



# DIRECT-DRIVE VERTICAL FAN COIL AIR CONDITIONERS ENGINEERING GUIDE

Models: YVCB, YVFB, YVSB, YWCB



00803VIP



# Table of Contents

---

- Description ..... 3
- Nomenclature ..... 4
- General Description ..... 5
- Features and Benefits ..... 6
- YVCB, YVFB, YVSB, and YWCB Units
  - 3-Row Cooling/Heating Data ..... 8
  - 4-Row Cooling/Heating Data ..... 9
  - 1-Row Hot Water Heating Data ..... 10
- Fan Performance
  - Air Volume Capacity ..... 11
  - Motor Data ..... 11
  - Nominal Airflows ..... 11
- ARI Standard Ratings
  - Cooling Coil Ratings ..... 12
  - Heating Coil Ratings ..... 12
- Product Dimensions
  - YVCB Product Dimensions ..... 13
  - YVFB Product Dimensions ..... 14
  - YVSB Product Dimensions ..... 15
  - YWCB Product Dimensions ..... 16
  - Fresh Air Wall Box ..... 17
  - Wall Panels For YWCB ..... 17
- Typical Connection Diagrams ..... 18
- Valve Packages ..... 19
- Correction Factors ..... 21
- Guide Specifications ..... 24

# Description

## YORK Direct Drive Fan Coil Units

YVCB



00563VIP

### MODEL YVCB – Vertical Concealed Model

The **YVCB** model fan coil is designed to be furred into the wall where the supply and return or both are connected to short runs of ductwork. These units are often used for perimeter heating and cooling of offices, corridors, hospitals, apartments, hotels, and other multi-room buildings.

YVFB/YVSB



00803VIP

### MODEL YVFB / YVSB – Vertical Cabinet Models YVFB (Flat Top), YVSB (Slant Top)

The **YVFB / YVSB** model fan coils have the addition of an 18 gauge, attractive, painted cabinet to blend with any decor. Standard with these units are heavy duty stamped face louvered grilles. These units are typically installed in plain sight, under windows or against walls in schools, hospitals, office buildings, and other institutions.

YWCB

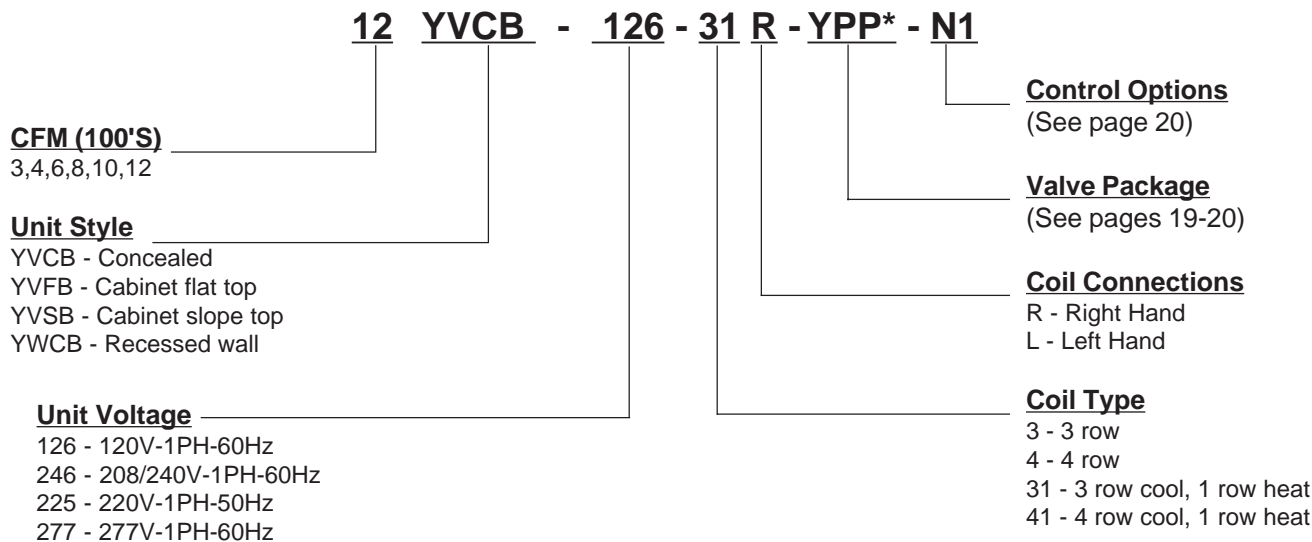


00771VIP

### MODEL YWCB – Vertical Recessed Wall Model

The **YWCB** model fan coil is designed to be recessed into the wall. These units are engineered to be quiet and designed to be easy to install and service. These units are ideal for perimeter heating and cooling in hotels, apartments, hospitals, public office buildings, offices, corridors, and other multi-room buildings. This unit comes standard with a decorative wall panel for front supply and return air.

# Nomenclature



## General Description

### YORK Direct Drive Fan Coil Units

The YORK Fan Coil Unit is designed for many exposed and concealed applications. The fan-coil market of today demands the high-performance, flexibility and quality available in this completely redesigned product that sets it apart from the competition.

The "V" series vertical floor consoles are slim and extremely attractive. Their pleasing appearance allows them to blend with any decor. These products are engineered to be quiet and designed to be easy to install and service.

These units are ideal for perimeter heating and cooling in hotels, apartments, hospitals, public office buildings, offices, corridors, and other multi-room buildings.

They are available in 6 sizes with airflow from 300 through 1200 CFM to supply just the right amount of air. Available coils include 3 and 4 rows for 2-pipe systems, and 31, 41 (300-800 CFM only) split coils for 4-pipe systems.

#### IMPROVED COIL TECHNOLOGY

Today's need for high performance units to do more within less space required a new coil design. By incorporating a smaller, high-output coil, the YORK Fan Coil Unit produces unmatched cooling and heating performance within a slim, space-saving envelope. Unit-mounted Valve Packages for vertical floor consoles should be ordered for Factory-mounting. New low-energy motors have been carefully matched to forward-curved fans for the quietest operation possible.

# General Description

## YORK Direct Drive Fan Coil Units

### INDOOR AIR QUALITY FEATURES

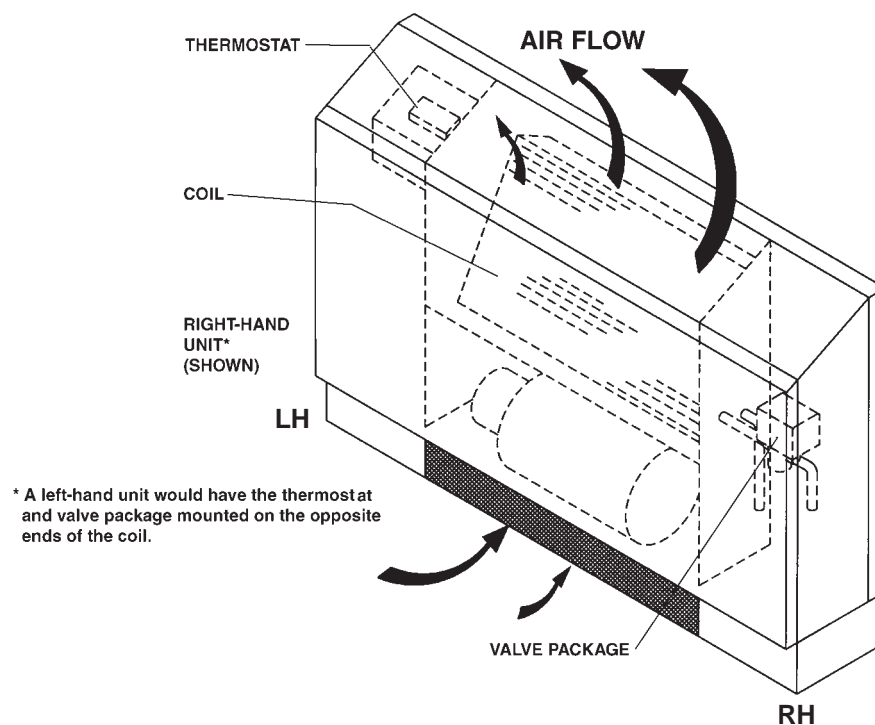
Designing buildings with indoor air quality in mind has become the standard for engineers all over the world. To meet the exacting requirements that today's engineers demand, the YORK Fan Coil Unit was designed with a wide range of features to incorporate into Indoor Air Quality plans.

### FLEXIBILITY AND QUALITY CONSTRUCTION

All models are constructed of precisely formed, heavy gauge galvanized steel. Individual fan and coil modules are securely fastened together to create a solid, high-performance unit. Cabinet models are painted with the latest in electrostatic painting techniques and provide a durable attractive finish.

To further simplify installation at the job site, vertical floor console valve packages should be ordered factory assembled, tested and mounted prior to shipping.

### DETERMINATION OF RIGHT-HAND / LEFT-HAND REFERENCES



LD06704

**FIG. 1 – VERTICAL UNITS ONLY – YVCB, YVFB, YVSB, YWCB AIR FLOW**

# Features & Benefits

---

## CABINETS

All units are constructed of heavy 18 gauge galvanized steel to resist corrosion. The **VFB** and **VSB** models are finished with an electrostatically applied, baked-on powder coating. The finish is an attractive light gray color. Wrap-around cabinet can be quickly and easily removed for service without the use of tools.

