



Vertical Classroom Unit Ventilator

ENGINEERING GUIDE



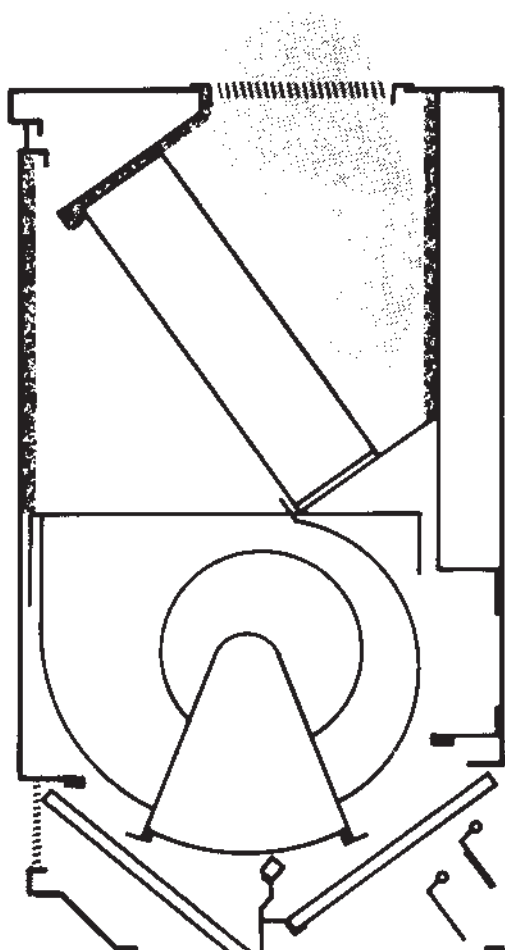
...the most energy efficient system
for maintaining the thermal environment
most conducive to learning

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Design Simplicity & Quality Construction Ensure Trouble-free Performance

The YORK Unit Ventilator is designed to accommodate the specific thermal requirements of the classroom or any other space of similar size where people congregate. Units are capable of providing heating, ventilation, and mechanical cooling or natural cooling with outdoor air. All functions are automatically controlled.




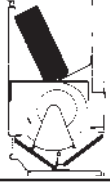



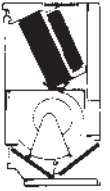


Typical operation allows the fans to operate, recirculating room air prior to occupancy. When room temperature approaches the desired comfort level, the roll damper opens to admit the minimum percentage of outdoor air for ventilation. Thereafter, outdoor air and room air are blended and discharged at a temperature that will maintain classroom comfort. In mild weather, greater percentages of outdoor air may be circulated for natural cooling. Year-round units with mechanical cooling simply provide comfort when the introduction of outdoor air is not capable of cooling during the hot summer months.

The basic engineering design feature of all YORK unit ventilators is the location of the fans below the heat transfer element. This blow-thru design removes the fan blades from the view of students, thus eliminating the temptation to drop paper clips or liquids through the discharge grille, perhaps harming themselves or the equipment.

Since the fan assembly is located under the heat transfer element in the blow-thru design, the heat transfer element is never exposed to sub-freezing temperatures. This provides one of the surest safety factors known for the prevention of freeze-up and even affords effective protection in the event of a pump or boiler failure.

The YORK Unit Ventilator quietly and automatically maintains the classroom thermal environment most conducive to learning. It has been designed to withstand the rigors of classroom punishment and continue to operate effectively. The unit ventilator continues to be the most energy efficient and economical method of maintaining classroom comfort.

Description of Models

<p>HOT WATER HEATING TOW/TOA</p> <p>Hot water unit ventilators are available in four sizes with air capacities ranging from 750 to 1500 CFM. Wall hung piping systems utilizing crossover tubing from 1" to 2" are applicable with this unit. Use of wall hung piping saves construction posts by eliminating special pipe trenches.</p>	
<p>STEAM HEATING TOS</p> <p>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 1500 CFM.</p>	
<p>TWO PIPE CHILLED WATER COOLING/ HOT WATER HEATING TBO</p> <p>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 1500 CFM.</p>	
<p>FOUR PIPE CHILLED WATER COOLING HOT WATER HEATING TCW/TCS</p> <p>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 colling simultaneously to meet individual room requirements. Air capacities range from 750 to 1500 CFM.</p>	
<p>ELECTRIC HEATING TOE</p> <p>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. Four unit sizes, 750 to 1500 CFM.</p>	
<p>CHILLED WATER COOLING/ELECTRIC HEATING TBE</p> <p>These year-round unit ventilators combine the features of the YORK chilled water untis with the separate electric heating element bank of the electric heating models. The system can provide simultaneous heating and cooling to meet individual room requirements. Air capacities range from 750 to 1500 CFM.</p>	
<p>DIRECT EXPANSION COOLING/ HYDRONIC OR ELECTRIC HEATING TXE, TXW, TXS</p> <p>Year-round direct expansion coil unit ventilators are available as completely self-contained units for 1250 CFM, or in the full range of air capacities from 750 to 1500 CFM with remote condensing units. Each type if offered for use with steam, hot water or electric heating.</p>	
<p>CHILLED WATER COOLING/HOT WATER HEATING BYPASS CONTROL TAB/TAO/TOB</p> <p>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 four sizes with air capacities ranging from 750 to 1500 CFM.</p>	

Removeable Motor and Fan Assembly



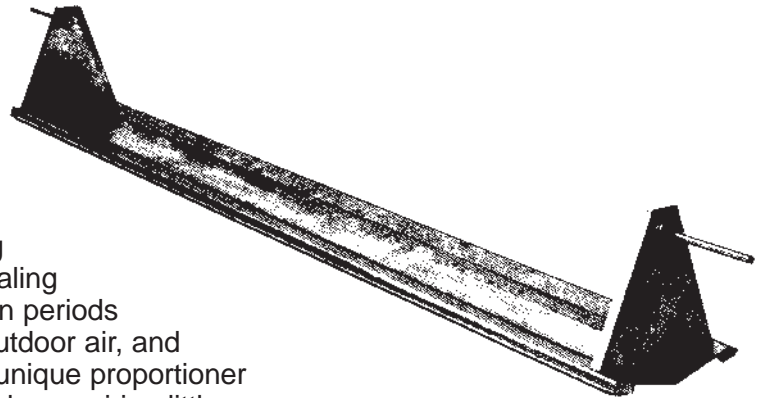
The motor, fans, fan housings, and heavy-gauge steel motorboard form one complete-assembly, readily removable from the unit ventilator. This convenient access facilitates and encourages regular cleaning. The fans are mounted directly on the solid steel double-extended motor shaft. There are no belts,

drives, couplings, outboard bearings or alignment problems. With only one moving assembly, this is a most efficient and quiet power plant.

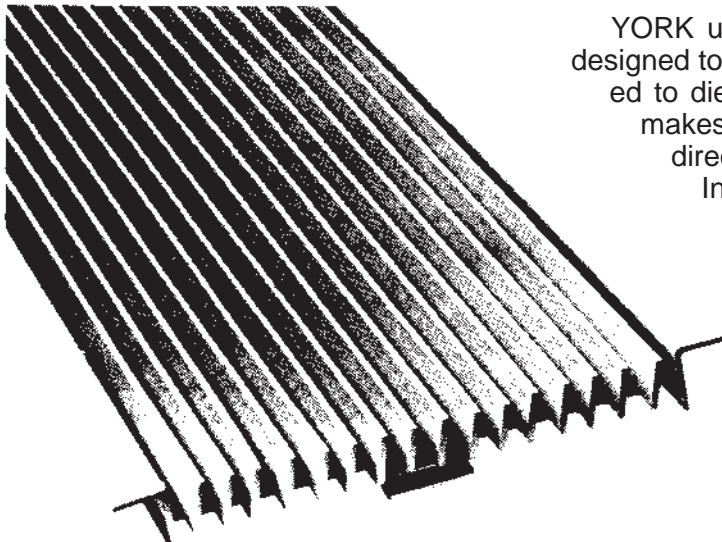
YORK unit ventilator motors are totally enclosed, and located in the cool filtered air stream. Dust, dirt and moisture never become a problem. Trouble-free performance is assured with oversize bearings, non-clogging oil passages and slinger rings for positive oil return. Low operating temperatures and operating speeds contribute to long motor life.

One piece Roll Damper

All YORK unit ventilators are provided with automatic control over the proportions of outdoor and room air. This is accomplished through the use of a one-piece roll damper. This assembly is a marvel of simplicity, with but two sealing edges and only two nylon bearings. Solid sealing edges means tighter closure during shutdown periods which prevents the infiltration of unwanted outdoor air, and consequently reduces operating costs. This unique proportioner of the outdoor-room air mixture is most reliable, requiring little or no maintenance.



Rugged Discharge Grille



YORK unit ventilators have a rugged discharge grille designed to withstand abuse. Solid steel louvers are welded to die-formed steel braces. Spacing of the louvers makes the grille **pencil proof**. The discharge grille directs the air stream forward at a 15 degree angle.

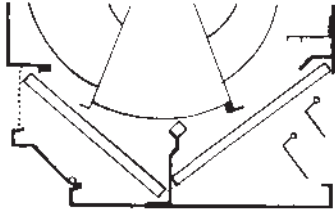
Individually adjustable vanes positioned below the grille deflect the air to the left or right, or straight up. Since the vanes are adjusted individually, any combination of these directions is possible to accommodate specific classroom conditions.

Features

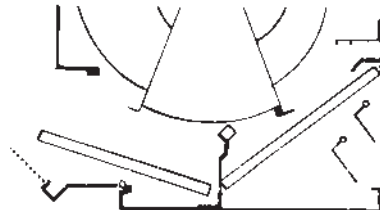
Easy Access to Separate Filters

Simply lowering the return air grille of the YORK unit ventilator drops the indoor air filter for instant removal, and provides access to the latches that release the hinged panel to pop the outdoor air filter into hand. The frequency of

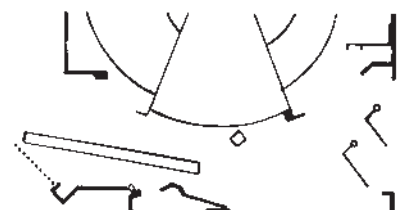
cleaning or replacing filter media is reduced with separate cells for filtering outdoor and recirculated air. All YORK unit ventilators are delivered with disposable constructed filters.



