67	87.46	57.93	53.3	62.8	235
2000	4	82/69	100.81	61.82	53.5	53.0	235
2000	4	85/71	113.01	67.14	54.1	53.6	235

CFM = Cubic feet of air per minute
EAT = Entering air temperature in ° F
GPM = Gallons of water per minute
FPD = Fluid pressure drop in feet of water column
TMBH = Total heat in 1000/BTU hr
SMBH = Sensible heat in 1000/BTU hr
LDB = Leaving air dry bulb air temperature in ° F
LWB = Leaving air wet bulb air temperature in ° F
FPM = Air velocity in feet per minute through the coil face area

Heating Capacities

Electric

HEATING ONLY – Low Capacity Elements

DESIGN CONDITIONS
70F ROOM, 0F OUTDOOR AIR

HEATING ELEMENTS	UNIT CFM	KW per Elem.	Total Heat KW	Total Heat MBH	PERCENT OUTDOOR AIR & MIXTURE TEMP. 0% 70°	20% 56.0°	25% 52.5°	33 1/3% 46.8°	50% 35.0°	AMPS PER LINE Three Phase Delta (3 wire) 208 v	240 v	480 v
					Heat Available (MBH) for Room Requirements							
3	750	1.5	4.5	15.4	15.4	3.9	1.1	–	–	12.5	10.8	5.4
	1500	3.0	9.0	30.7	30.7	7.9	2.8	–	–	25.0	21.6	10.8
	2000	3.7	10.9	37.2	37.2	6.9	–	–	–	30.5	26.5	13.2
4	1000	2.0	8.0	27.3	27.3	12.2	8.4	2.2	–	24.5	21.2	10.6
	1250	2.5	10.0	34.1	34.1	15.2	10.5	2.7	–	30.6	26.6	13.3

Electric/Chilled Water Cooling

HEATING ONLY – Low Capacity Elements

HEATING ELEMENTS	UNIT CFM	KW per Elem.	Total Heat KW	Total Heat MBH	PERCENT OUTDOOR AIR & MIXTURE TEMP. 0% 70°	20% 56.0°	25% 52.5°	33 1/3% 46.8°	50% 35.0°	AMPS PER LINE Three Phase Delta (3 wire) 208 v	240 v	480 v
					Heat Available (MBH) for Room Requirements							
3	750	2.0	6.0	20.5	20.5	9.1	6.3	1.6	–	16.7	14.5	7.2
	1000	2.5	7.5	25.6	25.6	10.4	6.6	–	–	20.8	18.1	9.0
	1250	3.0	9.0	30.7	30.7	11.8	7.1	–	–	25.0	21.6	10.8
	1500	3.7	10.9	37.2	37.2	14.6	8.8	–	–	30.5	26.5	13.2
4	2000	3.7	14.6	49.8	49.8	19.3	11.9	–	–	45.3	39.3	19.7

POWER WIRING

YORK provides a complete line of Electric Unit Ventilators for three phase voltage applications.

3 PH INPUT VOLTAGE

When the supply voltage of the electric heating system is 208, 240 or 480 Volts, 3 phase, 60 cycle, the unit's heating element bank is connected in a 3 phase "delta" connection. This connection requires a three wire supply voltage. In the "delta" connection the individual heating elements operate on the voltage between the lines, that is, 208, 240 or 480 Volts. The unit's fan motor and all of the electrical temperature control components operate on 120 Volts. Again the power is supplied to the unit through a manual disconnect switch.

SAFETY DEVICES

The heating element bank is wired through a high temperature limit switch. This switch is an automatically resetting device which acts to break the circuit should the discharge temperature become excessively high (due to blockage of the air stream.)

Each Electric Unit Ventilator is provided with a spring activated switch that disconnects the control circuit and all heating elements whenever the unit front is opened. Also, the heating elements are de-energized whenever the unit fan motor is off.

Each unit contains a heat dissipating switch. This is a thermostat which insures that the unit fans remain running until all of the residual heat is removed from the heating bank.

Each Electric Unit Ventilator is furnished with a line voltage disconnect switch in the end compartment. When this switch is in the OFF position, all power to the heating element is off.

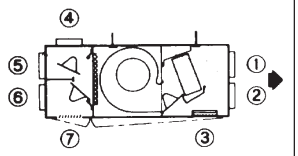
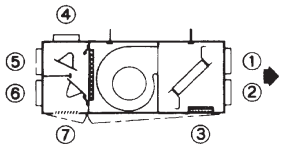
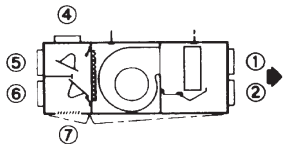
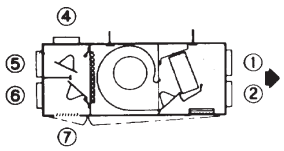
The heating bank is provided with overcurrent protection (fuses). Heating elements are subdivided in circuits not to exceed 48 Amps per circuit and protected by branch circuit fusing. Pre-circuit fuses interrupt the heating element circuit should current draw become excessive. Back up devices for the hi-limit will be contactor/s depending on Amps per line.

Motor and control circuit (120 Volts) is protected by supplementary fusing.

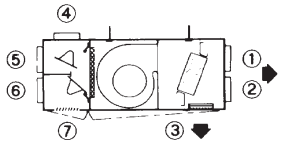
Horizontal Unit Ventilators

Designed to meet a wide variety of application requirements in both interior and exterior classrooms, the YORK horizontal unit ventilator can be suspended from the ceiling, mounted flush with the celining, semi-recessed in the ceiling, mounted flush with the ceiling between two rooms, concealed above the celing with duct-work or built into a soffit. A variety of intake and discharge collar locations, plus options, provide unusual application versatility. You have a choice of unit arrangements to match the need for unobstructed classroom space utilization. All units are available with plaster angles for field installation to provide a clean, smooth appearance when re-cessed or semi-recessed ina ceiling or a soffit.