## COILS

Coils are available in standard and high capacity configuration and all include manual air vents. Optional water heating coils are available for 4-pipe systems.

Coils are constructed of seamless copper tubing expanded to high efficiency aluminum fins to assure maximum heat transfer.

Each coil is factory tested to 350 psig.

## DRAIN PANS

The primary drain pan is constructed of galvanized steel and coated with a closed cell, fire retardant foam insulation to resist corrosion. This pan extends under the entire coil and coil headers. An injection molded secondary drain pan provides complete condensate drainage from the primary pan and is located under the valve package (if provided). Secondary drain pan can be rotated 180 degrees to allow field piping to enter the unit from different locations.

## MOTORS

Standard motors are 120V, three speed, PSC type with internal thermal overload protection. Motors have permanently lubricated sleeve bearings for long life. All motors are resiliently mounted with rubber bushings to assure quiet, vibration-free operation and are easily removed.

## BLOWER ASSEMBLIES

All blower wheels are centrifugal, forward curved, and dynamically balanced for smooth, quiet operation.

Blower assemblies can be easily removed for service.

## OUTSIDE AIR DAMPERS

Vertical units have outside air dampers available to allow airflow to come from outside. Dampers can be order to be manual adjustable. Optional wall boxes include louvered covers and insect screens.

## WHISPER QUIET OPERATION

Blowers and motor speeds were carefully selected for high performance with quiet operation.

## DISCHARGE GRILLE

The Series **VFB** and Series **VSB** models are furnished standard with a heavy-duty stamped metal charge grille and matching thermostat control door.

---

## **FILTERS**

A 1/2 inch permanent filter is provided as standard on all units. The filter is easily removed from the front of the unit.

## **SINGLE POWER LOCATION**

All electrical components are factory wired to a single electrical compartment on each unit. All field wiring connections are made at this electrical compartment.

## **OPTIONS**

A wide variety of two and four-pipe control systems are available with unit mounted or remote thermostats. Standard options include valve cycle control systems and a factory installed electrical disconnect.

Other options include three speed switches, various motor voltages, and manual or motorized fresh air damper. See "Model Number Nomenclature" on Page 4 for unit options and Page 5 for control options

Fresh air wall box is fabricated of aluminum with drain holes and a double set of louvers in series to prevent moisture draw through.

## **DECORATIVE WALL PANEL (YWCB ONLY)**

Each YWCB unit is shipped with a decorative wall panel. The wall panel is fabricated of heavy gauge embossed galvanized steel and powder coated with a baked-on off-white finish. If desired, the wall panel can be field-painted to match an existing color. Service access to the unit is from the front after removing the wall panel.

The wall panel includes both right and left hand thermostat access doors with tamperproof screws. In addition, each panel includes a removable return air grille to allow access to the permanent filter without removal of the entire wall panel.

# YVCB, YVFB, YVSB & YWCB Blower Data

3- Row Chilled Water Cooling Capacity															
UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	45° F ENTERING WATER						42° F ENTERING WATER					
				80° F DB/67° F WB ENTERING AIR			75° F DB/63° F WB ENTERING AIR			80° F DB/67° F WB ENTERING AIR			75° F DB/63° F WB ENTERING AIR		
				TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE
3	280 (HIGH)	1.0	2.1	6.7	5.6	13.4	5.6	5.6	11.2	7.3	5.9	14.7	5.6	5.2	11.2
		2.0	6.3	8.9	6.5	9.0	6.8	5.7	6.8	9.8	6.8	9.8	7.4	5.9	7.5
		3.0	12.0	9.8	6.8	6.5	7.5	5.9	5.0	10.7	7.1	7.1	8.2	6.2	5.5
	240 (MED)	1.0	2.1	6.5	5.2	13.1	5.0	4.6	10.0	7.1	5.4	14.2	5.4	4.7	10.9
		2.0	6.3	8.3	5.9	8.3	6.4	5.1	6.4	9.1	6.1	9.1	6.9	5.3	6.9
		3.0	12.0	9.1	6.1	6.0	6.9	5.3	4.6	9.9	6.5	6.6	7.6	5.6	5.0
4	400 (HIGH)	1.5	3.9	10.5	8.4	14.0	9.0	7.4	10.7	11.4	8.8	15.2	8.7	7.7	11.6
		2.2	7.9	12.3	9.0	11.1	9.4	7.9	8.5	13.4	9.5	12.1	10.2	8.3	9.3
		3.0	14.1	13.4	9.5	8.9	10.2	8.3	6.8	14.6	9.9	9.7	11.1	8.6	7.4
	320 (MED)	1.5	3.9	9.8	7.3	13.1	7.5	6.4	10.0	10.7	7.7	14.3	8.2	6.7	10.9
		2.2	7.9	11.1	7.8	10.1	8.5	6.8	7.7	12.1	8.2	11.0	9.2	7.1	8.4
		3.0	14.1	12.0	8.2	8.0	9.1	7.1	6.1	13.0	8.6	8.7	10.0	7.4	6.6
6	600 (HIGH)	3.0	6.5	17.0	12.9	11.4	13.0	11.4	8.7	18.6	13.5	12.4	14.2	11.9	9.5
		4.0	11.3	18.6	13.5	9.3	14.2	11.9	7.1	20.3	14.2	10.1	15.5	12.4	7.7
		5.0	17.4	19.6	13.9	7.9	15.0	12.2	6.0	21.4	14.6	8.6	16.4	12.7	6.6
	430 (MED)	3.0	6.5	14.7	10.4	9.8	11.2	9.1	7.5	16.1	11.0	10.7	12.3	9.5	8.2
		4.0	11.3	15.8	10.9	7.9	12.1	9.4	6.0	17.2	11.4	8.6	13.2	9.9	6.6
		5.0	17.4	16.5	11.1	6.6	12.6	9.7	5.1	18.0	11.7	7.2	13.8	10.1	5.5
8	800 (HIGH)	4.0	7.2	22.1	16.9	11.1	16.9	14.9	8.4	24.1	17.7	12.1	18.4	15.5	9.2
		5.0	10.9	23.8	17.6	9.5	18.2	15.4	7.3	26.0	18.4	10.4	19.8	16.1	7.9
		6.0	15.3	25.1	18.0	8.4	19.1	15.8	6.4	27.3	18.9	9.1	20.8	16.5	7.0
	680 (MED)	4.0	7.2	20.7	15.3	10.3	15.8	13.4	7.9	22.5	16.0	11.3	17.2	13.9	8.6
		5.0	10.9	22.0	15.8	8.8	16.8	13.8	6.7	24.0	16.5	9.6	18.3	14.4	7.3
		6.0	15.3	22.9	16.1	7.6	17.5	14.1	5.8	25.0	16.9	8.3	19.1	14.7	6.4
10	1000 (HIGH)	6.0	9.0	29.7	23.2	9.9	22.7	20.5	7.6	32.4	24.2	10.8	24.7	21.3	8.2
		7.0	11.9	31.0	23.7	8.9	23.7	20.8	6.8	33.8	24.8	9.7	25.8	21.7	7.4
		8.0	15.3	32.1	24.1	8.0	24.5	21.2	6.1	34.9	25.2	8.7	26.7	22.0	6.7
	880 (MED)	6.0	9.0	27.6	21.1	9.2	21.1	18.5	7.0	30.1	22.0	10.0	23.0	19.3	7.7
		7.0	11.9	28.8	21.5	8.2	22.0	18.9	6.3	31.4	22.5	9.0	24.0	19.6	6.8
		8.0	15.3	29.7	21.9	7.4	22.7	19.2	5.7	32.4	22.9	8.1	24.8	20.0	6.2
12	1200 (HIGH)	6.5	10.4	34.8	27.6	10.7	26.6	24.3	8.2	38.0	28.7	11.7	29.0	25.2	8.9
		7.5	13.6	36.3	28.1	9.7	27.8	24.7	7.4	39.6	29.3	10.6	30.2	25.7	8.1
		8.5	17.1	37.6	28.6	8.8	28.7	25.1	6.8	41.0	29.9	9.6	31.3	26.1	7.4
	1030 (MED)	6.5	10.4	32.0	24.6	9.8	24.4	21.6	7.5	34.9	25.6	10.7	16.6	22.4	8.2
		7.5	13.6	33.3	25.1	8.9	25.4	22.0	6.8	36.3	26.2	9.7	17.8	22.9	7.4
		8.5	17.1	34.4	25.5	8.1	26.3	22.3	6.2	37.5	26.6	8.8	28.7	23.2	6.7