Easy Access Filters Simplify Maintenance



Unlatch & Lower Return Air Grille...
Return Air Filter Falls to Hand



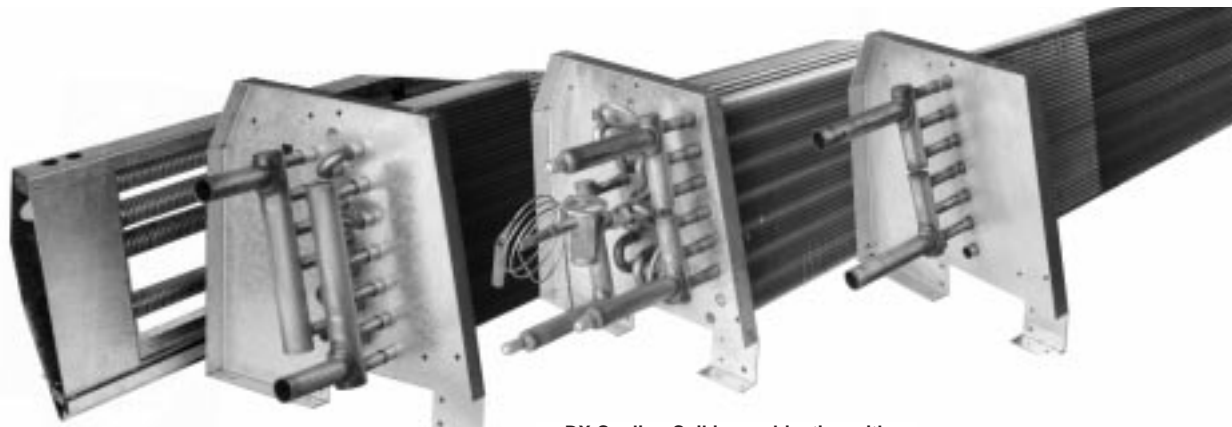
Release Latches on Rear Hinged Panel...
Outdoor Air Filter Pops Out

Broad Range of Heating/Cooling Elements

Heating and cooling elements for hydronic and direct expansion units are constructed of seamless copper tubes and aluminum plate fins with die drawn collars to assure uniform fin spacing and maximum surface contact. All joints are silver brazed, with headers and connections of heavy wall copper. A large variety of heat transfer elements are available to meet a wide range

of application conditions. All YORK coils are manufactured and tested in our own production facilities.

Electric resistance heating element assemblies consist of a bank of individual finned tubular heating elements together with a high temperature limit switch, wired and enclosed in a galvanized steel casing.



Electric Heating Elements

Water Cooling Coil

DX Cooling Coil in combination with
Water Re-heat Coil

Water Heating Only

UniCoil Design

The YORK UniCoil design (patent pending) allows for easy replacement of the coil and specifically addresses "future cooling" applications. The coil can be removed as an assembly from the Unit Ventilator chassis without affecting the integrity of the unit construction.

This feature is important in applications where the original specification requires heating-only

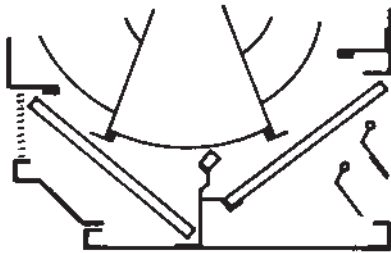
but cooling would be added in the future. In other Unit Ventilator designs, the entire cabinet would require replacement. The YORK UniCoil (heating-only, pre-heat & cooling, cooling & re-heat) mounts in the exact same location within the unit chassis. The UniCoil can also be configured to accommodate preheat/cooling/reheat in one assembly.

Compensating Air Volume Stabilizers

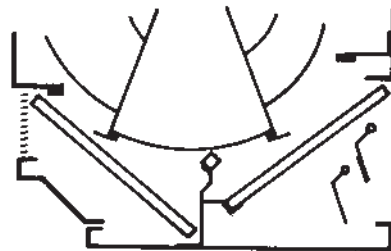
YORK compensating air volume stabilizers are lightweight, aluminum vanes suspended in the outdoor air compartment. They prevent more than the required volume of outdoor air from entering the unit ventilator as wind pressure increases. A compensating linkage varies the

sensitivity of the vanes directly with the outdoor damper setting. Net result: blow-thru is prevented; draft-free comfort is assured; and substantial energy savings are achieved.

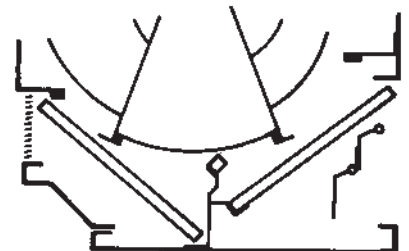
With today's high cost of fuel, heating or cooling excess outdoor air cannot be tolerated.



No Wind - Vanes Hang Free



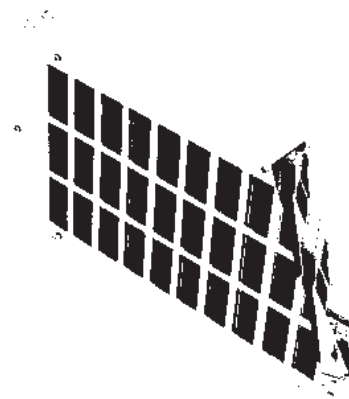
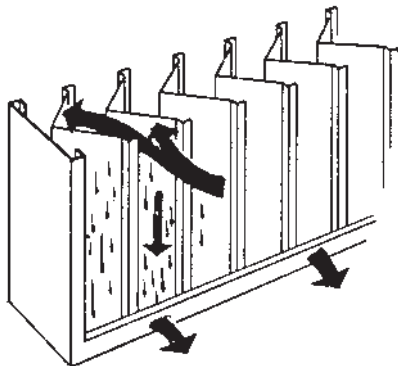
Medium Wind - Vanes Begin to Restrict Outdoor Air



Strong Wind - Vanes Reduce Outdoor Air Opening

Weatherproof Outdoor Air Intakes

Vertical Z-shaped louvers collect wind driven rain and snow. Trapped moisture clings by surface tension, runs down the blades and out the drain openings in the bottom of the box.



Leveling Bolts

All YORK unit ventilators have leveling bolts to accommodate variances in floor dimensions. They simplify installation and ensure a neat and trim looking finish.

Protective Packaging

All floor mounted YORK unit ventilators are shipped with factory applied protective covering to protect the finished surfaces during shipping. This covering is arranged to remain on the unit until installation.

Engineering Data

HOT WATER AND STEAM UNITS TOW, TOS, TOB, TOA

UNIT SIZE		750 CFM		1000 CFM		1250 CFM		1500 CFM	
SPEED SWITCH SETTING		LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
AIR DELIVERY	CFM (Std.)	500	750	750	1000	1000	1250	1250	1500
	Discharge Velocity (FPM)	348	521	407	543	446	558	473	568
	FAN RPM	455	680	525	700	575	720	620	740
MOTOR ELECTRICAL DATA	Power Input Watts	60	95	70	120	130	170	180	230
	Input Current (Amps) ¹	0.7	1.0	0.8	1.3	1.4	1.8	2.0	2.6
	Motor H.P. (Nominal)	1/12		1/12		1/8		2 x 1/12	
FAN DATA	No. of Fans	2		4		4		4	
	Fan Size (D x W)	7 1/2 x 7 1/8		7 1/2 x 4 1/8		7 1/2 x 5 1/8		7 1/2 x 7 1/8	
FILTER DATA	No. of Filter Cells	2		2		2		2	
	Size (L x W x t)	35 1/2 x 9 x 1		45 1/2 x 9 x 1		55 1/2 x 9 x 1		65 1/2 x 9 x 1	
	Gross Filter Area (sq. ft.)	4.56		5.69		6.94		8.19	
APPROXIMATE SHIPPING WEIGHT (POUNDS)		396		476		542		608	

ELECTRIC HEATING UNITS TOE

UNIT SIZE		750 CFM		1000 CFM		1250 CFM		1500 CFM	
SPEED SWITCH SETTING		LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
AIR DELIVERY	CFM (Std.)	500	750	750	1000	1000	1250	1250	1500
	Discharge Velocity (FPM)	348	521	407	543	446	558	473	568
	FAN RPM	455	680	525	700	575	720	620	740
MOTOR ELECTRICAL DATA	Power Input Watts	60	95	70	120	130	170	180	230
	Input Current (Amps)	0.7	1.0	0.8	1.3	1.4	1.8	2.0	2.6
	Motor H.P. (Nominal)	1/12		1/12		1/8		2 x 1/12	
FAN DATA	No. of Fans	2		4		4		4	
	Fan Size (D x W)	7 1/2 x 7 1/8		7 1/2 x 4 1/8		7 1/2 x 5 1/8		7 1/2 x 7 1/8	
FILTER DATA	No. of Filter Cells	2		2		2		2	
	Size (L x W x t)	35 1/2 x 9 x 1		45 1/2 x 9 x 1		55 1/2 x 9 x 1		65 1/2 x 9 x 1	
	Gross Filter Area (sq. ft.)	4.56		5.69		6.94		8.19	
APPROXIMATE SHIPPING WEIGHT (POUNDS)		446		540		620		700	

NOTES:

1. All currents and amperes shown for 120 volt single phase, 60 Hz AC. For 240 volts single phase, 60 Hz, current will be one-half that shown. Power input remains the same for 120 and 240 volt single phase 60 Hz AC.