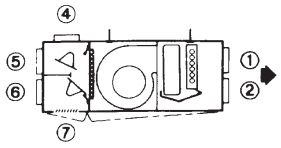
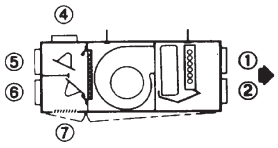
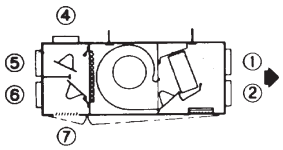
HYDRONIC

TYPE	HOB BYPASS CONTROL 2 PIPE SYSTEM	HOS-HOW-HOA HOT WATER AND STEAM 2 PIPE SYSTEM	HBO-HCW BYPASS CONTROL 2 PIPE & 4 PIPE SYSTEM	HAO-HAB BYPASS CONTROL 2 PIPE & 4 PIPE SYSTEM
H HORIZONTAL				
	COMBINATIONS AVAILABLE	COMBINATIONS AVAILABLE	COMBINATIONS AVAILABLE	COMBINATIONS AVAILABLE
DISC. AIR	1, 2 or 3*	1, 2 or 3*	1or 2	1or 2
RETURN AIR	6 or 7†	6 or 7†	6 or 7†	6 or 7†
OUTDOOR AIR	4 or 5	4 or 5	4 or 5	4 or 5

ELECTRIC

TYPE	HOE ELECTRIC HEATING ONLY 3 TO 9 LOW/HIGH ELEMENTS
H HORIZONTAL	
	COMBINATIONS AVAILABLE
DISC. AIR	1, 2 or 3*
RETURN AIR	6 or 7†
OUTDOOR AIR	4 or 5

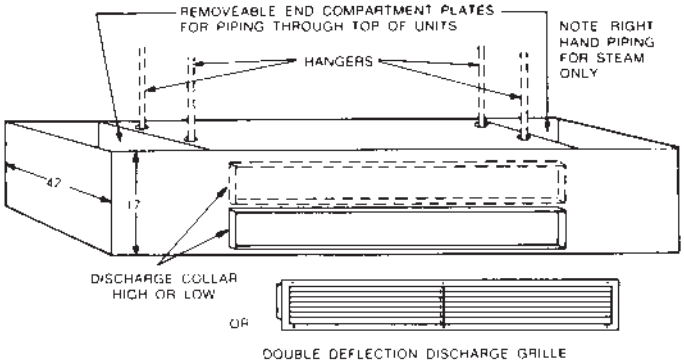
DIRECT EXPANSION

TYPE	HXS-HXW DIRECT EXPANSION HOT WATER STEAM HEATING	HXE DIRECT EXPANSION ELECTRIC HEATING	HXB DIRECT EXPANSION BYPASS CONTROL 2 PIPE SYSTEM
H HORIZONTAL			
	COMBINATIONS AVAILABLE	COMBINATIONS AVAILABLE	COMBINATIONS AVAILABLE
DISC. AIR	1or 2	1or 2	1or 2
RETURN AIR	6 or 7†	6 or 7†	6 or 7†
OUTDOOR AIR	4 or 5	4 or 5	4 or 5

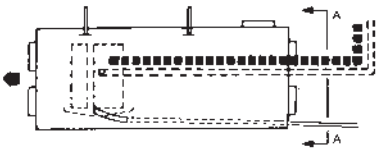
Notes:

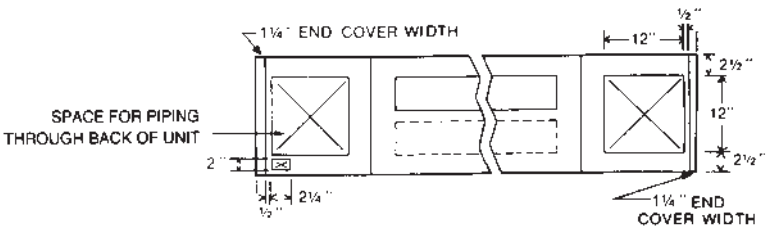
* Must always be grille

† When collar is required use 18" flexible duct (by others) for unit access. All applications shown are for discharge arrangements 2 and 3. Where discharge collar 1 is selected, position of the fans and the heating element may change.



PIPING MAY ALSO BE GAINED THROUGH REAR OF UNITS. HOLES FOR PIPING ARE TO BE CUT BY CONTRACTOR IN FIELD AT REQUIRED LOCATIONS.