LD07973

3- Row Hot Water Heating Capacity													
UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE			UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE		
				140° F	160° F	180° F					140° F	160° F	180° F
3	280 (HIGH)	1.5	4.0	14.8	19.0	23.3	8	800 (HIGH)	4.0	7.2	40.6	52.3	63.9
		2.5	9.0	15.7	20.2	24.7			5.0	10.9	41.8	53.8	65.7
		3.5	15.3	16.2	20.7	25.4			6.0	15.3	42.6	54.8	67.0
	240 (MED)	1.5	4.0	13.4	17.2	21.0		680 (MED)	4.0	7.2	36.5	46.9	57.3
		2.5	9.0	14.0	18.0	22.1			5.0	10.9	37.4	48.1	58.8
		3.5	15.3	14.4	18.5	22.6			6.0	15.3	38.1	48.9	59.8
4	400 (HIGH)	1.5	3.9	20.4	26.3	32.1	10	1000 (HIGH)	5.0	6.4	54.3	69.8	85.3
		2.5	10.0	22.0	28.3	34.6			6.5	10.4	56.1	72.2	88.2
		3.5	18.7	22.8	29.3	35.8			8.0	15.3	57.4	73.8	90.2
	320 (MED)	1.5	3.9	17.7	22.8	27.8		880 (MED)	5.0	6.4	49.7	63.9	78.1
		2.5	10.0	18.8	24.1	29.5			6.5	10.4	51.4	66.0	80.7
		3.5	18.7	19.3	24.8	30.3			8.0	15.3	52.4	67.4	82.4
6	600 (HIGH)	3.0	6.5	31.1	39.9	48.8	12	1200 (HIGH)	5.5	7.7	64.4	82.8	101.2
		4.0	11.3	32.2	41.4	50.6			7.0	12.0	66.5	85.5	104.5
		5.0	17.4	32.9	42.3	51.7			8.5	17.1	67.9	87.3	106.8
	430 (MED)	3.0	6.5	24.7	31.8	38.9		1030 (MED)	5.5	7.7	58.1	74.8	91.4
		4.0	11.3	25.4	32.6	39.9			7.0	12.0	59.8	76.9	94.0
		5.0	17.4	25.8	33.2	40.6			8.5	17.1	61.0	78.5	95.9

LD07974

Note: Ratings at 70°F entering air temperature



### 4- Row Chilled Water Cooling Capacity

UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	45° F ENTERING WATER						42° F ENTERING WATER					
				80° F DB/67° F WB ENTERING AIR			75° F DB/63° F WB ENTERING AIR			80° F DB/67° F WB ENTERING AIR			75° F DB/63° F WB ENTERING AIR		
				TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE	TOTAL MBH	SENS. MBH	TEMP. RISE
3	280 (HIGH)	1.0	1.8	6.7	6.1	14.8	5.7	5.4	11.3	8.1	6.3	16.2	6.2	5.5	12.3
		2.0	6.5	8.9	7.0	9.9	7.5	6.1	7.5	10.8	7.3	10.8	8.2	6.4	8.2
		3.0	13.9	9.8	7.3	7.2	8.3	6.4	5.5	11.8	7.7	7.9	9.0	6.7	6.0
3	240 (MED)	1.0	1.8	6.5	5.5	14.4	5.5	4.9	11.0	7.8	5.8	15.6	6.0	5.1	12.0
		2.0	6.5	8.3	6.3	9.2	7.0	5.5	7.0	10.0	6.6	10.0	7.6	5.7	7.6
		3.0	13.9	9.1	6.6	6.7	7.6	5.7	5.1	10.9	7.0	7.2	8.3	6.0	5.5
4	400 (HIGH)	1.0	2.4	10.5	8.1	18.1	8.1	8.1	16.1	9.9	8.4	19.7	8.9	8.4	17.8
		2.0	8.2	12.3	9.6	13.1	10.0	8.4	10.0	14.3	10.0	14.3	10.9	8.7	10.9
		3.0	16.8	13.4	10.2	9.8	11.3	8.9	7.5	16.1	10.7	10.7	12.3	9.3	8.2
4	320 (MED)	1.0	2.4	9.8	7.1	17.5	6.7	6.3	13.4	9.5	7.4	19.1	7.3	6.5	14.6
		2.0	8.2	11.1	8.3	11.9	9.1	7.2	9.1	12.9	8.7	12.9	9.9	7.5	9.9
		3.0	16.8	12.0	8.8	8.8	10.0	7.6	6.7	14.3	9.2	9.6	10.9	7.9	7.3
6	600 (HIGH)	2.5	5.6	17.0	13.2	13.4	12.8	11.6	10.2	18.2	13.7	14.6	13.9	12.1	11.1
		3.5	10.2	18.6	14.1	11.0	14.7	12.4	8.4	21.0	14.8	12.0	16.1	12.9	9.2
		4.5	16.0	19.6	14.7	9.2	15.8	12.8	7.0	22.6	15.4	10.0	17.3	13.4	7.7
6	430 (MED)	2.5	5.6	14.7	10.7	11.9	11.3	9.3	9.1	16.2	11.2	13.0	12.4	9.7	9.9
		3.5	10.2	15.8	11.3	9.4	12.6	9.8	7.2	18.0	11.9	10.3	13.7	10.3	7.8
		4.5	16.0	16.5	11.7	7.7	13.3	10.1	5.9	19.0	12.3	8.4	14.5	10.6	6.4
8	800 (HIGH)	4.0	8.9	22.1	18.3	12.3	18.7	16.1	9.4	26.7	19.2	13.4	20.4	16.7	10.2
		5.0	13.3	23.8	19.0	10.6	20.2	16.6	8.1	28.8	19.9	11.5	22.0	17.4	8.8
		6.0	18.4	25.1	19.6	9.3	21.2	17.1	7.1	30.3	20.5	10.1	23.1	17.8	7.7
8	680 (MED)	4.0	8.9	20.7	16.5	11.4	17.4	14.4	8.7	24.8	17.2	12.4	19.0	15.0	9.5
		5.0	13.3	22.0	17.0	9.7	18.5	14.8	7.4	26.4	17.9	10.6	20.2	15.5	8.1
		6.0	18.4	22.9	17.4	8.4	19.3	15.2	6.4	27.6	18.3	9.2	21.1	15.8	7.0
10	1000 (HIGH)	5.5	5.9	29.7	23.8	11.1	23.4	20.9	8.5	33.3	24.8	12.1	15.5	21.7	9.3
		7.5	10.2	31.0	25.0	9.0	25.9	21.9	6.9	37.0	26.2	9.9	28.2	22.9	7.5
		9.5	15.4	32.1	25.8	7.6	27.4	22.5	5.8	39.1	27.0	8.2	29.9	23.5	6.3
10	880 (MED)	5.5	5.9	27.6	21.6	10.4	21.7	18.9	7.9	31.0	22.6	11.3	23.7	19.7	8.6
		7.5	10.2	28.8	22.7	8.4	24.0	19.8	6.4	34.3	23.8	9.1	26.2	20.7	7.0
		9.5	15.4	29.7	23.4	7.0	25.4	20.4	5.3	36.2	24.6	7.6	27.7	21.3	5.8
12	1200 (HIGH)	7.5	10.7	34.8	29.4	10.4	29.9	25.8	8.0	42.6	30.8	11.4	32.6	26.9	8.7
		8.5	13.7	36.3	29.9	9.5	30.9	26.2	7.3	44.1	31.3	10.4	33.7	27.3	7.9
		9.5	17.0	37.6	30.4	8.8	31.8	26.6	6.7	45.4	31.8	9.6	34.7	27.7	7.3
12	1030 (MED)	7.5	10.7	35.8	26.2	9.5	27.4	22.9	7.3	39.0	27.4	10.4	29.8	23.9	7.9
		8.5	13.7	37.0	26.7	8.7	28.3	23.3	6.7	40.3	27.9	9.5	30.8	24.3	7.2
		9.5	17.0	38.0	27.0	8.0	29.0	23.6	6.1	41.4	28.4	8.7	31.7	24.6	6.7

LD07975

### 4- Row Hot Water Heating Capacity

UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE			UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE		
				140° F	160° F	180° F					140° F	160° F	180° F
3	280 (HIGH)	1.5	3.8	15.8	20.3	24.8	8	800 (HIGH)	3.0	5.4	41.5	53.3	65.2
		2.5	9.9	16.7	21.5	26.3			4.5	11.0	44.2	56.8	69.4
		3.5	18.5	17.2	22.1	27.0			6.0	18.4	45.6	58.6	71.7
3	240 (MED)	1.5	3.8	14.2	18.2	22.3	8	680 (MED)	3.0	5.4	37.3	47.9	48.6
		2.5	9.9	14.9	19.1	23.4			4.5	11.0	39.4	50.7	61.9
		3.5	18.5	15.2	19.6	24.0			6.0	18.4	40.6	52.2	63.7
4	400 (HIGH)	1.0	2.4	19.9	25.6	31.3	10	1000 (HIGH)	6.0	6.9	58.6	75.3	92.0
		2.0	8.2	22.8	29.3	35.8			8.0	11.4	60.7	78.0	95.3
		3.0	16.8	23.9	30.7	37.6			10.0	16.9	62.0	79.8	97.4
4	320 (MED)	1.0	2.4	17.4	22.4	27.4	10	880 (MED)	6.0	6.9	53.5	68.8	84.1
		2.0	8.2	19.5	25.0	30.6			8.0	11.4	55.3	71.1	86.9
		3.0	16.8	20.2	26.0	31.8			10.0	16.9	56.4	72.5	88.6
6	600 (HIGH)	2.5	5.6	31.7	40.7	49.8	12	1200 (HIGH)	6.0	7.0	68.7	88.3	108.0
		3.5	10.2	33.4	43.0	52.5			8.0	12.2	71.4	91.8	112.2
		4.5	16.0	34.4	44.2	54.0			10.0	18.7	73.1	94.0	114.9
6	430 (MED)	2.5	5.6	25.3	32.5	39.8	12	1030 (MED)	6.0	7.0	61.8	79.5	97.2
		3.5	10.2	26.3	33.8	41.4			8.0	12.2	64.0	82.3	100.3
		4.5	16.0	26.9	34.6	42.3			10.0	18.7	65.4	84.1	102.8