COOLING-HEATING UNITS (CHILLED WATER/HOT WATER AND CHILLED WATER/ELECTRIC) TCW, TBO, TAO, TBE

	UNIT SIZE	750 CFM		1000 CFM		1250 CFM		1500 CFM		
	SPEED SWITCH SETTING	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	
AIR DELIVERY	CFM (Std.) ¹	500	750	750	1000	1000	1250	1250	1500	
	Discharge Velocity (FPM)	272	408	334	446	378	473	411	493	
	FAN RPM	Four Pipe	430	640	500	665	555	690	600	720
MOTOR ELECTRICAL DATA		All Others	450	670	530	700	585	730	635	760
	Power Input	Four Pipe	55	85	80	120	160	210	190	245
	Watts	All Others	60	95	90	130	180	230	215	270
	Input Current	Four Pipes	0.6	0.9	0.9	1.3	1.8	2.3	2.1	2.7
FAN DATA	(Amps) ¹	All Others	0.7	1.0	1.0	1.5	2.0	2.6	2.4	3.0
	Motor H.P. (Nominal)		1/12		1/8		2x 1/12		2 x 1/12	
FILTER DATA	No. of Fans		2		4		4		4	
	Fan Size (D x W)		7 1/2 x 7 1/8		7 1/2 x 5 1/8		7 1/2 x 7 1/8		7 1/2 x 7 1/8	
	No. of Filter Cells		2		2		2		2	
	Size (L x W x t)		45 1/2 x 9 x 1		55 1/2 x 9 x 1		65 1/2 x 9 x 1		75 1/2 x 9 x 1	
	Gross Filter Area (sq. ft.)		5.69		6.94		8.19		9.14	
APPROXIMATE SHIPPING WEIGHT (POUNDS)			590		650		730		770	

NOTES:

1. All currents and amperes shown for 120 volt single phase, 60 Hz AC. For 240 volts single phase, 60 Hz, current will be one-half that shown. Power input remains the same for 120 and 240 volt single phase 60 Hz AC.

DIRECT EXPANSION UNITS TXW, TXS, TXO, TXE

	UNIT SIZE	750 CFM		1000 CFM		1250 CFM		1500 CFM	
	SPEED SWITCH SETTING	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
AIR DELIVERY	CFM (Std.)	500	750	750	1000	1000	1250	1250	1500
	Discharge Velocity (FPM)	348	521	407	543	446	558	473	568
	FAN RPM		455	680	525	700	575	720	620
MOTOR ELECTRICAL DATA	Input Voltage-Hydraulic	120, 208, 240, 277- 60 Hz-1 Ph.							
	Input Voltage-Electric	208, 240, 480- 60 Hz-3 Ph.							
	Power Input Watts	55	85	80	120	160	210	190	245
	Input Current (Amps)	0.6	0.9	0.9	1.3	1.8	2.3	2.1	2.7
	Motor H.P. (Nominal)		1/12		1/8		2x 1/12		2 x 1/12
FAN DATA	No. of Fans		2		4		4		4
	Fan Size (D x W)		7 1/2 x 7 1/8		7 1/2 x 5 1/8		7 1/2 x 7 1/8		7 1/2 x 7 1/8
FILTER DATA	No. of Filter Cells		2		2		2		2
	Size (L x W x t)		45 1/2 x 9 x 1		55 1/2 x 9 x 1		65 1/2 x 9 x 1		75 1/2 x 9 x 1
	Gross Filter Area (sq. ft.)		5.69		6.94		8.19		9.44
APPROXIMATE SHIPPING WEIGHT (POUNDS)			590		650		730		770

Control Cycles

The cycles of control available include the ASHRAE Cycle II.

ASHRAE Cycle II — A minimum amount of outdoor air (normally 25 to 50%) is admitted during the heating and ventilating stage. This percentage is gradually increased to 100%, if needed during the ventilation cooling stage.

This cycle of control provides a fixed minimum outdoor air quantity for both winter and summer operation. During periods of natural cooling, the air steam thermostat controls the heating element controller as well as the outdoor air damper.

Static Pressure Applications

When operation against static resistance of a duct is essential, duct runs should be kept to a minimum and duct velocities low. The YORK hydronic unit ventilator is capable of operating against an external static resistance of up to 0.10 inches of water while utilizing standard motors. YORK electric unit ventilators can operate against external static resistance up to 0.50 inches of water. Standard motors are flexible in speed characteristics: at least six speeds are avail-

able at the motor transformer. By adjusting the motor speed to suit job conditions, units can deliver rated capacity and still maintain a level of quietness that is suitable for classroom applications. The table below shows the reduction in air and heat transfer capacity with the unit operating against static resistance up to 0.25. To insure quiet operation 70% or more of the duct resistance should be located on the discharge side.

CAPACITY REDUCTION WITH STATIC RESISTANCE

REDUCTION FROM RATED CAPACITY - PERCENT	EXTERNAL STATIC RESISTANCE - INCHES OF WATER			
	0.10	0.15	0.20	0.25
Total Air	0	15	28	40
Total Cooling	0	5	8	17
Sensible Cooling or Total Heating	0	9	16	25

Vertical Unit Ventilators

COIL SELECTION GUIDE

STANDARD COILS				OPTIONAL COIL SIZES	
	ROWS OF COOLING	ROWS OF HEATING	SPECIAL NOTES	ROWS OF COOLING	ROWS OF HEATING
TOW	N/A	1	Water, Heating	N/A	2
TOA	N/A	3		N/A	N/A
TOB	N/A	1	Face & Bypass	N/A	2
TOS	N/A	1	Steam Heating	N/A	N/A
TBO	3	3	1 Coil, Heating & Cooling	4	N/A
TBE	3	N/A	Electric Heat	4	N/A
TAO	3	3	1 Coil, Heating & Cooling w Face & Bypass	4	N/A
TCW	3	1		4	2
TAB	3	1	Face & Bypass	4	2
TCS	3	1	Steam Heating	4	N/A
TXW	3	1		4	2
TXB	3	1	Face & Bypass	4	2
TXS	3	1	Steam Heating	4	N/A
TXE	3	N/A	Electric Heating	4	N/A
TXO	3	N/A	Cooling Only	4	N/A

Engineering Data

Vertical Unit Ventilators

CHILLED WATER COIL PERFORMANCE

TAO/TBO/TCW/TAB/TCS/TAD/TBE

.50 Tube Diameter

14 Fins per Inch

Three Row = Three Quarter Circuit

Four Row = Full Circuit

45 Degree Enter Water

10 Degree Water Temp. Rise

CFM	ROWS	EAT	GPM	APD	FPD	TMBH	SMBH	LDB	LWB	FPM
750	3	75/63	3.62	0.12	1.2	18.1	15.5	55.9	55.0	268
750	3	80/67	4.97	0.12	2.2	24.9	18.3	57.6	56.6	268
750	3	82/69	5.75	0.12	3.0	28.8	19.3	58.3	57.4	268
750	3	85/71	6.64	0.14	3.9	33.3	21.3	58.8	57.9	268
750	4	75/63	4.15	0.16	1.1	20.8	16.9	54.2	53.7	268
750	4	80/67	5.73	0.17	2.2	28.7	20.0	55.3	54.8	268
750	4	82/69	6.61	0.18	2.9	33.1	21.3	55.8	69.0	268
750	4	85/71	7.62	0.18	3.8	38.2	23.5	56.1	55.6	268
1000	3	75/63	4.96	0.14	2.4	24.8	20.9	55.7	54.8	294
1000	3	80/67	6.78	0.14	4.5	33.9	24.6	57.4	56.4	294
1000	3	82/69	7.81	0.14	5.9	39.1	26.0	58.1	57.1	294
1000	3	85/71	9.08	0.16	7.9	45.5	28.7	58.5	57.4	294
1000	4	75/63	5.71	0.18	2.3	28.6	22.9	53.9	53.4	294
1000	4	80/67	7.82	0.19	4.3	39.2	27.1	55.0	54.5	294
1000	4	82/69	9.02	0.21	5.7	45.2	28.8	55.5	55.0	294
1000	4	85/71	10.35	0.21	7.4	51.8	31.7	55.8	55.3	294
1250	3	75/63	6.36	0.15	4.2	31.8	26.4	55.5	54.3	312
1250	3	80/67	8.62	0.16	7.7	43.2	31.0	57.2	56.2	312
1250	3	82/69	9.92	0.16	10.2	49.7	32.7	57.9	56.9	312
1250	3	85/71	11.52	0.17	13.7	57.7	36.2	58.3	57.3	312
1250	4	75/63	7.31	0.21	4.0	36.6	28.9	53.7	53.1	312
1250	4	80/67	9.96	0.21	7.3	49.9	34.2	54.8	54.2	312
1250	4	82/69	11.47	0.23	9.7	57.4	36.3	55.2	54.7	312
1250	4	85/71	13.21	0.23	12.8	66.1	40.0	55.4	54.9	312
1500	3	75/63	7.77	0.16	6.7	38.9	32.0	55.4	54.4	325
1500	3	80/67	10.5	0.17	12.3	52.6	37.4	57.0	56.0	325
1500	3	82/69	12.11	0.17	16.2	60.6	39.6	57.7	56.6	325
1500	3	85/71	13.99	0.19	21.6	70.0	43.7	58.2	57.1	325
1500	4	75/63	8.94	0.22	6.2	44.8	35.1	53.5	52.9	325
1500	4	80/67	12.1	0.22	11.4	60.8	41.4	54.6	54.0	325
1500	4	82/69	14.0	0.25	15.1	69.9	44.0	55.0	54.4	325
1500	4	85/71	16.0	0.25	19.8	80.3	48.4	55.2	54.7	325

Vertical Unit Ventilators

DX COIL PERFORMANCE

.50 Tube Diameter
14 Fins per Inch

TXO/TXD/TXS/TXW/TXB/TXE

45 Degree Suction - Liquid 100
750,1000,1250 = 2 Circuits
1500 = 3 Circuits

CFM	ROWS	EAT	TMBH	SMBH	LDB	LWB	FPM
750	3	75/63	22.4	17.1	54.0	52.9	268
750	3	80/67	30.0	20.1	55.3	54.2	268
750	3	82/69	34.4	21.3	55.8	0.7	268
750	3	85/71	38.3	23.0	56.7	55.6	268
1000	3	75/63	29.5	22.5	54.3	53.0	294
1000	3	80/67	39.0	26.3	55.8	54.6	294
1000	3	82/69	43.9	27.6	56.6	55.4	294
1000	3	85/71	48.5	29.6	57.7	56.5	294
1250	3	75/63	36.1	27.7	54.6	53.3	312
1250	3	80/67	45.8	31.6	56.7	55.4	312
1250	3	82/69	54.4	34.2	56.8	55.5	312
1250	3	85/71	61.1	37.1	57.7	56.4	312
1500	3	75/63	42.7	33.0	54.7	53.4	325
1500	3	80/67	56.4	38.4	56.4	55.1	325
1500	3	82/69	63.9	40.4	57.2	55.9	325
1500	3	85/71	71.6	43.8	58.1	56.8	325
CFM	ROWS	EAT	TMBH	SMBH	LDB	LWB	FPM
750	4	75/63	26.2	19.1	51.5	50.9	268
750	4	80/67	34.2	22.2	52.7	52.2	268
750	4	82/69	38.4	23.3	53.3	52.7	268
750	4	85/71	42.7	25.2	54.0	53.4	268
1000	4	75/63	33.5	24.8	52.2	51.5	294
1000	4	80/67	45.0	29.3	53.0	52.3	294
1000	4	82/69	50.8	30.9	53.5	52.9	294
1000	4	85/71	56.4	33.3	54.3	53.6	294
1250	4	75/63	41.8	30.9	52.2	51.5	312
1250	4	80/67	54.7	36.0	53.5	52.8	312
1250	4	82/69	61.4	37.7	54.2	53.5	312
1250	4	85/71	68.0	40.6	55.1	54.4	312
1500	4	75/63	49.2	36.6	52.5	51.8	325
1500	4	80/67	63.0	42.0	54.2	53.5	325
1500	4	82/69	67.4	42.7	55.8	55.0	325
1500	4	85/71	77.1	46.9	56.2	55.5	325