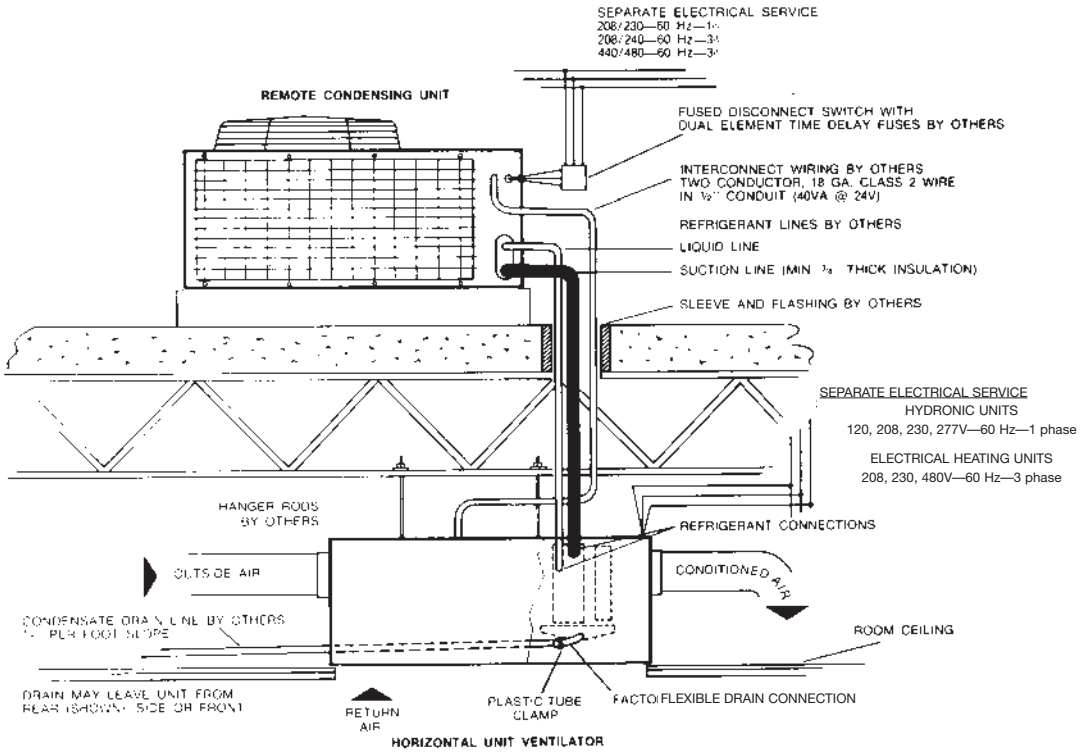




REAR RIGHT HAND END COMPARTMENT

REAR LEFT HAND END COMPARTMENT

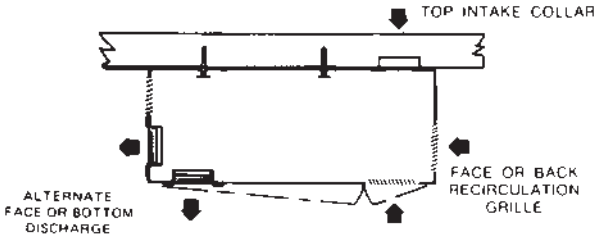
SPLIT SYSTEM INSTALLATION

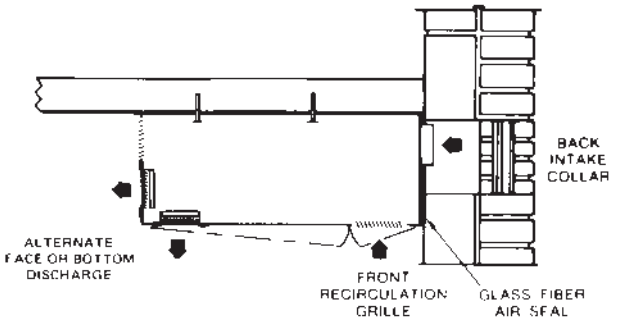


HORIZONTAL UNIT VENTILATOR

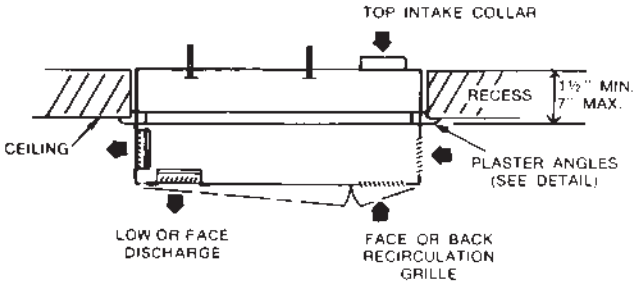
Horizontal Unit Ventilators

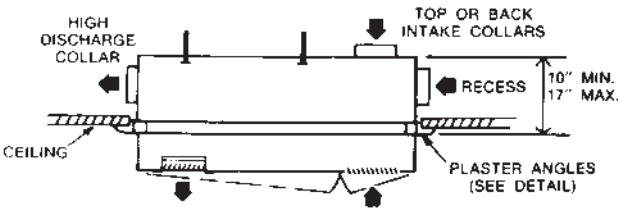
Fully Exposed Units



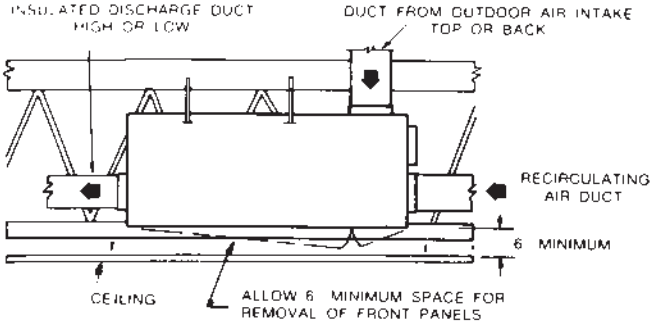


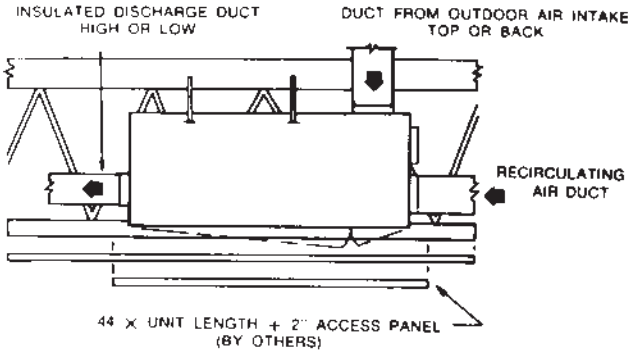
Semi-Recessed Units

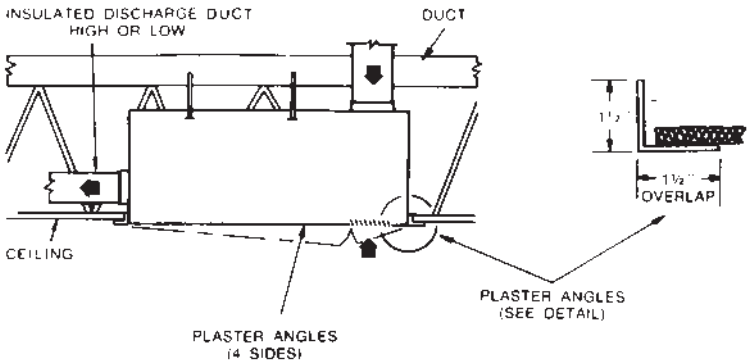


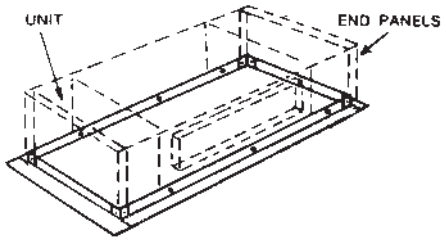


Fully Recessed Units









PLASTER ANGLE FRAME

Horizontal Unit Ventilators

The various standard models of YORK Horizontal Unit Ventilators can be identified by means of the following eight digit designation code. For example, the designation H0W30750, identifies a current series ceiling mounted, heating only unit ventilator with hot water valve control. It has a 76 inch chassis and delivers 750 Cfm standard air. In each subsequent block you can identify the characteristics of each YORK horizontal unit ventilator required.

575											CONTROLS									COLOR						
UNIT	COOLING	HEATING	CHASSIS LENGTH CFM					POWER	PIPING	ELEC. HEAT	TYPE	CYCLE	STYLE	CLOCK	VALVE		EXTERNAL STATIC PRESS.	FILTER	COLOR	COLLAR LOCATION	LOCATION	TYPE	LOCATION	TYPE	VINTAGE	CONSTRUCTION
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
H																–									D	

1 2 3 Unit, Cooling, Heating Type

Heating Hydronic/Electric Units
HOW Hot Water Valve Control
HOA Hot Water Valve Control High Capacity Coil
HOB Hot Water Face and Bypass
HOS Steam Valve Control
HOE Electric Heating ONLY

Chilled Water Cooling/Heating Units
HBO 2 Pipe Chilled Water Valve Control
HAO 2 Pipe Chilled Water Face & Bypass
HCW 4 Pipe Chilled Water/Hot Water Heating
HAB 4 Pipe Chilled Water/Hot Water Face & Bypass