Note: Ratings at 70° F entering air temperature

LD07976

# YVCB, YVFB, YVSB & YWCB Blower Data

1- Row Hot Water Heating Capacity													
UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE			UNIT SIZE (ALL MODELS)	CFM	GPM	P.D. (FT. WTR.)	HEATING BTUH (1000) AT ENTERING WATER TEMPERATURE		
				140°F	160°F	180°F					140°	160°F	180°F
				3	280 (HIGH)	1.0					3.4	8.2	10.6
1.75	9.3	8.9	11.4			13.9	1.5	11.6	19.8	25.4	31.1		
2.5	17.7	9.0	11.6			14.2	2.0	19.2	21.1	27.1	33.1		
240 (MED)	1.0	3.4	7.6		9.8	12.0	680 (MED)	1.0	5.7	16.6	21.4	26.2	
	1.75	9.3	8.1		10.4	12.8		1.5	11.6	18.5	23.8	29.1	
	2.5	17.7	8.3		10.7	13.1		2.0	19.2	19.6	25.2	30.8	
4	400 (HIGH)	1.0	4.4	11.2	14.4	17.6	10	1000 (HIGH)	2.5	7.3	21.9	28.2	34.4
		1.75	11.7	12.3	15.8	19.3			3.5	12.9	23.2	29.8	36.4
		2.5	21.9	12.7	16.3	20.0			4.5	19.7	23.7	30.5	37.3
	320 (MED)	1.0	4.4	10.1	13.0	15.9		880 (MED)	2.5	7.3	20.6	26.5	32.4
		1.75	11.7	10.9	14.1	17.2			3.5	12.9	21.8	28.0	34.2
		2.5	21.9	11.3	14.5	17.7			4.5	19.7	22.4	28.8	35.2
6	600 (HIGH)	1.0	5.0	14.6	18.8	23.0	12	1200 (HIGH)	2.5	7.7	25.8	33.1	40.5
		1.75	13.3	16.6	21.4	26.2			3.5	13.9	27.5	35.4	43.2
		2.5	24.9	17.4	22.4	27.4			4.5	21.8	28.4	36.5	44.7
	430 (MED)	1.0	5.0	12.8	16.5	20.1		1030 (MED)	2.5	7.7	24.1	31.0	37.9
		1.75	13.3	14.1	18.2	22.2			3.5	13.9	25.6	32.9	40.4
		2.5	24.9	14.7	18.9	23.1			4.5	21.8	26.4	33.9	41.4

Note: Ratings at 70°F entering air temperature

LD07969

# Fan Performance

## Air Volume Capacity

UNIT		CFM @ 0.0 E.S.P. FOR FAN SPEED INDICATED			HIGH SPEED CFM @ E.S.P. INDICATED			
MODEL	SIZE	HIGH	MED	LOW	0.05	0.10	0.15	0.20
YVCB	3	280	245	210	255	230	205	175
	4	400	320	220	370	330	290	240
YVSB	6	600	430	320	570	540	510	480
YVFB	8	800	680	580	760	730	700	660
YWCB	10	1000	880	670	970	920	880	830
	12	1220	1030	780	1170	1120	1070	1020

### Notes:

1. Values are standard CFM at sea level, 70 degree EAT. with dry coil.
2. E.S.P. - inches water.
3. Values include filter and / or grille where applicable.

## Motor Data

MOTOR SPEED	UNIT SIZE											
	3		4		6		8		10*		12*	
	NOMINAL HP 1/20		NOMINAL HP 1/12		NOMINAL HP 1/8		NOMINAL HP 1/6		NOMINAL HP 1/8 (2)		NOMINAL HP 1/6 (2)	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
<b>120 VOLT - 1 PH - 60 Hz PSC MOTOR</b>												
<b>HIGH</b>	.80	.95	1.0	1.05	1.8	200	2.2	250	3.0	350	4.6	520
<b>MEDIUM</b>	.45	60	.60	70	1.1	140	2.0	210	2.4	275	3.0	330
<b>LOW</b>	.40	50	.45	55	.80	90	1.6	170	1.8	210	2.1	230

LD07972

### Notes:

- \*Total unit motor amps and watts shown for 2 motors (Unit size 10 & 12).

## Nominal Airflows

UNIT SIZE	CFM
3	300
4	400
6	600
8	800
10	1000
12	1200

# ARI Standard Ratings

## Cooling Coil Ratings

**Standard Coil - Water Cooling Capacity Ratings - (3 row)**

UNIT SIZE	COOLING CAPACITY		GPM	WATER P.D. (Ft. Wtr.)
	TOTAL BTUH	SENSIBLE BTUH		
3	8,000	6,100	1.6	4.5
4	12,000	9,000	2.4	9.3
6	17,000	12,900	3.4	8.3
8	21,900	16,800	4.4	8.6
10	27,600	22,500	5.5	9.3
12	34,500	27,500	6.9	15.1

**High Capacity Coil - Water Cooling Capacity Ratings - (4 row)**

UNIT SIZE	COOLING CAPACITY		GPM	WATER P.D. (Ft. Wtr.)
	TOTAL BTUH	SENSIBLE BTUH		
3	9,200	6,700	1.8	5.4
4	13,900	9,900	2.8	14.9
6	19,000	14,000	3.8	11.8
8	25,400	18,700	5.1	13.8
10	30,400	23,700	6.1	9.5
12	38,200	29,100	7.6	14.1

LD07977

**Notes:**

1. Rated in accordance with ARI Standard 440. Cooling capacities based on 80°F DB / 67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed with standard 120V/1PH/60Hz motor.
2. For cooling coil capacities at conditions other than listed, refer to application guide . . . . . or consult your YORK Representative.

## Heating Coil Ratings

**Standard Coil - Water Heating Capacity Ratings - (3 row)**

UNIT SIZE	HEATING CAPACITY BTUH	GPM	WATER P.D. (Ft. Wtr.)
3	23,500	1.6	4.5
4	34,200	2.3	8.6
6	49,400	3.3	7.8
8	64,500	4.3	8.2
10	87,000	5.8	10.4
12	106,300	7.1	15.9

**High Capacity Coil - Water Heating Capacity Ratings - (4 row)**

UNIT SIZE	HEATING CAPACITY BTUH	GPM	WATER P.D. (Ft. Wtr.)
3	25,200	1.7	4.8
4	36,600	2.4	11.3
6	52,500	3.5	10.2
8	69,500	4.6	11.5
10	92,200	6.1	9.5
12	113,000	7.5	13.7

LD07978

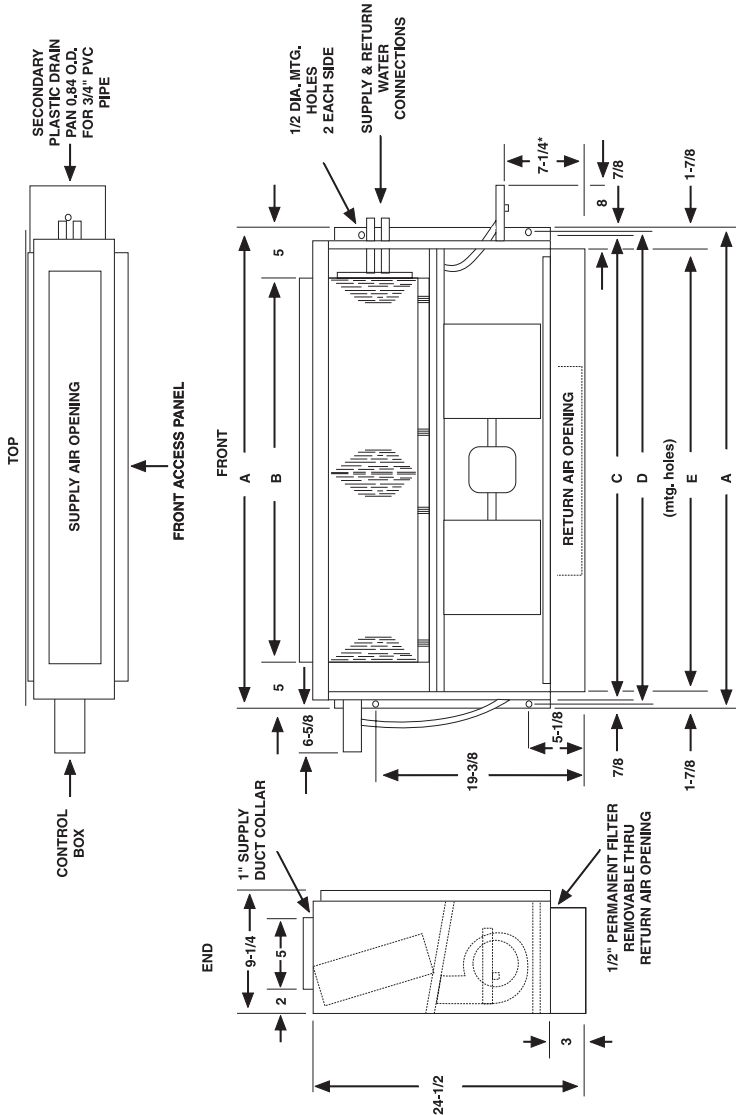
**1-Row Coil - Water Heating Capacity Ratings**

UNIT SIZE	HEATING CAPACITY BTUH	GPM	WATER P.D. (Ft. Wtr.)
3	12,400	0.8	2.4
4	18,200	1.2	6.1
6	26,000	1.7	12.7
8	33,700	2.2	22.7
10	33,600	2.2	5.9
12	41,200	2.7	8.8

**Notes:**

1. Heating coils rated at 70 deg. DB entering air, 180 deg. entering water, 30 deg. water temperature drop and high fan speed with standard 120V/1PH/60Hz motor.
2. For heating capacities at conditions other than listed, consult your YORK Representative or the factory.