Engineering Data

Vertical Unit Ventilators

STEAM COIL PERFORMANCE

TOD/TOS

Non-freeze Design

.625 Tube Diameter

14 Fins per Inch

2# Steam

CFM	ROWS	EAT	APD	TMBH	ATR	STEAM TEMP	LBS/HOUR	FPM
750	1	-20	0.08	82.3	1.01	219	85.2	333
750	1	0	0.08	79.9	98.2	219	82.7	333
750	1	20	0.08	72.5	89.1	219	75.1	333
750	1	40	0.08	65.2	80.1	219	67.4	333
750	1	60	0.08	57.9	71.1	219	59.9	333
1000	1	-20	0.08	105.6	97.3	219	109.3	348
1000	1	0	0.08	97.3	89.7	219	100.7	348
1000	1	20	0.08	88.9	82.0	219	92.0	348
1000	1	40	0.08	85.2	78.5	219	88.1	348
1000	1	60	0.08	75.6	69.7	219	78.2	348
1250	1	-20	0.09	127.4	94.3	219	132.3	357
1250	1	0	0.09	118.1	87.1	219	122.2	357
1250	1	20	0.09	108.1	79.7	219	111.9	357
1250	1	40	0.09	98.0	72.2	219	101.4	357
1250	1	60	0.09	87.7	64.6	219	90.7	357
1500	1	-20	0.09	149.2	91.7	219	154.4	363
1500	1	0	0.09	138.0	84.8	219	142.9	363
1500	1	20	0.09	126.6	77.8	219	131.0	363
1500	1	40	0.09	114.9	70.6	219	119.0	363
1500	1	60	0.09	103.0	63.3	219	106.6	363

STEAM COIL PERFORMANCE

TCS/TAD/TXD/TXS

CFM	ROWS	EAT	APD	TMBH	ATR	STEAM TEMP	LBS/HOUR	FPM
750	1	-20	0.05	91.6	112.5	219	94.8	261
750	1	0	0.05	84.3	103.6	219	87.3	261
750	1	20	0.05	81.3	99.9	219	84.1	261
750	1	40	0.05	73.0	89.8	219	75.6	261
750	1	60	0.05	64.8	79.6	219	67.1	261
1000	1	-20	0.06	114.9	105.9	219	119.0	286
1000	1	0	0.06	106.0	97.7	219	109.8	286
1000	1	20	0.06	97.0	89.4	219	100.4	286
1000	1	40	0.06	87.8	80.9	219	90.9	286
1000	1	60	0.06	82.9	76.4	219	85.4	286
1250	1	-20	0.07	137.2	101.1	219	142.0	303
1250	1	0	0.07	126.8	93.5	219	131.2	303
1250	1	20	0.07	116.2	85.7	219	120.2	303
1250	1	40	0.07	105.3	77.7	219	109.0	303
1250	1	60	0.07	94.3	69.5	219	97.6	303
1500	1	-20	0.07	158.3	97.3	219	163.9	316
1500	1	0	0.07	146.6	90.1	219	151.7	316
1500	1	20	0.07	134.6	82.7	219	139.3	316
1500	1	40	0.07	122.3	75.1	219	126.5	316
1500	1	60	0.07	109.6	67.4	219	113.5	316

Vertical Unit Ventilators

HOT WATER COIL PERFORMANCE

TOW/TOB

.50 Tube Diameter
 14 Fins per Inch
 180 Degree Enter Water
 20 Degree Water Temp. Drop

CFM	ROWS	EAT	GPM	FPD	TMBH	ATR	FPM
750	1	40	3.94	0.97	38.45	47.30	343
750	1	50	3.59	0.81	35.06	43.10	343
750	1	60	3.25	1.58	31.70	38.90	343
750	2	40	7.02	1.62	68.50	84.20	343
750	2	50	6.43	1.36	62.70	77.00	343
750	2	60	5.83	1.12	56.80	69.90	343
1000	1	40	5.32	1.95	51.90	47.90	358
1000	1	50	4.86	1.63	47.40	43.70	358
1000	1	60	4.40	1.34	42.90	39.60	358
1000	2	40	9.47	3.09	92.30	85.10	358
1000	2	50	8.68	2.60	84.60	78.00	358
1000	2	60	7.88	2.15	76.90	70.90	358
1250	1	40	6.71	3.37	65.50	48.30	367
1250	1	50	6.14	2.99	59.90	44.20	367
1250	1	60	5.57	2.33	54.30	40.00	367
1250	2	40	11.93	2.90	116.30	85.80	367
1250	2	50	10.94	2.66	106.70	78.70	367
1250	2	60	9.96	2.42	97.10	91.60	367
1500	1	40	8.11	5.33	79.10	48.60	374
1500	1	50	7.43	4.48	72.50	44.50	374
1500	1	60	6.75	3.70	65.80	40.50	374
1500	2	40	14.40	7.79	140.40	86.30	374
1500	2	50	13.22	6.57	128.90	79.20	374
1500	2	60	12.04	5.45	117.40	72.20	374

HOT WATER COIL PERFORMANCE

TOA

CFM	ROWS	EAT	GPM	FPD	TMBH	ATR	FPM
750	3	40	9.20	3.40	89.60	110.00	343
750	3	50	8.50	2.90	82.50	101.50	343
750	3	60	7.80	6.00	75.50	92.90	343
1000	3	40	12.30	6.80	119.70	110.30	358
1000	3	50	11.30	5.80	110.90	101.80	358
1000	3	60	10.40	4.90	101.10	93.20	358
1250	3	40	15.40	11.40	149.90	90.60	368
1250	3	50	14.20	9.70	138.30	102.00	368
1250	3	60	13.00	8.60	126.80	93.50	368
1500	3	40	18.50	18.30	180.10	110.70	374
1500	3	50	17.10	15.60	166.30	102.30	374
1500	3	60	15.60	13.20	152.50	93.80	374

Engineering Data

Vertical Unit Ventilators

HOT WATER COIL PERFORMANCE

TCW/TAB/TXW/TXB

.50 Tube Diameter
 14 Fins per Inch
 180 Degree Enter Water
 20 Degree Water Temp. Drop

CFM	ROWS	EAT	GPM	APD	FPD	TMBH	ATR	FPM
750	1	40	4.45	0.04	1.39	43.40	53.00	268
750	1	50	4.06	0.04	1.16	39.70	49.00	268
750	1	60	3.68	0.04	0.95	35.90	44.00	268
750	2	40	7.66	0.07	2.08	74.70	92.00	268
750	2	50	7.02	0.07	1.75	68.50	84.00	268
750	2	60	6.39	0.07	1.45	62.30	76.50	268
1000	1	40	5.84	0.04	2.60	57.00	52.50	293
1000	1	50	5.35	0.04	2.18	52.10	48.00	293
1000	1	60	4.85	0.04	1.80	47.30	43.60	293
1000	2	40	10.13	0.08	3.79	98.80	91.00	293
1000	2	50	9.29	0.08	3.19	90.60	83.80	293
1000	2	60	8.46	0.08	2.65	82.50	76.00	293
1250	1	40	7.25	0.05	4.32	70.70	52.10	311
1250	1	50	6.64	0.05	3.63	64.70	47.70	311
1250	1	60	6.03	0.05	3.00	58.80	43.40	311
1250	2	40	12.60	0.09	6.11	123.00	90.70	311
1250	2	50	11.57	0.09	5.16	112.90	83.20	311
1250	2	60	10.54	0.09	4.29	102.80	75.80	311
1500	1	40	8.65	0.05	6.62	84.40	51.90	324
1500	1	50	7.93	0.05	5.57	77.30	47.50	324
1500	1	60	7.21	0.05	4.61	70.30	43.20	324
1500	2	40	15.10	0.10	9.10	147.10	90.40	324
1500	2	50	13.86	0.10	7.69	135.10	83.10	324
1500	2	60	12.63	0.10	6.40	123.10	75.70	324

Heating Capacities

FORM 115.23-EG1

ELECTRIC HEATING ONLY – Low Capacity Elements

DESIGN CONDITIONS
OF ROOM, OF OUTDOOR AIR

HEATING ELEMENTS	UNIT CFM	KW per Elem.	TOTAL HEAT KW	TOTAL HEAT Btuh	PERCENTAGE OF OUTDOOR AIR AND MIXTURE TEMPERATURE				AMPS PER LINE		
					20% 56.0°F	25% 52.5°F	33 1/3% 46.8°F	50% 35.0°F	Three phase Delta (3 wire)		
					HEAT AVAILABLE (MBH) TO SATISFY ROOM REQUIREMENTS				208 v	240 V	480 V
3	750	1.5	4.5	15.4	3.9	1.1	–	–	12.5	10.8	5.4
4	1000	2.0	8.0	27.3	12.2	8.4	2.2	–	24.5	21.2	10.6
5	1500	3.0	15.0	51.2	28.5	22.8	13.5	–	50.1	43.4	21.7
6	1250	2.5	15.0	51.2	32.3	27.5	19.8	3.8	41.7	36.1	18.1

POWER WIRING

YORK provides a complete line of Electric Unit Ventilators for 3 phase voltage applications.

3Ph 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 heat-

ing elements operate on the voltage between the lines, that is, 208, 240 or 480 Volts. The unit's fan and motor and all of the electrical temperature control components operate on 120 Volts. 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 ensures 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 elements 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 contractor/s depending on Amps per line.