Direct Expansion Cooling/Heating Units
HXW Direct Expansion Hot Water Valve Control
HXB Direct Expansion Hot Water Face and Bypass
HXS Direct Expansion Steam Valve Control
HXE Direct Expansion Electric Heating ONLY

NOTE:
Please note all of the units listed above are available in the narrower (HN) configuration. To order the HN configuration please choose the unit desired from above (digits 1, 2 & 3) and select the appropriate Chassis, CFM Application from below (digits 4, 5, 6, 7 & 8).

4 5 6 7 8 Chassis, CFM Application

Standard/HN	Stand./HN	
30750/20750	76"/48"	0750 CFM Heating ONLY
30750/20750	76"/48"	0750 CFM Cooling/Heating
31000/21000	76"/48"	1000 CFM Heating ONLY
51000/41000	96"/68"	1000 CFM Cooling/Heating
51250/41250	96"/68"	1250 CFM Heating ONLY
51250/41250	96"/68"	1250 CFM Cooling/Heating
51500/41500	96"/68"	1500 CFM Heating ONLY
71500/61500	116"/88"	1500 CFM Cooling/Heating
72000/62000	116"/88"	2000 CFM Heating ONLY
72000/62000	116"/88"	2000 CFM Cooling/Heating

9 Power Supply (Voltage)

1 120/1/60 AC (Not Available w/Electric Heat)
2 208/1/60 AC (Not Available w/Electric Heat)
3 240/1/60 AC (Not Available w/Electric Heat)
6 208/3/60 AC
7 240/3/60 AC } 3 Wire DELTA Electric Heat ONLY
9 480/3/60 AC
5 277/1/60 AC Motor Control Circuit Always 120 Volts

10 Power/Piping Connection Side

Hydronic Heating Units: HOW/HOS/HOA/HOB/HOD
A L.H. Power/R.H. Piping Supply Connection
B L.H. Power/L.H. Piping Supply Connection

Hydronic Cooling/Heating Units: HCW/HCS/HAB/HAD
C L.H. Power/L.H. Heating Supply/R.H. Cooling Supply
D L.H. Power/L.H. Heating Supply/L.H. Cooling Supply
E L.H. Power/R.H. Heating/R.H. Cooling Supply
F L.H. Power/R.H. Heating/L.H. Cooling Supply

Hydronic Heating/Cooling: HAO/HBO
G L.H. Power/R.H. Heating/R.H. Cooling Supply
H L.H. Power/L.H. Heating/L.H. Cooling Supply

Electric Heating: HOE/HBE/HXE
J R.H. PowerONLY/L.H. Chilled Water/L.H. DX Conn.