# Product Dimensions

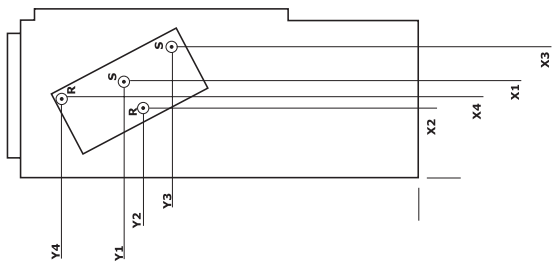
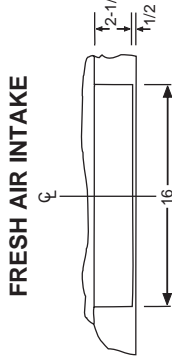


\* DIMENSIONS VARY FOR UNITS WITH NON-STANDARD VALVE PACKAGES.



- NOTES:**
- 1) All dimensions in inches.
  - 2) Coil connection tolerance  $\pm 1/4"$
  - 3) Hand of unit determined by cooling coil connection when facing the front of unit.

MODEL	GENERAL DIMENSIONS					COIL CONN SIZE		SHIPPING WEIGHTS
	A	B	C	D	E	COOLING	HEATING	
3 YVCB	27-1/2	18	25-1/2	26-1/2	23-3/4	23-3/4	55	
4 YVCB	35-1/2	26	33-1/2	34-1/2	31-3/4	31-3/4	70	
6 YVCB	43-1/2	34	41-1/2	42-1/2	39-3/4	39-3/4	80	
8 YVCB	51-1/2	42	49-1/2	50-1/2	47-3/4	47-3/4	95	
10 YVCB	59-1/2	50	57-1/2	58-1/2	55-3/4	55-3/4	115	
12 YVCB	67-1/2	58	65-1/2	66-1/2	63-3/4	63-3/4	130	



UNIT	YVCB PIPE LOCATIONS								
	LEFT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3 ROW		4.75	18.13	3.00	17.50	---	---	---	---
4 ROW		5.50	18.50	3.00	17.50	---	---	---	---
3/1 ROW		4.63	18.13	3.13	17.50	7.00	15.13	4.13	21.50
3/2 ROW		4.63	18.13	3.13	17.50	7.00	15.13	4.88	21.88
4/1 ROW		5.50	18.50	3.13	17.50	7.63	16.00	4.63	22.25
3 ROW		5.25	18.13	3.25	17.25	---	---	---	---
4 ROW		6.25	18.50	3.25	17.25	---	---	---	---
3/1 ROW		5.38	18.13	3.25	17.25	7.63	15.50	5.00	21.13

UNIT	YVCB PIPE LOCATIONS								
	RIGHT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3 ROW		4.75	18.13	3.00	17.50	---	---	---	---
4 ROW		5.50	18.50	3.00	17.50	---	---	---	---
3/1 ROW		4.63	18.13	3.13	17.50	6.88	15.50	3.88	21.88
3/2 ROW		4.75	18.13	3.13	17.50	7.63	15.88	3.88	21.88
4/1 ROW		5.50	18.50	3.13	17.50	7.75	15.50	4.88	21.88
3 ROW		5.25	18.13	3.25	17.25	---	---	---	---
4 ROW		6.25	18.50	3.25	17.25	---	---	---	---
3/1 ROW		5.38	18.13	3.25	17.25	7.38	16.00	4.75	21.75



Project Name: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 For: REFERENCE

Sold To: \_\_\_\_\_  
 Cust Purch Order #: \_\_\_\_\_

Quote Date: \_\_\_\_\_  
 Rev. Date: \_\_\_\_\_  
 Form No.: \_\_\_\_\_  
 Dwg. Lev.: \_\_\_\_\_  
 Dwg. Scale: NTS

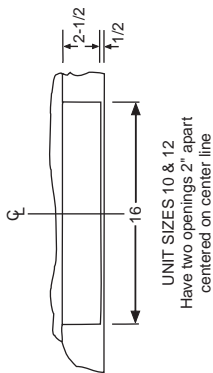
**PRODUCT DRAWING:**  
 FAN COIL UNITS – DIRECT DRIVE  
 MODEL YVCB  
 NOT FOR CONSTRUCTION

Supersedes: 115.20-PA10 (1202)

FORM 115.20-PA10 (404)

# Product Dimensions

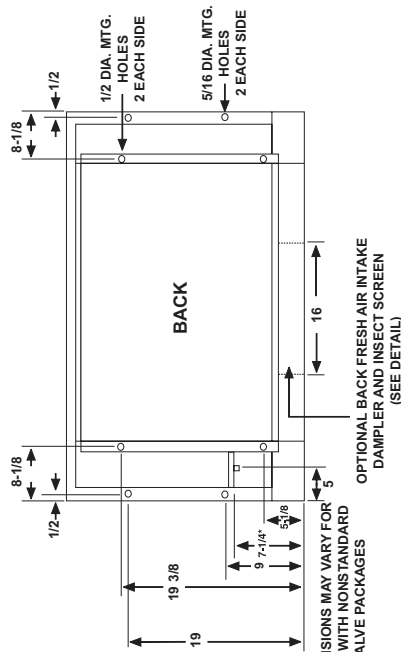
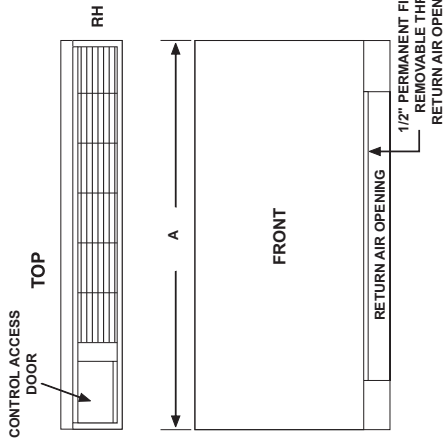
## FRESH AIR INTAKE



**NOTE:** Outside fresh air must be tempered before entering the unit if freezing conditions are expected.

GENERAL DIMENSIONS			SHIPPING WEIGHTS
MODEL	A	COIL CONN SIZE	COOLING HEATING
3 YVFB	43		85
4 YVFB	51		97
6 YVFB	59	5/8" O.D.	110
8 YVFB	67	5/8" O.D. SWEAT	125
10 YVFB	75		145
12 YVFB	83		165

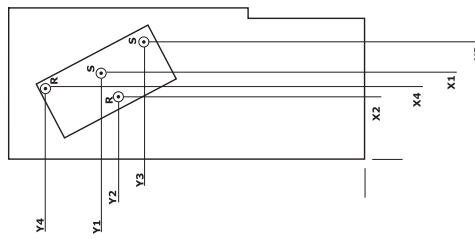
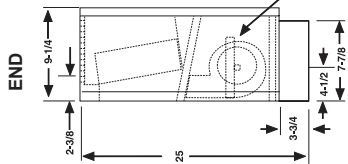
- NOTES:**
- 1) All dimensions in inches.
  - 2) All dimensions  $\pm 1/4"$ .
  - 3) Cabinet tolerance  $\pm 1/16"$ .
  - 4) 24" Clearance in front of the unit is required for service.
  - 5) Hand of unit determined by cooling coil connection when facing the front of unit.
  - 6) Coil connection tolerance  $\pm 1/4"$ .