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

Electric

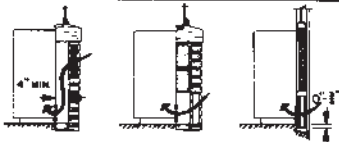
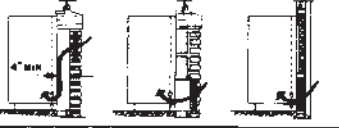
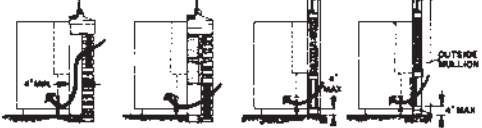
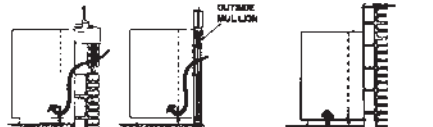
TB, TX AND ELECTRIC UNITS

DESIGN CONDITIONS
OF ROOM, OF OUTDOOR AIR

MODEL NUMBER	HEATING ELEMENTS	KW per Elem.	TOTAL HEAT KW	TOTAL HEAT Btuh	AMPS PER LINE Three Wire, Single Phase System			
					208 V	240 V	480 V	
LOW CAPACITY ELEMENTS								
TBE 750, TXE 750	3	2.0	6.0	20.5	16.7	14.5	7.2	
TBE 1000, TXE 1000	5	2.5	12.5	42.7	41.7	36.1	18.1	
TBE 1250, TXE 1250	4	3.0	12.0	40.9	38.2	33.1	16.6	
TBE 1500, TXE 1500	5	208V	3.6	18.3	62.5	61.0	–	
		240V	3.6	18.3	62.5	–	53.0	26.5
		480V	3.6	18.3	62.5	–	53.0	26.5

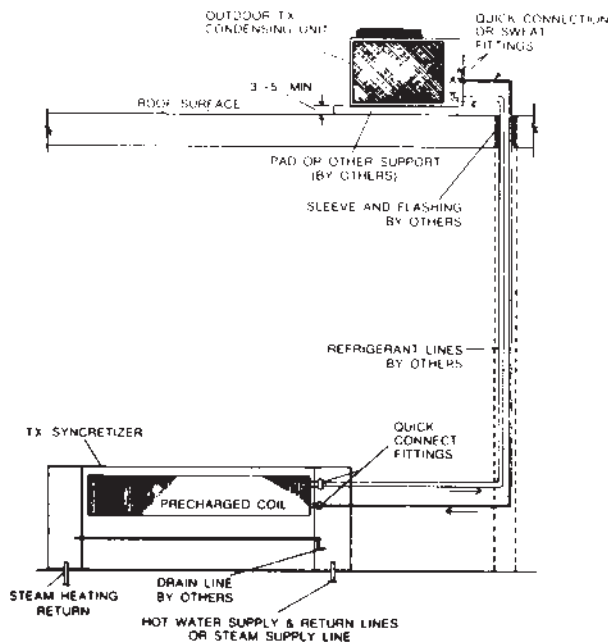
Applications

Cooling - Heating Unit Ventilators

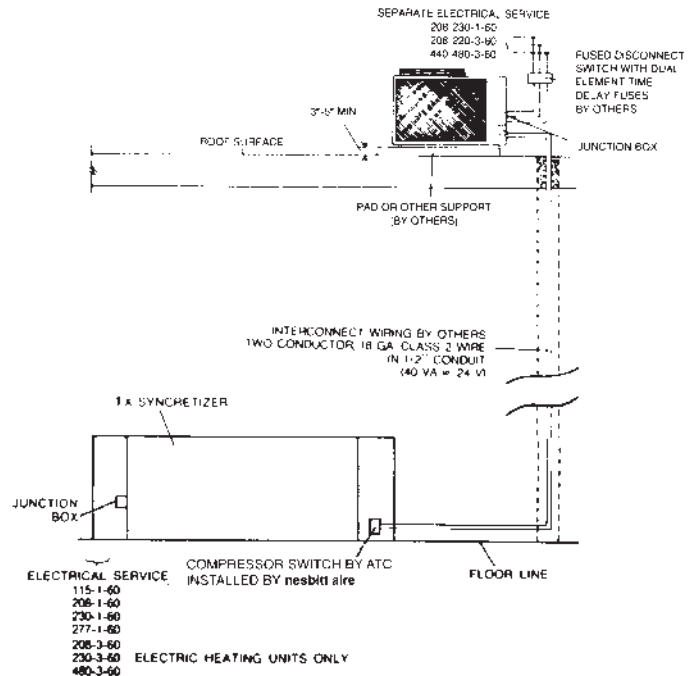
TYPE	TYPICAL APPLICATION	WALL BOX APPLICATION		
		Floor Intake Higher with Wall Chase Only	Bottom of Intake Up to 4" Above Floor. Higher Intake with Wall Chase	High Intake
F		YES	—	—
C		YES	—	—
A D		— YES	YES —	— —
W		YES —	YES —	YES —

Typical Direct Expansion Split System Unit Ventilators (YTX)

System Piping Application



System Wiring Application



Vertical Unit Ventilators

The various standard models of YORK floor mounted unit ventilators can be identified by means of the following eight digit designation code. For example, the designation TOW1 0750, identifies a current series floor mounted, heating only unit ventilator with hot water valve control. It has a 60 inch chassis and

delivers 750 Cfm standard air. In each subsequent block you can identify the specific characteristics of each YORK floor mounted unit ventilator required.

MO NO.:	ARCHITECT
JOB NAME:	ENGINEER:
LOCATION:	CONTRACTOR:

572			CHASSIS LENGTH CFM													CONTROLS					COLOR				
UNIT	COOLING	HEATING	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
T																-									D

1 2 3 Unit, Cooling, Heating Type

Heating Hydronic/Electric Units

- TOW Hot Water Valve Control
- TOA Hot Water Valve Control High Capacity Coil
- TOB Hot Water Face and Bypass
- TOS Steam Valve Control
- TOE Electric Heating ONLY

Chilled Water Cooling/Heating Units

- TBO 2 Pipe Chilled Water Valve Control
- TBE 2 Pipe Chilled Water Valve Control W/Elec. Heat
- TAO 2 Pipe Chilled Water Face & Bypass
- TCW 4 Pipe Chilled Water Valve Control
- TAB 4 Pipe Chilled Water Face & Bypass
- TCS 4 Pipe Chilled Water/Steam Heating

Direct Expansion Cooling/Heating Units

- TXW Direct Expansion Hot Water Valve Control
- TXB Direct Expansion Hot Water Face and Bypass
- TXS Direct Expansion Steam Valve Control
- TXE Direct Expansion Electric Heating
- TXO Direct Expansion (Cooling ONLY)

4 5 6 7 8 Chassis, CFM Application

- 10750 60 Inch/0750 CFM Heating ONLY
- 20750 70 Inch/0750 CFM Cooling/Heating
- 21000 70 Inch/1000 CFM Heating ONLY
- 31000 80 Inch/1000 CFM Cooling/Heating
- 31250 80 Inch/1250 CFM Heating ONLY
- 41250 90 Inch/1250 CFM Cooling/Heating
- 41500 90 Inch/1500 CFM Heating ONLY
- 51500 100 Inch/1500 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)
- 5 277/1/60 AC (Not Available w/Electric Heat)
- 6 208/3/60 AC } 3 Wire DELTA
- 7 230/3/60 AC } Electric Heat ONLY
- 9 480/3/60 AC }

Motor Control Circuit Always 120 Volts

10 Power/Piping Connection Side

Hydronic Heating Units: TOW/TOS/TOA/TOD

- A L.H. Power/R.H. Piping Supply Connection
- B R.H. Power/L.H. Piping Supply Connection

Hydronic Cooling/Heating Units: TCW/TCS/TAB/TAD

- C L.H. Power/L.H. Heating Supply/R.H. Cooling Supply
- D R.H. Power/R.H. Heating Supply/L.H. Cooling Supply
- E L.H. Power/R.H. Heating/R.H. Cooling Supply
- F R.H. Power/L.H. Heating/L.H. Cooling Supply

Hydronic Heating/Cooling Units: TAOTBO

- G L.H. Power/R.H. Heating/R.H. Cooling Supply
- H R.H. Power/L.H. Heating/L.H. Cooling Supply

Electric Heating: TOE/TBE/TXE

- J L.H. Power ONLY/R.H. Chilled Water/R.H. DX Conn.

Direct Expansion-Hydronic Heating: TXW/TXS/TXB/TXD/TXO

- K L.H. Power/R.H. DX Conn. ONLY/R.H. Heating Supply
- L L.H. Power/R.H. DX Conn. ONLY/L.H. Heating Supply

NOTES: Connections determined by facing front panel when unit is installed.
On all steam heating units, return connection is opposite supply connection.
On Heating/Cooling units, drain is same end as cooling supply connections.
For complete connection locations refer to unit catalog

11 Electric Heating Elements

- 0 NO ELECTRIC HEAT
- 2 4.5 KW
- 3 6.0 KW
- 4 8.0 KW
- 5 12.5 KW
- 6 15.0 KW
- 4 12.0 KW
- 5 15.0 KW
- 5 18.0 KW

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

NOTE: For Types "C" and "F" - Fill out Form 572-21C and include with Order.
For Types TAB, TXB 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 and Setting.

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. (BY OTHERS).