Direct Expansion: HXW/HXS/HXD/HXO
K L.H. Power/L.H. DX Conn. ONLY/R.H. Heating Supply
L L.H. Power/L.H. DX Conn. ONLY/L.H. Heating Supply

NOTES:
1) Connections determined by facing front panel when unit is installed.
2) On all steam heating units, return connection is opposite supply connection.
3) OnHeatingCooling units, drain is same end as cooling supply connections.
4) For complete connection locations refer to unit catalog

11 Electric Heating Elements

0 NO ELECTRIC HEAT
3 4.5 KW
3 6.0 KW
4 8.0 KW
3 7.5 KW
4 10.0 KW
3 9.0 KW
3 9.0 KW
3 10.8 KW
3 10.9 KW
4 14.6 KW

Refer to the catalog and price sheet for Unit/Electric Elements combinations that are not available.

12 Control Type

YORK Controls
P YORK Pneumatic
D YORK DDC

Controls BY OTHERS
O Controls BY OTHERS, FIELD MTD.
F Controls BY OTHERS, FACTORY MTD. and WIRED

NOTES: For Types "C" and "F" - Fill out Form 575-21C and include with Order.
For Types HAB, and HAD, HXB and HXD ONLY Controls BY OTHERS are available.

13 Control Cycle

2 YORK Controls - ASHRAE Cycle 2

0 Controls BY OTHERS

14 Sensor/Unit Style

YORK Controls
K Single Unit or Master W/Unit Mounted Sensing and Setting.
P Single Unit or Master W/Wall Mounted Sensing

Controls BY OTHERS
A Factory Mtd. Controls/Unit Mtd. Thermostat
B Factory Mtd. Controls/Wall Mtd. Thermostat
D Field Mtd. Controls/Wall Mtd. Thermostat

15 System/Time Clock

YORK Controls
A 365 day
B 7 day
X No Time Clock - Occupied/Unoccupied Switch
O Not Required

NOTE: Over Ride Timer is ordered as an Accessory and can be Remote Mtd.

Controls BY OTHERS Interface
0 Controls BY OTHERS

16 Hydronic Valve

YORK Controls
2 2 Way Hydronic Control Valve
3 3 Way Hydronic Control Valve
4 2 Way Cooling & 2 Way Heating Control Valve
5 3 Way Cooling & 2 Way Heating Control Valve
6 3 Way Cooling & 3 Way Heating Control Valve
0 No Valve Required

Controls BY OTHERS
0 Controls By OTHERS

Usage Code	Table (YORK Controls Only) Unit, Type
2	HOW, HOA, HOS, HBO, HBE, HXW, HXS
3	HOW, HOA, HBO, HBE, HXW
4	HCW, HCS
5	HCW, HCS
6	HCW

18 External Static Pressure

0 Free Discharge
A 0.1 Inch E.S.P.
B 0.2 Inch E.S.P.
C 0.3 Inch E.S.P.
D 0.4 Inch E.S.P.
E 0.5 Inch E.S.P.

Refer to the Catalog for availability and applicable Fan Motor Data

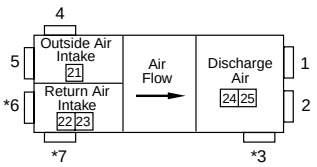
19 Type Filter

T Throwaway Filter

20 Color

Standard		Optional	
1	Gray	6	Polar Ice
2	Light Gray	7	Dark Textured Gray
3	Beige		
4	Dark Beige		
E	Eggshell		
W	White		
5	Black		

21 22 23 24 25 Air Intake/Discharge Locations



Indicate Location (digits 21, 22 & 24) by Number
Indicate Connection Type (digits 23 & 25) by (D) Double Deflection Grille, (C) Collar & (G) Grille
NOTES:
*1) Discharge location No. 3 is only available on Heating Only units
*2) Discharge location No. 3 is only available on (D) Double Deflection Grille
*3) If intake position No. 7 is (C) collar, on 18" flexible Duct Connection by Others is Required
*4) Intake locations No. 6 & No. 7 are not available as (D) Double Deflection Grille