"DIMENSIONS MAY VARY FOR UNITS WITH NONSTANDARD VALVE PACKAGES"

SECONDARY PLASTIC DRAIN PAN 0.84 O.D. FOR 3/4" PVC PIPE

(LEFT HAND UNIT SHOWN)



## YVFB HEADER LOCATIONS

SIZE	X1	X2	X3	X4	Y1	Y2	Y3	Y4
3 ROW	4.75	18.13	3.00	17.50	N/A	N/A	N/A	N/A
4 ROW	5.50	18.50	3.00	17.50	N/A	N/A	N/A	N/A
3/1 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.13	21.50
3/2 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.88	21.88
4/1 ROW	5.50	18.50	3.13	17.50	7.63	16.00	4.63	22.25
3 ROW	5.25	18.13	3.25	17.25	N/A	N/A	N/A	N/A
4 ROW	6.25	18.50	3.25	17.25	N/A	N/A	N/A	N/A
3/1 ROW	5.38	18.13	3.25	17.25	7.63	15.50	5.00	21.13

SIZE	X1	X2	X3	X4	Y1	Y2	Y3	Y4
3 ROW	4.75	18.13	3.00	17.50	N/A	N/A	N/A	N/A
4 ROW	5.50	18.50	3.00	17.50	N/A	N/A	N/A	N/A
3/2 ROW	4.75	18.13	3.13	17.50	6.88	15.50	3.88	21.50
4/1 ROW	5.50	18.50	3.13	17.50	7.75	15.50	4.88	21.88
3 ROW	5.25	18.13	3.25	17.25	N/A	N/A	N/A	N/A
4 ROW	6.25	18.50	3.25	17.25	N/A	N/A	N/A	N/A
3/1 ROW	5.25	18.13	3.25	17.25	7.38	16.00	4.75	21.75

**PRODUCT DRAWING:** Project Name:  
 Location:  
 Engineer:  
 Contractor:  
 For: REFERENCE

Sold To:  
 Cust Purch Order #:

Quote Date:  
 Rev. Date:  
 Form No.:  
 Dwg. Lev.:  
 Dwg. Scale: NTS



Copyright © York International Corp. 2002

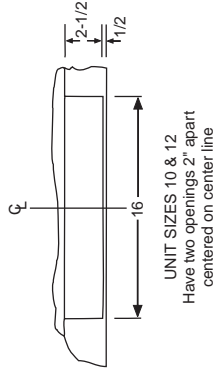
Supersedes: 115.20-PA12 (1202)

FORM 115.20-PA12 (404)

**NOTES:**

- 1) All dimensions in inches.
- 2) All dimensions  $\pm 1/4"$ .
- 3) Cabinet tolerance  $\pm 1/16"$ .
- 4) 24" Clearance in front of the unit is required for service.
- 5) Hand of unit determined by cooling coil connection when facing the front of unit.
- 6) Coil connection tolerance  $\pm 1/4"$ .

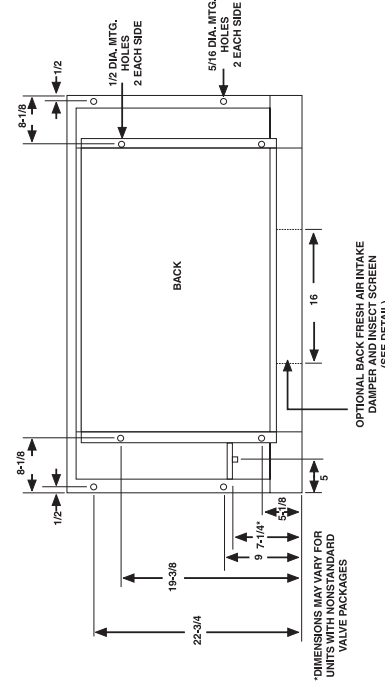
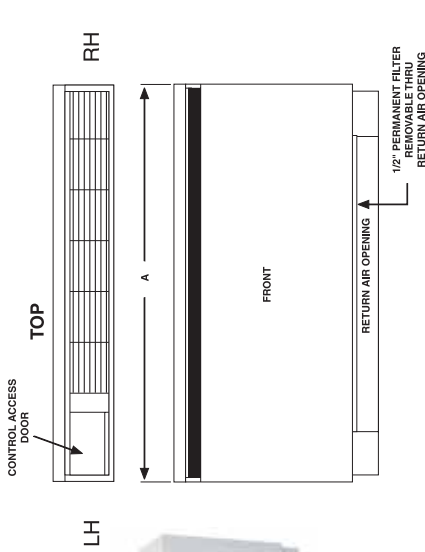
**FRESH AIR INTAKE**



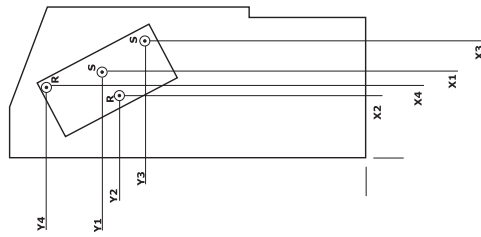
**GENERAL DIMENSIONS**

MODEL	A	COIL CONN SIZE	COOLING HEATING	SHIPPING WEIGHTS
3 YVSB	43			85
4 YVSB	51			97
6 YVSB	59	5/8" O.D.	5/8" O.D.	110
8 YVSB	67	SWEAT	SWEAT	125
10 YVSB	75			145
12 YVSB	83			165

**NOTE:** Outside fresh air must be tempered before entering the unit if freezing conditions are expected.



**(LEFT HAND UNIT SHOWN)**



**YVSB HEADER LOCATIONS**

SIZE	LEFT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3-8V	3 ROW	4.75	18.13	3.00	17.50	N/A	N/A	N/A	N/A
	4 ROW	5.50	18.50	3.00	17.50	N/A	N/A	N/A	N/A
	3/1 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.13	21.50
	3/2 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.88	21.88
3-8V	4/1 ROW	5.50	18.50	3.13	17.50	7.63	16.00	4.63	22.25
	3 ROW	5.25	18.13	3.25	17.25	N/A	N/A	N/A	N/A
	4 ROW	6.25	18.50	3.25	17.25	N/A	N/A	N/A	N/A
	3/1 ROW	5.38	18.13	3.25	17.25	7.63	15.50	5.00	21.13

**YVSB HEADER LOCATIONS**

SIZE	RIGHT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3-8V	3 ROW	4.75	18.13	3.00	17.50	N/A	N/A	N/A	N/A
	4 ROW	5.50	18.50	3.00	17.50	N/A	N/A	N/A	N/A
	3/1 ROW	4.63	18.13	3.13	17.50	6.88	15.50	3.88	21.50
	3/2 ROW	4.75	18.13	3.13	17.50	7.63	15.88	3.88	21.88
3-8V	4/1 ROW	5.50	18.50	3.13	17.50	7.75	15.50	4.88	21.88
	3 ROW	5.25	18.13	3.25	17.25	N/A	N/A	N/A	N/A
	4 ROW	6.25	18.50	3.25	17.25	N/A	N/A	N/A	N/A
	3/1 ROW	5.25	18.13	3.25	17.25	7.38	16.00	4.75	21.75

**PRODUCT DRAWING:**

FAN COIL UNITS – DIRECT DRIVE  
 MODEL YVSB  
 NOT FOR CONSTRUCTION

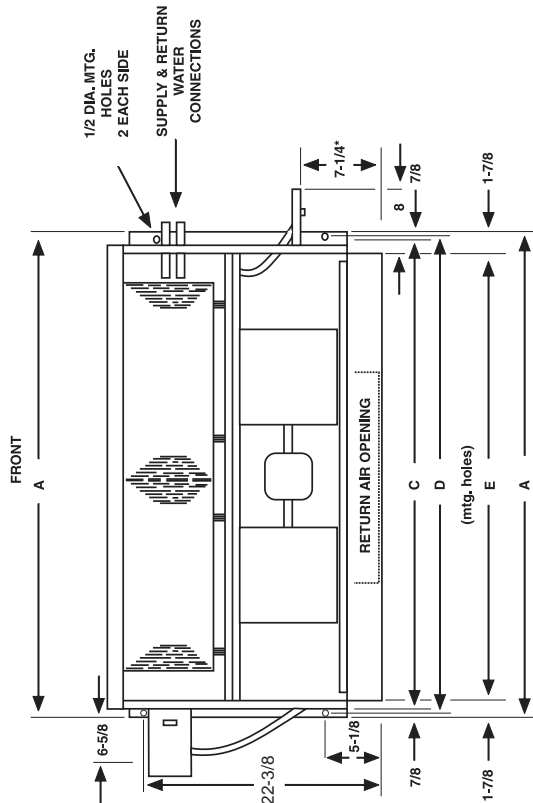
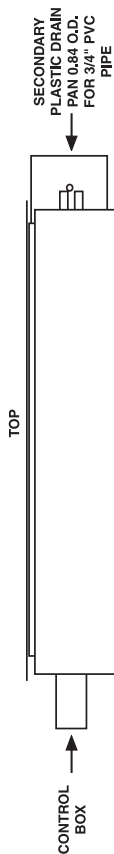
Sold To:  
 Cust Purch Order #:

Quote Date:  
 Rev. Date:  
 Form No.:  
 Dwg. Lev.:  
 Dwg. Scale: NTS

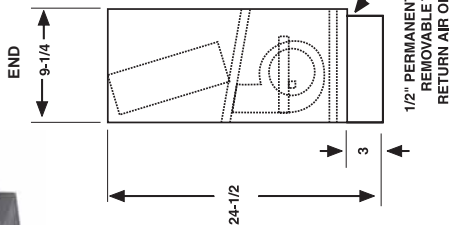


Copyright © York International Corp. 2002

# Product Dimensions

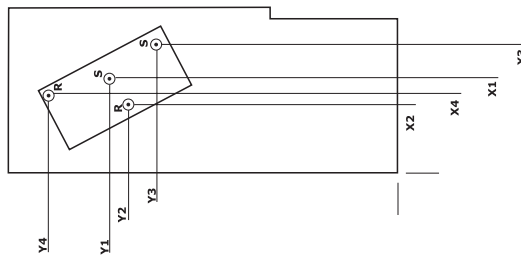


\* DIMENSIONS VARY FOR UNITS WITH NON-STANDARD VALVE PACKAGES.