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

18 Basic Color

(Return Air Grill/End Covers)

- | | |
|-----------------|----------------------|
| 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 | |

19 Front Panel 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 | |

20 Top Color (Includes Discharge Grille and Edge Trims)

- | | |
|-----------------|----------------------|
| 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 Top Type

- T Textured Top
- S Smooth

22 Cabinet Depth

- F 15 3/4" Rear Intake -2" Pipe Chase
- A 16 3/8" Rear Intake -2" Pipe Chase
- A 18 3/4" Rear High Intake -5" Pipe Chase
- D 18 3/4" Rear High Intake -5" Pipe Chase Wall Hung Drain Connection
- W 21 3/4" Rear High Intake -5" Pipe Chase

23 End Covers

- X Standard End Covers Both Sides
- ETL Requires End Covers Both Sides

24 End Cover Slots

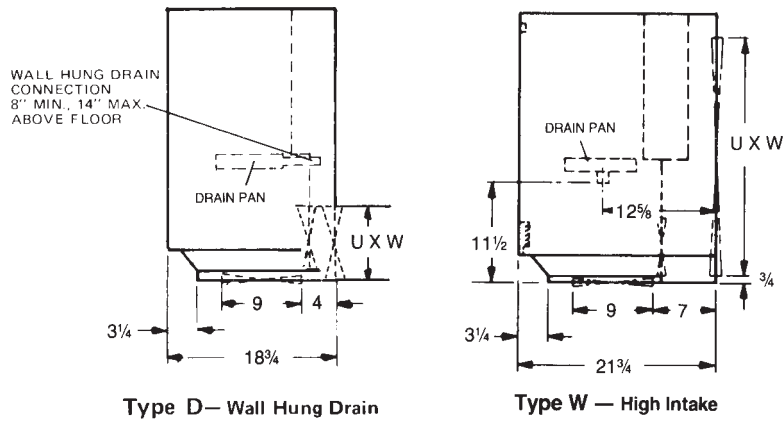
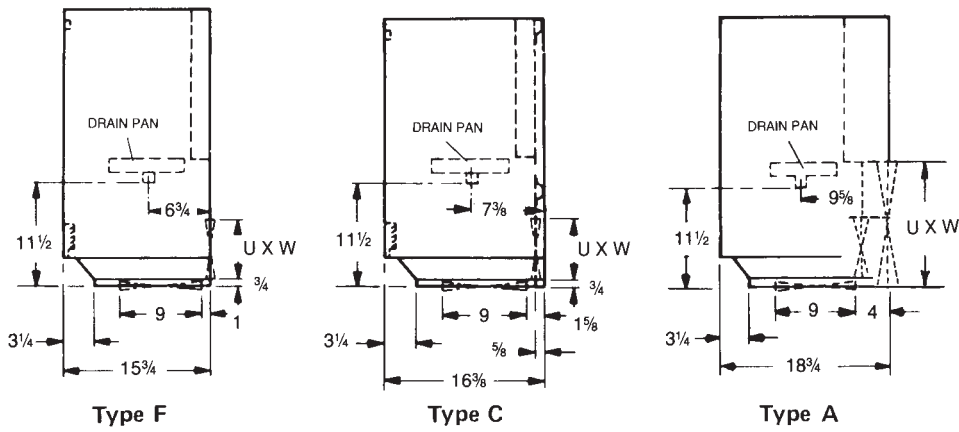
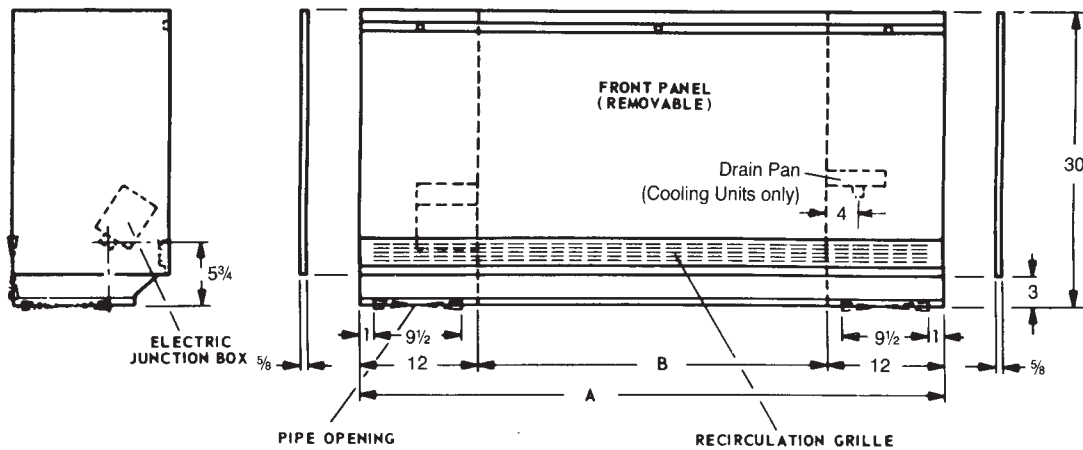
- 0 Non-Slotted

26 Unit Construction

- O Options (See Series T Standard Option 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

Hot Water or Steam Heating, Chilled Water or Direct Expansion Cooling



UNIT FUNCTION	CFM	U X W OUTDOOR AIR OPENING					
		A	B	Type F, Type C	Type A	Type D	Type W
Heating Only	750	60	36	6- 5/8 x 36	13-7/8 x 48	6-3/4 x 48	26 -1/2 x 48
Cooling/Heating	750	70	46	6- 5/8 x 46	13-7/8 x 58	6-3/4 x 58	26 -1/2 x 58
Heating Only	1000	80	56	6- 5/8 x 56	13-7/8 x 68	6-3/4 x 68	26 -1/2 x 68
Cooling/Heating	1000	90	66	6- 5/8 x 66	13-7/8 x 78	6-3/4 x 78	26 -1/2 x 78
Heating Only	1250	100	76	6- 5/8 x 76	13-7/8 x 88	6-3/4 x 88	26 -1/2 x 88
Cooling/Heating	1250						
Heating Only	1500						
Cooling/Heating	1500						

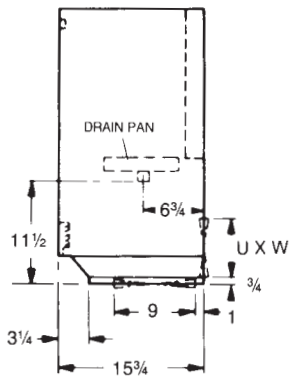
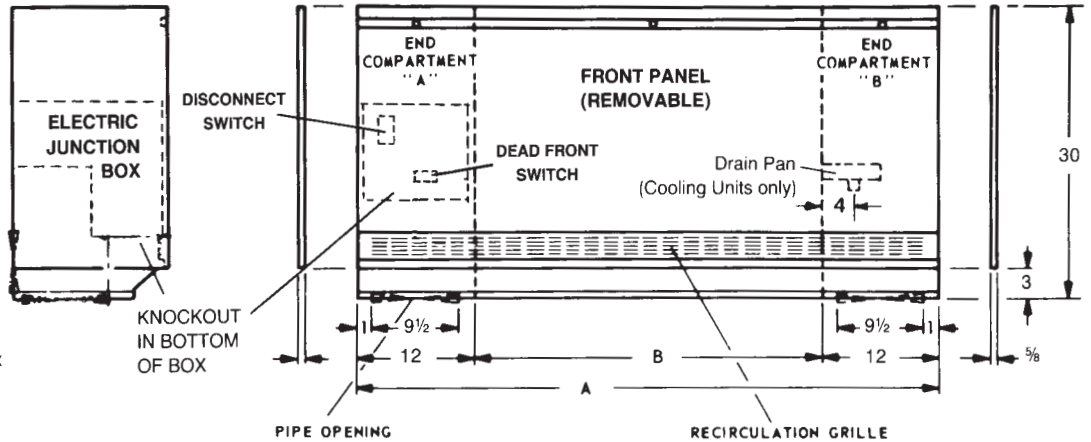
Electric Heating Only & Electric Heating with Direct Expansion or Chilled Water Cooling

NOTES

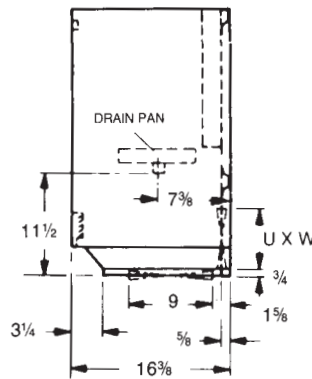
All Electric Units - End compartment "A" contains a disconnect box, which houses the disconnect switch, element fusing, safety contractor, motor and power supply, control circuit fusing and motor speed control.

End compartment "B" contains all control components mounted and wired by nesbittaire.

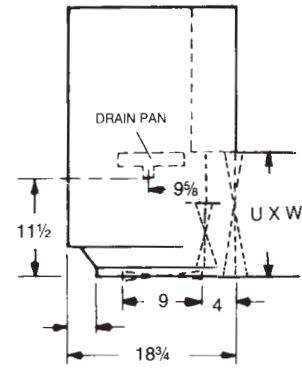
Heater power supply is always roughed in compartment "A". The disconnect switch will accommodate 3 AWG no. 14 to 1-0 copper or aluminium wires. This disconnect box also contains a unit ground lug.