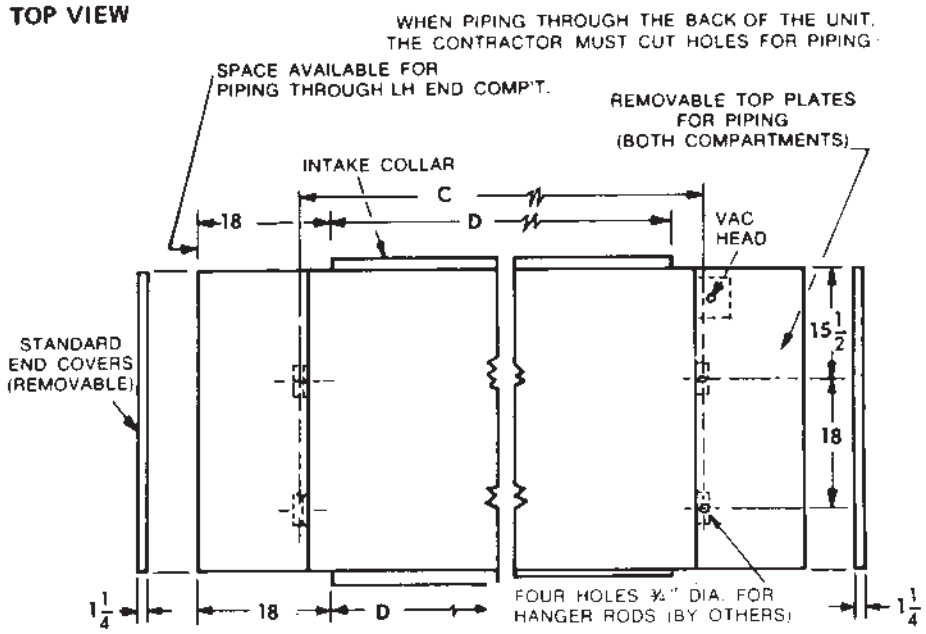
27 Unit Construction

O Options (See Series H Standard Options Sheet)
S Standard
Z Special Features

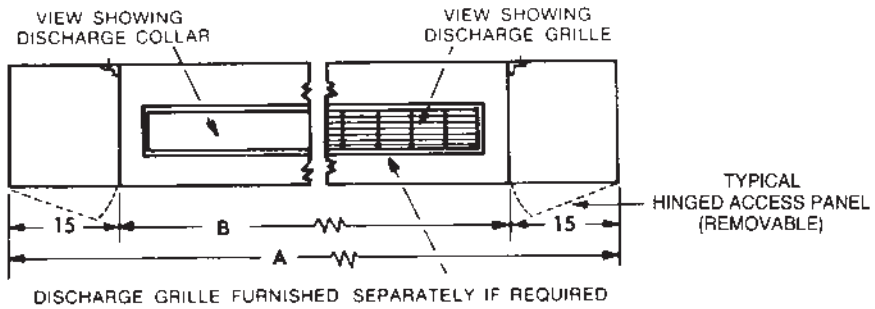
NOTE: Special Features must be clearly defined on the ORDER.
When specifying both Options and Special Features use code "Z".
Replace the Flexo digit affected with "Z" for special requirements.

Details and Dimensions

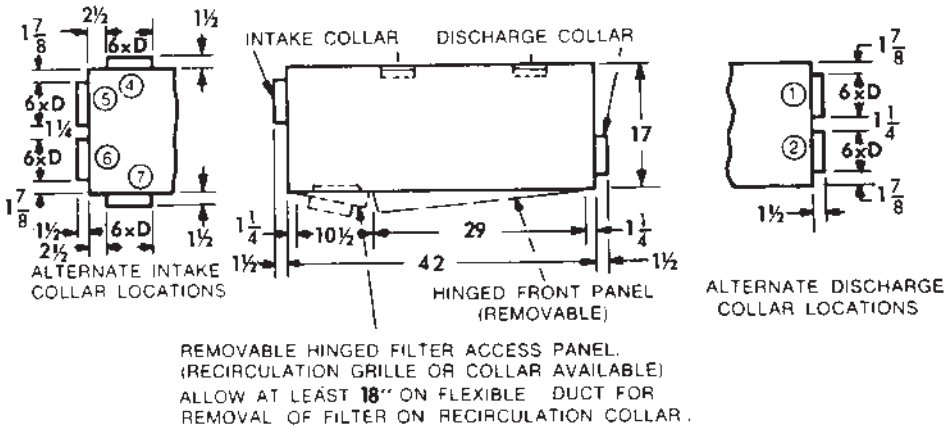
TOP VIEW



FRONT VIEW



LEFT SIDE VIEW



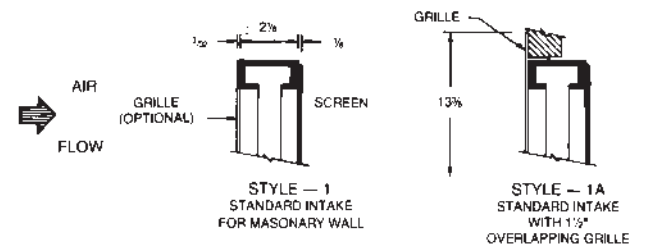
Note: All dimensions in inches

Model Unit					
Cooling	**Heating**	**A***	**B****	**C**	**D**
750	**750-1000**	76	46	47 5/8	40
1000-1250	**1250-1500**	96	66	67 5/8	60
1250-1500	**2000**	116	86	87 5/8	80

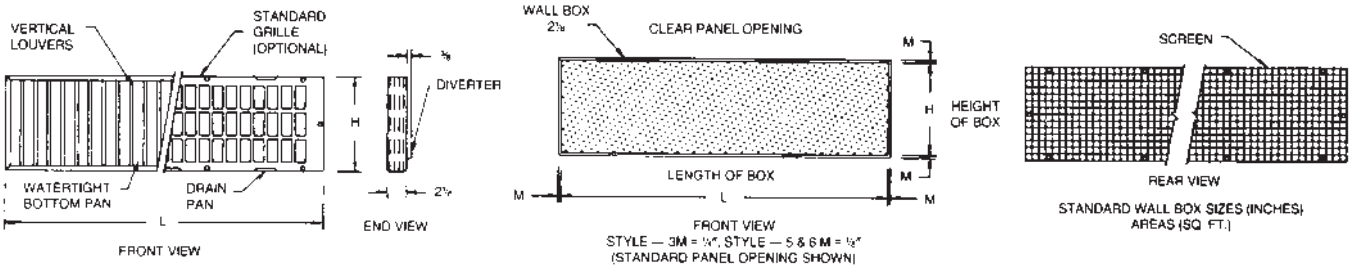
*Dimension "A" without end covers

**Dimension "B" is length between bulkheads. Add 2 3/4" for front panel length

Outdoor Air Intakes



DEPTH	LGHT.	HEIGHT
2⅛	36 46 56 66 76 86	10⅜
"A" DIMEN.		12⅜
"B" DIMEN.		12⅜



FLOOR TYPE UNIT	CFM	HEIGHT-LENGTH	FLOOR TYPE UNIT	CFM	HEIGHT-LENGTH
COOLING/HEATING	0750	10 3/8 x 46	HEATING ONLY	0750	10 3/8 x 46
COOLING/HEATING	1000	10 3/8 x 66	HEATING ONLY	1000	10 3/8 x 46
COOLING/HEATING	1250	10 3/8 x 66	HEATING ONLY	1250	10 3/8 x 66
COOLING/HEATING	1500	10 3/8 x 86	HEATING ONLY	1500	10 3/8 x 66
COOLING/HEATING	2000	10 3/8 x 86	HEATING ONLY	2000	10 3/8 x 86