(LEFT HAND UNIT SHOWN)

GENERAL DIMENSIONS								
MODEL	A	C	D	E	COIL CONN SIZE	COOLING	HEATING	SHIPPING WEIGHTS
3 YWCB	27-1/2	25-1/2	26-1/2	23-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	85
4 YWCB	35-1/2	33-1/2	34-1/2	31-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	97
6 YWCB	43-1/2	41-1/2	42-1/2	39-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	110
8 YWCB	51-1/2	49-1/2	50-1/2	47-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	125
10 YWCB	59-1/2	57-1/2	58-1/2	55-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	145
12 YWCB	67-1/2	65-1/2	66-1/2	63-3/4	5/8 O.D.	5/8 O.D.	5/8 O.D.	165



YWCB HEADER LOCATIONS									
SIZE	RIGHT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3-8YWC	3 ROW	4.75	18.13	3.00	17.50	---	---	---	---
	4 ROW	5.5	18.50	3.00	17.50	---	---	---	---
	3/1 ROW	4.63	18.13	3.13	17.50	6.88	15.50	3.88	21.50
	3/2 ROW	4.63	18.13	3.13	17.50	7.63	15.88	3.88	21.88
	4/1 ROW	5.50	18.50	3.13	17.50	7.75	15.50	4.88	21.88
	3 ROW	5.25	18.13	3.25	17.25	---	---	---	---
	4 ROW	6.25	18.50	3.25	17.25	---	---	---	---
	3/1 ROW	5.38	18.13	3.25	17.25	7.38	16.00	4.75	21.75

YWCB HEADER LOCATIONS									
SIZE	LEFT HAND	X1	Y1	X2	Y2	X3	Y3	X4	Y4
3-8YWC	3 ROW	4.75	18.13	3.00	17.50	---	---	---	---
	4 ROW	5.50	18.50	3.00	17.50	---	---	---	---
	3/1 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.13	21.50
	3/2 ROW	4.63	18.13	3.13	17.50	7.00	15.13	4.88	21.88
	4/1 ROW	5.50	18.50	3.13	17.50	7.63	16.00	4.63	22.25
	3 ROW	5.25	18.13	3.25	17.25	---	---	---	---
	4 ROW	6.25	18.50	3.25	17.25	---	---	---	---
	3/1 ROW	5.38	18.13	3.25	17.25	7.63	15.50	5.00	21.13

**NOTES:**

- 1) All dimensions in inches.
- 2) Coil connection tolerance  $\pm 1/4"$
- 3) Hand of unit determined by cooling coil connection when facing the front of unit.



Copyright © York International Corp. 2002

Quote Date:  
Rev. Date:  
Form No.:  
Dwg. Lev.:  
Dwg. Scale: NTS

Sold To:  
Cust Purch Order #:

Project Name:  
Location:  
Engineer:  
Contractor:  
For: REFERENCE

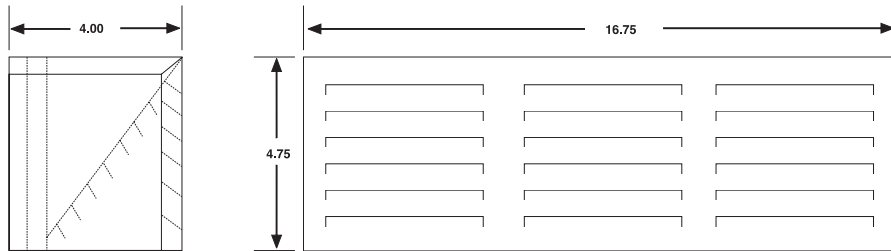
**PRODUCT DRAWING:**  
FAN COIL UNITS – DIRECT DRIVE  
MODEL YWCB  
NOT FOR CONSTRUCTION

FORM 115.20-PA13 (404)

Supersedes: 115.20-PA13 (1202)



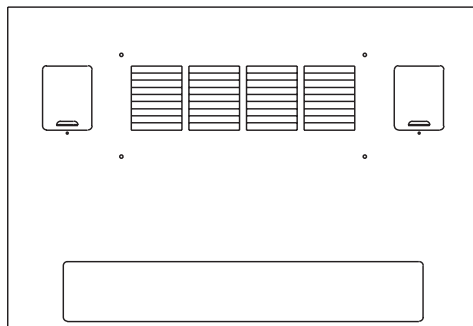
## Fresh Air Wall Box



**UNIT SIZES 10 & 12**  
Require two fresh air wall boxes.

**NOTE:** Outside fresh air must be tempered before entering the unit if freezing conditions are expected.

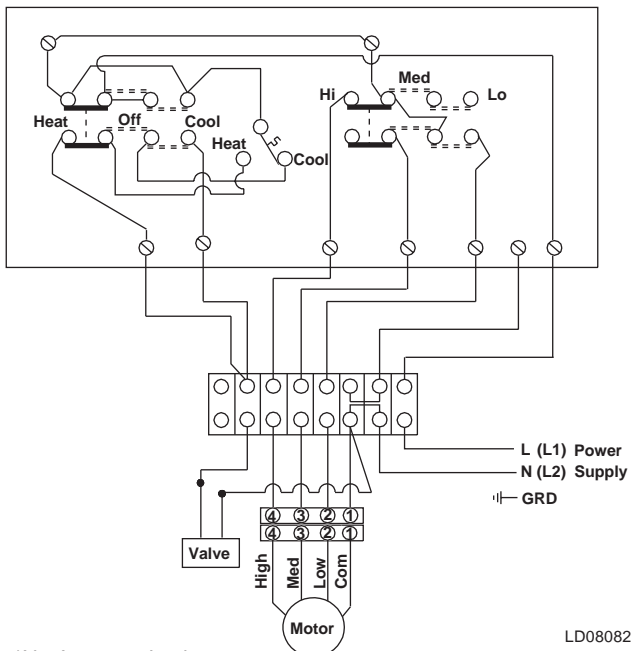
## Wall Panels for YWCB



Wall Panels for YWCB		
	HEIGHT	WIDTH
9PWC03L	30"	44"
9PWC04L	30"	52"
9PWC06L	30"	60"
9PWC08L	30"	68"
9PWC10L	30"	76"
9PWC12L	30"	84"

# Typical Connection Diagrams

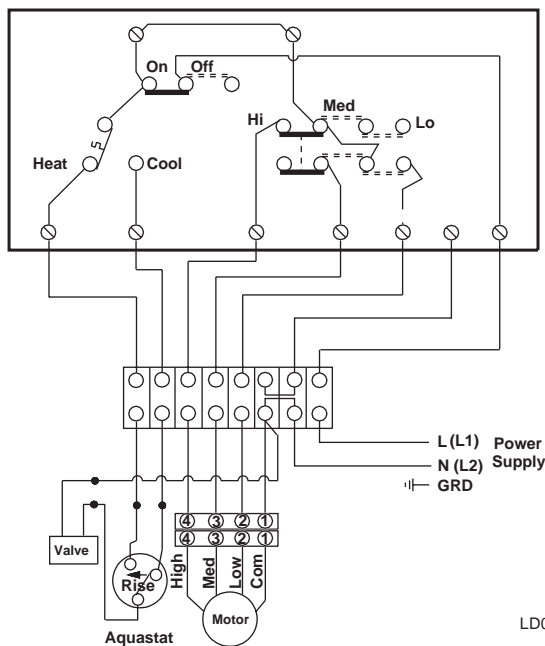
**2-Pipe Heat / Cool  
Manual Changeover – Continuous Fan  
(T/stat option No. A\_)**