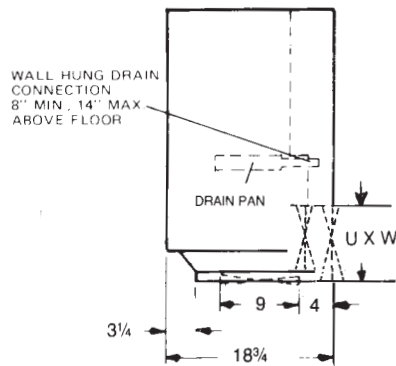
Type F



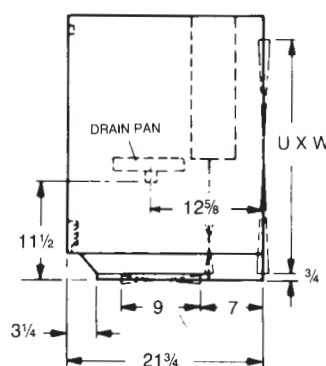
Type C



Type A



Type D - Wall Hung Drain

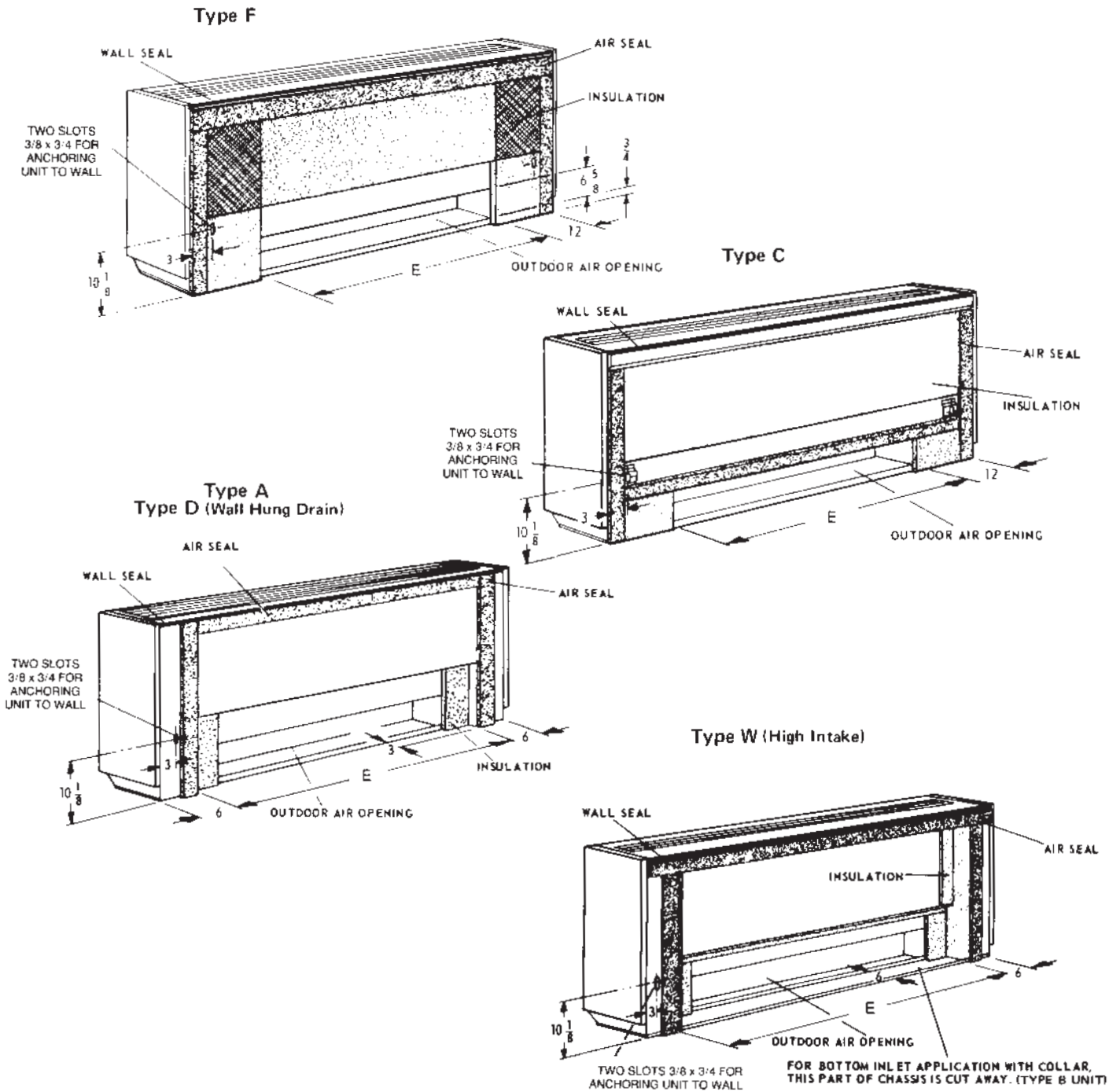


Type W - High Intake

UNIT FUNCTION	CFM	WITH COOLING		U X W OUTDOOR AIR OPENING			
		A	B	Type F, Type C	Type A	Type D	Type W
Heating Only	750	60	36	6- 5/8 x 36	13-7/8 x 48	6-3/4 x 48	26 -1/2 x 48
Cooling/Heating	750	70	46	6- 5/8 x 46	13-7/8 x 58	6-3/4 x 58	26 -1/2 x 58
Heating Only	1000	80	56	6- 5/8 x 56	13-7/8 x 68	6-3/4 x 68	26 -1/2 x 68
Cooling/Heating	1000	90	66	6- 5/8 x 66	13-7/8 x 78	6-3/4 x 78	26 -1/2 x 78
Heating Only	1250	100	76	6- 5/8 x 76	13-7/8 x 88	6-3/4 x 88	26 -1/2 x 88
Cooling/Heating	1250						
Heating Only	1500						
Cooling/Heating	1500						

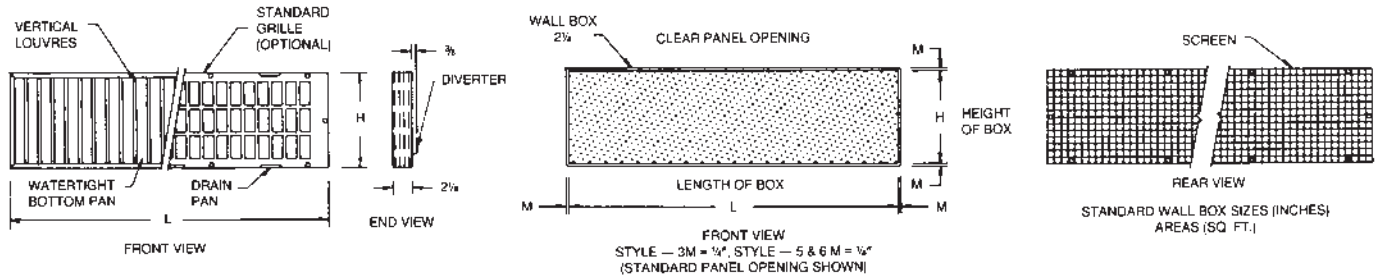
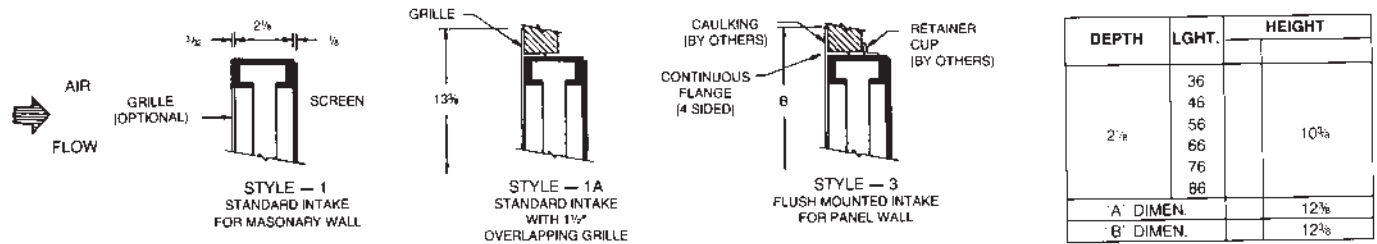
Details and Dimensions

Insulation



		"E" DIMENSION				
		CFM				
Cooling Heating Units		750	1000	1250	1500	
Heating Only Units		750	1000	1250	1500	
Type	F,C	36	46	56	66	76
Unit	A,D,W	48	58	68	78	88

Outdoor Air Intakes



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 36
COOLING/HEATING	1000	10 3/8 x 56	HEATING ONLY	1000	10 3/8 x 46
COOLING/HEATING	1250	10 3/8 x 66	HEATING ONLY	1250	10 3/8 x 56
COOLING/HEATING	1500	10 3/8 x 76	HEATING ONLY	1500	10 3/8 x 66

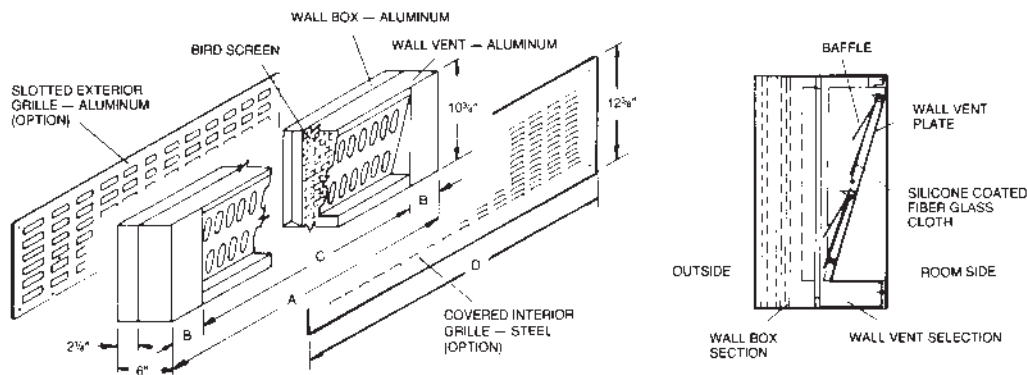
STANDARD (H) HEIGHT IS 10 3/8. SPECIAL (H) HEIGHTS AVAILABLE: 13 3/8, 16 3/8 AND 19 3/8 ONLY

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

Wall Vent Relief Assembly



WALL VENT DIMENSIONS				
Model No.	A	B	C	D
WV-36	36	5 1/2	25	39
WV-46	46	10 1/2	25	49
WV-56	56	15 1/2	25	59
WV-66	66	8	50	69
WV-76	76	13	50	79

NOTES:

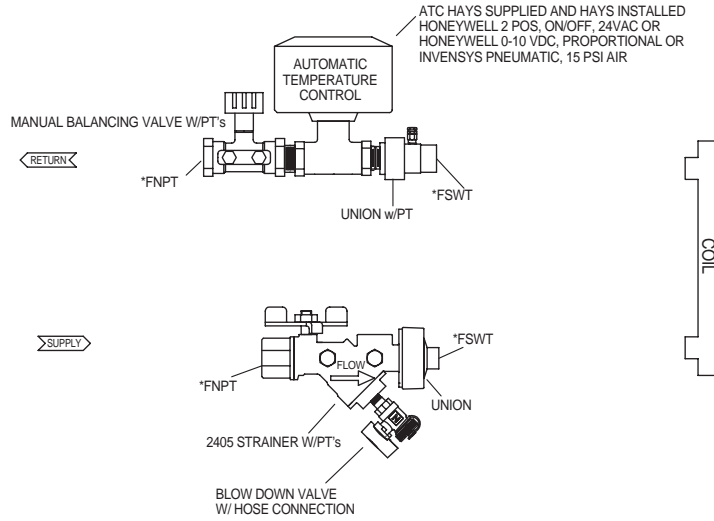
1. The wall vent assembly includes a 2 1/8" aluminum wall box vent section. The exterior and interior grilles are optional items.
2. The wall vent assembly is not to be used as an outside air intake but as a gravity type room exhaust vent.
3. Aluminum exterior grille matches unit ventilator wall box grille in every respect. Grille is mounted on wall vent.
4. Interior grille is of louver type. Angle frame or ground strips for mounting grille on finished wall not furnished by YORK.
5. Bird screen is omitted in wall vent when exterior grille is employed.