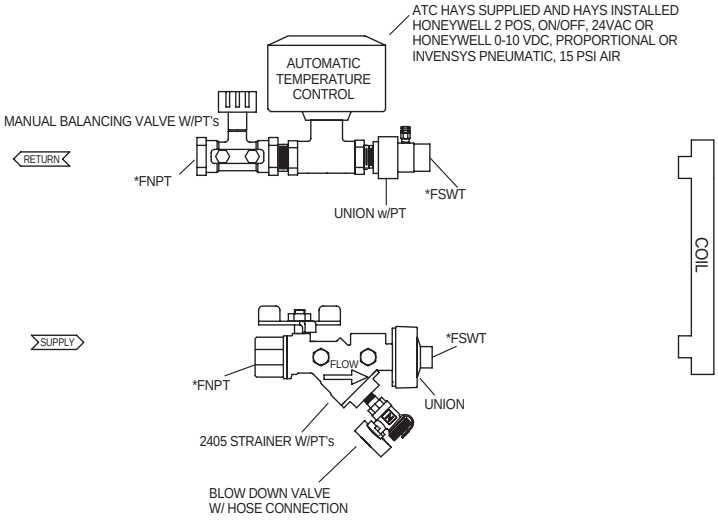
NOTE:

1. Consult unit catalog for wall box selection.
2. Block-off plates must be field supplied and installed as required.

WALL BOX MATERIAL: ALUMINUM
GRILLE: ALUMINUM
SCREEN: GALVANIZED

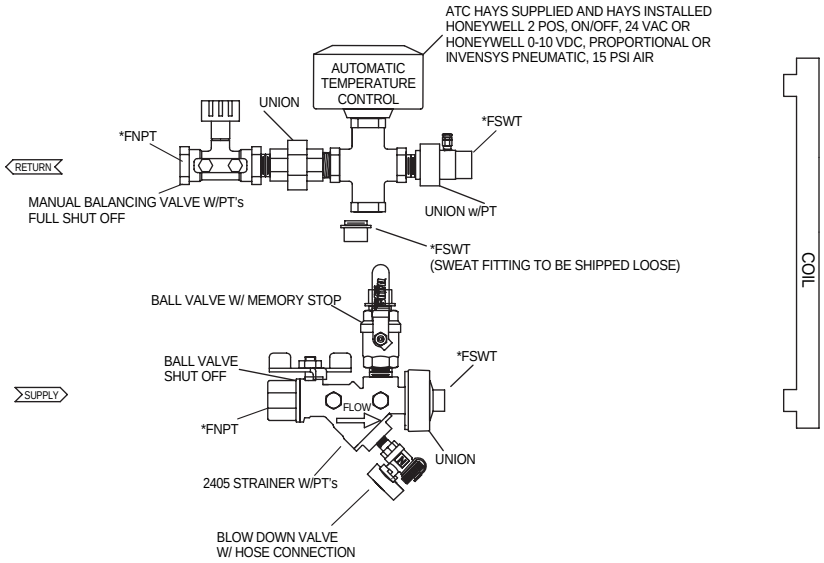
Horizontal Unit Ventilators

2-WAY MANUAL PIPING PACKAGE



TRUNK SIZE	ATC SIZE	COIL SIZE	FLOW RATE	TYPE	STYLE
0.75	0.50	0.75	MANUAL	2-WAY	CUSTOM

3-WAY MANUAL PIPING PACKAGE



(LEFT HAND PORTING SHOWN, RIGHT HAND PORTING OPPOSITE.)

TRUNK SIZE	ATC SIZE	COIL SIZE	FLOW RATE	TYPE	STYLE
0.75	0.50	0.75	MANUAL	3-WAY	CUSTOM

UNIT VENTILATOR SPECIFICATIONS

Horizontal (Ceiling) Unit

Furnish the number, type and size YORK Horizontal Unit Ventilators as indicated on the plans.

Unit Ventilator air capacities are in terms of CFM standard air.

Each Unit Ventilator shall incorporate the following features:

A. CASING AND FINISH - Chassis shall be constructed of 14 gauge, galvanized steel. All decorative parts of the unit ventilator shall be phosphatized and finished in a baked on powder coat finish. The unit ventilator manufacturer shall provide not less than seven basic decorator colors from which a color selection may be made.

The horizontal (ceiling) unit shall be provided with removable panels for maintenance. These panels will be supplied with safety-restraints to insure maintenance personal safety when servicing the unit.

B. HEAT TRANSFER ELEMENTS

(Hydronic, DX, Steam, Electric)

All Hydronic heat transfer coils shall be constructed by manufacturer of 5/8" OD seamless copper tubes, plate aluminum extended fins and copper headers. All joints shall be silver brazed.

The unit ventilator manufacturer shall manufacture coils internally.

The heat transfer coils shall be positioned in the unit so that the entering air-side is exposed for cleaning when the unit front is removed.

Steam Coil - Steam coil shall be constructed by manufacturer utilizing non-freeze construction of 5/8 OD outer tubing supplied with steam distributing inner tubes which feed steam the entire length of the coil to achieve optimum temperature distribution over the entire coils.

Cooling-Heating Coils -
Hydronic heat transfer cooling / heating coils shall be constructed by manufacturer of seamless copper tubes, plate aluminum extended fins copper header. All joints shall be silver brazed, serpentine type as required to produce the capacity with the water quantity indicated.

The unit ventilator manufacturer shall manufacture coils internally.

2-Pipe with By-Pass Cooling or Heating Coils-
2-Pipe with by-pass cooling or heating coils shall be constructed by manufacturer of 5/8" OD seamless copper tubing and furnished complete with by-pass damper closing the front of the heat transfer coils for shut-off.

2-Pipe Cooling or Heating Coils -
2-Pipe cooling or heating coils shall be arranged for valve control operation and shall be constructed by the manufacturer of 5/8" OD seamless copper tubing by the manufacturer.

4-Pipe with Valve Control Cooling/Heating Coils -
4-Pipe with valve control cooling/heating coils shall be furnished as two separate circuits and shall be constructed by the manufacturer of 5/8" OD seamless copper tubing.

4-Pipe with By-Pass Cooling or Heating Coils -
4-Pipe with by-pass cooling or heating coils shall be constructed by manufacturer of 5/8" OD seamless copper tubing and furnished complete with by-pass damper closing the front of the heat transfer coils for shut-off.

Direct Expansion (DX) coils shall be constructed by manufacturer of 5/8" OD seamless copper tubing and plate aluminum extended fins. All joints shall be silver brazed.

Direct expansion coil shall included thermostatic expansion valve with external equalizer.

Electric heating elements shall be constructed of a high quality nickel-chrome wire, coiled and imbedded within a magnesium-oxide refractory material and enclosed within a steel tube. The sheath shall be provided with a spirally wound steel fin. The fin shall be permanently bonded to the tube by brazing for quick and efficient heat transfer.

C. DRAIN PANS - All cooling units shall be furnished with a suitable drain pan for disposal of condensate, which are removable for cleaning. They shall be constructed of plastic and double-pitch to meet IAQ standards. Drain pans shall be suitably insulated with a vapor proof insulation.

D. MOTOR AND FAN ASSEMBLY - The motor and fan assembly shall be of the direct end drive type and shall be located behind the heat transfer coils in the blow thru position.

The motor shall be permanent split capacitor, totally enclosed, variable speed, resilient mounted type, designed to operate on 120 volts, 60 cycle single phase AC (regardless of power supply). Motor bearings are sleeve-type, completely sealed for the life of the motor.

The unit will be operated by a toggle switch, which will be located on the fan deck (or provided for remote mounting by the installing contractor). Switch positions shall be High-Off-Low on all standard input voltage units. The switch is connected through an auto-transformer, which permits a total of six speeds to meet varying field requirements with two of these six speeds available on the switch.

Fans shall be of the forward curved, double inlet type. Fans shall be statically and dynamically balanced.

E. VENTILATION CONTROL DAMPER Each unit ventilator shall be equipped with a one-piece roll damper complete with blade and jamb seals to control the proportion of room and outdoor air. This damper shall operate on nylon bearings and require no lubrication and be located in a filtered air stream.

F. AIR FILTER

Each Horizontal Unit Ventilator shall be equipped with a throw-away filter media.

G. INSULATION (Cooling Applications) Insulation shall be UL Listed under 94 HF-1 and is flame and smoke retardant, also shall be used to thoroughly insulate all areas in the heat transfer section to prevent condensation.

Insulation shall be applied in accordance with ASHRAE 62-2001.

H. OUTDOOR AIR INTAKES (Optional) Outdoors air intakes shall be the vertical louver design. Intake shall be 2 1/8" deep in the direction of the airflow and shall be constructed of aluminum. An optional stamped aluminum decorative grille shall be provided for the outdoor air intake.

I. PROTECTIVE COVERING The unit shall be provided with factory applied protective covering to protect the finished surfaces during shipping. This covering is arranged to remain on the unit until installation.

J. CONTROLS (Optional)

Unit ventilators shall be arranged for automatic temperature control. (YORK pneumatic or DDC, controls by others/factory mounted, controls by others/field mounted, ASHRAE II cycle).

Convenience outlet with shorting plug is furnished with the following units only.

1. Those having no controls

2. Those having single temperature controls. (No Night setback)

Unit ventilator manufacturer shall provide a 1-piece roll damper for outside-air and a separate 1-piece roll damper to control return-air for ventilation control (as optional, a face and bypass damper).

Factory supplied controls shall include all thermostats, air stream thermostats, modulating valves, damper motors, relay control switches, chambers, etc.

For additional specifications on Controls, consult Factory.

K. SAFETY DEVICES (Electric Heating Units) Each unit shall be equipped with a safety manual disconnect switch which will completely de-energize the unit. A spring switch (dead front switch) de-energizes the control circuit, which in turn de-energizes the fan and heating elements when the front panel is removed. Each unit shall have a heat dissipation switch, which ensures the fans are running whenever the unit discharge temperature is above 100°F. The heating bank shall be provided with the over current protection (fuses). Heating elements shall be subdivided in circuits not to exceed 48 Amps per circuit and protected by branch circuit fusing. Pre-circuit fuses shall interrupt the heating element circuit should current draw become excessive. The heating element control circuit is wired through a high temperature limit switch. This switch is an automatic resetting device that will open the circuit should the discharge temperature become excessively high. Motor and control circuit shall be protected by supplementary fusing.

L. ETL SAFETY LISTED

Unit shall be approved by ETL Testing Laboratories for safety and compliance to National Electrical Code.

YORK reserves the right to modify unit specifications and construction details without prior notice in its efforts to maintain and improve product quality.

P.O. Box 1592, York, Pennsylvania USA 17405-1592
Tele. 800-861-1001
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FORM 115.23-EG2
NEW RELEASE: 115.23 EG2 (602)