Details and Dimensions

Floor Mounted Unit Ventilators

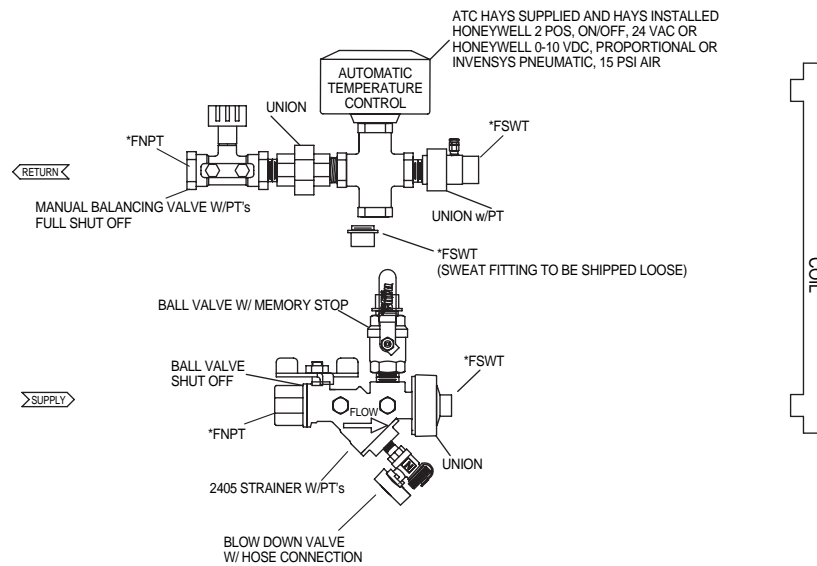
Piping Package

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

Hydronic Unit Ventilators

with ATC Controls by Others

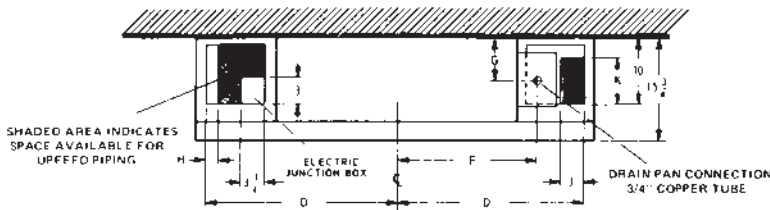
ALL TYPES

All views shown are for wall-hung piping systems with controls in the right hand end compartment. Components for upfeed arrangements are located in accordance with the tables shown in the connection locations section of this catalog. For specific applications, certified submittal drawings should be followed.

	Pneumatic				Electric and Electronic	
	JS	P	RS	MH	BC	MH
H	2 1/2	3	3 1/2	2	—	—
J	5	4 3/4	5	4 3/4	3 3/4	3/ 3/4
*K	6 1/2	5	7 3/4	6 1/2	9	9

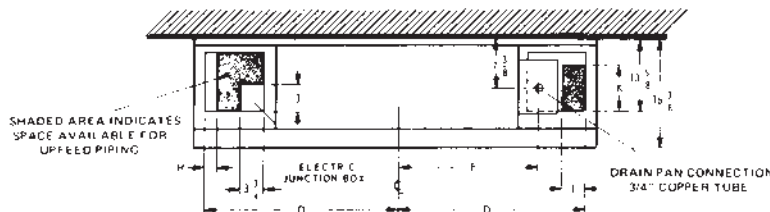
Notes: Drain pan applicable to cooling units only.
*K dimensions for D units is 4".

TYPE F



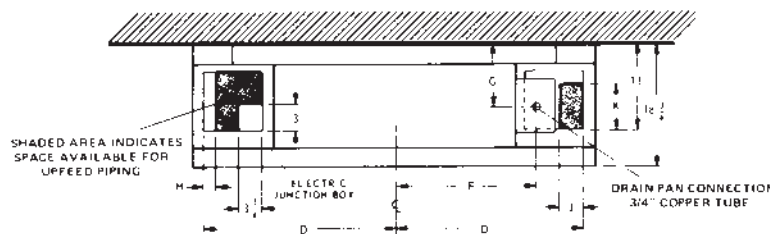
		CFM				
Cooling Heating Units			750	1000	1250	1500
Heating Only Units		750	1000	1250	1500	
D		34	34	39	44	49
F	Wall-hung	27 1/2	27 1/2	32 1/2	37 1/2	42 1/2
	Upfeed	26	26	31	36	41
G	Wall-hung	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2
	Upfeed	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4

TYPE C



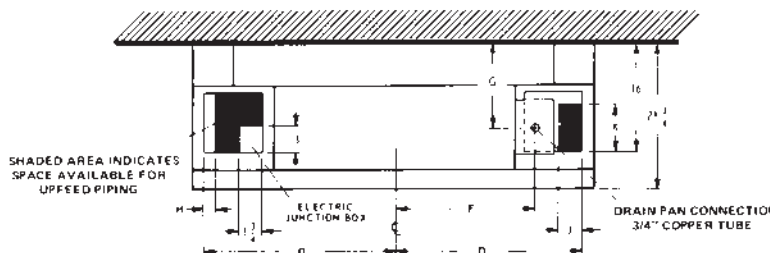
		CFM				
Cooling Heating Units			750	1000	1250	1500
Heating Only Units		750	1000	1250	1500	
D		34	34	39	44	49
F	Upfeed	26	26	31	36	41

TYPE A, D



		CFM				
Cooling Heating Units			750	1000	1250	1500
Heating Only Units		750	1000	1250	1500	
D		34	34	39	44	49
F	Wall-hung	27 1/2	27 1/2	32 1/2	37 1/2	42 1/2
	Upfeed	26	26	31	36	41
G	Wall-hung	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2
	Upfeed	9 3/4	9 3/4	9 3/4	9 3/4	9 3/4

TYPE W



		CFM				
Cooling Heating Units			750	1000	1250	1500
Heating Only Units		750	1000	1250	1500	
D		34	34	39	44	49
F	Wall-hung	27 1/2	27 1/2	32 1/2	37 1/2	42 1/2
	Upfeed	26	26	31	36	41
G	Wall-hung	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
	Upfeed	12 3/4	12 3/4	12 3/4	12 3/4	12 3/4

Specifications

UNIT VENTILATOR SPECIFICATION

Vertical Unit

Furnish the number, type and size YORK 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 steel and the front panel is constructed of 18-gauge.

As an option, the front panel can be constructed of (10 -gauge, 14-gauge or 16-gauge) galvanized steel for vandal proof front panel.

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 basic Unit Ventilator shall not be less than 15.75" (nominal 16") deep to minimize the resistance to air-flow and to provide the lowest possible sound level. Each unit shall be furnished with leveling bolts to provide adjustment for variations in floor surfaces.

B. HEAT TRANSFER ELEMENTS

(Hydronic, DX, Steam, Electric)

All Hydronic heat transfer coils shall be constructed by manufacturer of seamless copper tubes, plate aluminum extended fins and 1/2" OD tubes with copper headers. All joints shall be silver brazed. The coil section shall be removable from the unit as a whole integral assembly to save time on changing coil configurations.

The unit ventilator manufacturer shall manufacture coils internally.

The heat transfer coils shall be in the blow-thru position so the entering air -side is exposed for cleaning when the unit front panel is removed.

Steam Coils - Steam coils 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 coils to achieve optimum temperature distribution over the entire coils.

The coil section shall be removable from the unit as a whole integral assembly to save time on changing coil configurations.

Cooling-Heating Coils-

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

The coil section shall be removable from the unit as a whole integral assembly to save time on changing coil configurations.

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 1/2" OD seamless copper tubes 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 manufacturer of 1/2" OD seamless copper tubes.

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 manufacturer of 1/2" OD seamless copper tubes.

4-Pipe with By-Pass Cooling or Heating Coils

4-Pipe with by-pass cooling or heating coils shall be constructed by manufacturer of 1/2" OD seamless copper tubes and furnished complete with by-pass damper closing the front of the heat transfer element for shut-off.

Direct Expansion (DX) coils shall be constructed by manufacturer of 1/2" OD seamless copper tubing and plate aluminum extended fins. All joints shall be silver brazed.

The coil section shall be removable from the unit as a whole integral assembly to save time on changing coil configurations.

The unit ventilator manufacturer shall manufacture coils internally.

Direct expansion coil shall include thermostatic expansion valve (TXV) with external equalizer.

Electric heat transfer 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. The element shall have a non-oxidizing heat-resistant finish.

The coil section shall be removable from the unit as a whole integral assembly to save time on changing coil configurations.

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 with a 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 drive type with the fans mounted directly on the motor shaft. Motors, fans and housings shall be mounted on a minimum 12 gauge galvanized steel motor board that shall be removable from the unit as an integral assembly. The motor and fan assembly shall be located beneath the heat transfer element(s) 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.

A switch will be located behind the filter access door on all units. Switch positions shall be High- Off-Low on all standard input voltage units.

The unit will be operated by a toggle switch to provide easy access to authorized personnel without removing panels. 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. COMPENSATING AIR VOLUME STABILIZERS (Optional)

Each unit shall be equipped with outdoor air volume stabilizers to maintain the outdoor air volume at the specified quantity under varying wind conditions. These stabilizers consist of sensitive wind pressure operated vanes in the outdoor air intake chamber which respond to increases in wind pressure by reducing the outdoor air intake area. These vanes shall have a compensating linkage to stabilize the airflow at all quantities of outdoor air.

G. SOUND LEVEL - Sound level of each unit when delivering its rated air shall not exceed 51 dbA. Measurement shall be made at a point five feet from the front of the unit on the centerline, three feet from the floor, in room having the configuration and sound absorbing characteristics of a typical classroom.

H. AIR FILTERS - Each unit ventilator shall be equipped with throw-away filter media. Each air stream (return and outside) shall be individually filtered.

I. INSULATION (Cooling & Heating 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 sec-

tion to prevent condensation. Insulation shall be applied in accordance with ASHRAE 62-2001.

J. OUTDOOR AIR INTAKES (Optional) - Outdoor 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.

K. 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.

L. 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 OA/RA roll damper for ventilation control (and 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.

M. 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 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 automatically resetting device, which acts to break the circuit should the discharge temperature become excessively high.

Motor and control circuit shall be protected by supplementary fusing.

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



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