\*No Aquastat Lockout

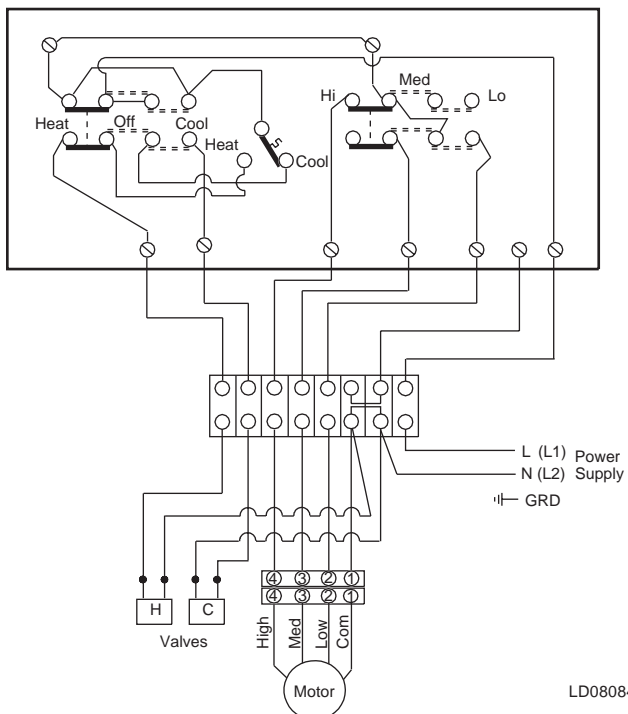
LD08082

**2-Pipe Heat / Cool  
Auto Changeover – Continuous Fan  
(T/stat option No. B\_)**



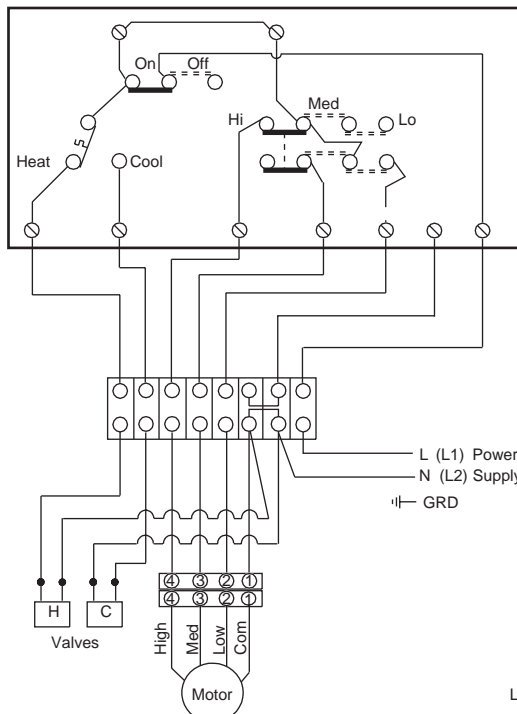
LD08083

**4-Pipe Heat / Cool  
Manual Changeover – Continuous Fan  
(T/stat option No. M\_)**



LD08084

**4-Pipe Heat / Cool  
Auto Changeover – Continuous Fan  
(T/stat option No. N\_)**



LD08085

# Valve Packages

R = Right Hand  
L = Left Hand  
V = Vertical Units

### Standard – No Valves

Manual Air Vent

Coil

R

S

LD04790

Valve Package Order Code	
N	

### Supply and Return Isolation Valves Only

Manual Air Vent

Coil

Ball Valve

R

Ball Valve

S

LD04791

Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP22RV	YPP24RV
Left Hand	YPP22LV	YPP24LV

### Supply Isolation Valve with Circuit Setter

Manual Air Vent

Coil

Circuit Setter

R

Ball Valve

S

LD04792

Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP32RV	YPP34RV
Left Hand	YPP32LV	YPP34LV

### Supply and Return Isolation Valves with 2-Way Control Valve

Manual Air Vent

Coil

Ball Valve

R

2-Way Valve

Ball Valve

S

LD04793

Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP42RV	YPP44RV
Left Hand	YPP42LV	YPP44LV

### Supply Isolation Valve with Circuit Setter and 2-Way Control Valve

Manual Air Vent

Coil

Circuit Setter

R

2-Way Valve

Ball Valve

S

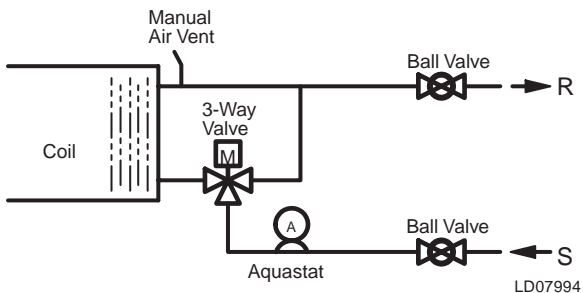
LD04794

Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP52RV	YPP54RV
Left Hand	YPP52LV	YPP54LV

# Valve Packages

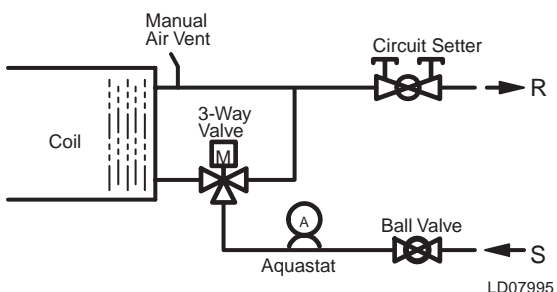
R = Right Hand  
L = Left Hand  
V = Vertical Units

## Supply and Return Isolation Valves with 3-Way Control Valve



Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP62RV	YPP64RV
Left Hand	YPP62LV	YPP64LV

## Supply Isolation Valve with Circuit Setter and 3-Way Control Valve



With Balance Valve

Coil Position	Valve Package Order Code	
	2-Pipe	4-Pipe
Right Hand	YPP72RV	YPP74RV
Left Hand	YPP72LV	YPP74LV

**NOTES:**

1. (A) Indicates typical aquastat location. Included in 2-pipe applications only.
2. Contact factory for special request options.
3. Control Valves are normally closed.

THERMOSTATS		
Application	Changeover	Order Code
2-Pipe Heat/Cool	Auto	F*
2-Pipe Heat/Cool	Manual	G*
4-Pipe Heat/Cool	Auto	H*
4-Pipe Heat/Cool	Manual	J*
Heat Only	NONE	D*
Cool Only	NONE	E*
<b>FAN SPEED SWITCH ONLY<sup>5</sup></b>		N*

**Notes:**

1. 2-Pipe units have one water coil. 4-Pipe units have one coil units with dual circuits.
2. Changeover is used to select heating or cooling mode.
3. For proper operation, control valve must be normally closed.
4. Aquastats provided where required.
5. Does not include thermostat.

**Selection Procedure:**

Determine the desired control system for the application. From the table at the left, read the appropriate code.

**Vertical Units:**

For vertical units, use the letter under **Order Code Vertical Units**. This code should be followed with a 1, 2 or 3 to indicate the control mounting method as follows:

- \* 1- Unit Mounted Control
- 2- Wall Mounted Control
- 3- Tamperproof Unit Mounted Control

**For Example:**

If a heat only, valve cycle control system is selected and it is desired to have the control wall mounted, the control code would be D2. This code is used in the model nomenclature.

**Note:** All control packages on vertical units will be prewired at the factory to minimize field wiring.

# Correction Factors

## Ethylene Glycol Correction Factors

%	Temp Rise °F	ENTERING FLUID TEMPERATURE (°F)													
		40°		42°		44°		45°		46°		48°		50°	
		Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs
10	6	0.985	0.992	0.985	0.992	0.985	0.992	0.985	0.992	0.985	0.992	0.985	0.992	0.985	0.992
	8	0.979	0.990	0.979	0.989	0.979	0.989	0.979	0.988	0.979	0.988	0.979	0.987	0.979	0.987
	10	0.972	0.987	0.972	0.986	0.972	0.985	0.972	0.984	0.972	0.984	0.972	0.983	0.972	0.983
	12	0.967	0.984	0.967	0.982	0.967	0.980	0.967	0.980	0.967	0.979	0.967	0.978	0.967	0.977
	14	0.961	0.980	0.961	0.978	0.961	0.976	0.961	0.975	0.961	0.975	0.961	0.974	0.961	0.972
	16	0.955	0.977	0.955	0.975	0.955	0.972	0.955	0.970	0.955	0.970	0.955	0.967	0.955	0.965
20	6	0.950	0.980	0.952	0.979	0.954	0.979	0.954	0.978	0.958	0.978	0.961	0.977	0.965	0.977
	8	0.941	0.975	0.942	0.974	0.944	0.974	0.945	0.973	0.946	0.973	0.948	0.972	0.951	0.971
	10	0.928	0.966	0.930	0.965	0.932	0.964	0.932	0.963	0.933	0.962	0.935	0.960	0.938	0.958
	12	0.914	0.960	0.916	0.959	0.918	0.956	0.921	0.953	0.920	0.951	0.922	0.947	0.925	0.945
	14	0.904	0.954	0.905	0.951	0.907	0.948	0.910	0.945	0.909	0.941	0.912	0.933	0.915	0.928
	16	0.899	0.948	0.900	0.945	0.900	0.941	0.901	0.937	0.902	0.933	0.903	0.923	0.904	0.917
30	6	0.908	0.961	0.911	0.961	0.913	0.961	0.917	0.960	0.921	0.960	0.926	0.959	0.931	0.959
	8	0.890	0.950	0.891	0.949	0.895	0.948	0.898	0.947	0.902	0.946	0.906	0.946	0.911	0.945
	10	0.871	0.939	0.874	0.936	0.877	0.933	0.878	0.931	0.881	0.928	0.885	0.926	0.889	0.924
	12	0.859	0.929	0.860	0.924	0.863	0.919	0.865	0.916	0.867	0.913	0.870	0.910	0.873	0.906
	14	0.846	0.918	0.847	0.910	0.848	0.903	0.849	0.895	0.850	0.893	0.852	0.889	0.854	0.885
	16	0.832	0.907	0.833	0.896	0.834	0.886	0.835	0.875	0.836	0.873	0.837	0.866	0.838	0.857
40	6	0.852	0.936	0.855	0.935	0.862	0.934	0.867	0.933	0.873	0.932	0.880	0.931	0.887	0.931
	8	0.829	0.921	0.831	0.919	0.836	0.916	0.840	0.914	0.845	0.912	0.851	0.910	0.857	0.910
	10	0.808	0.906	0.811	0.904	0.815	0.901	0.816	0.899	0.820	0.897	0.825	0.893	0.830	0.890
	12	0.792	0.889	0.794	0.884	0.797	0.879	0.800	0.875	0.802	0.873	0.805	0.867	0.809	0.861
	14	0.775	0.872	0.777	0.865	0.779	0.858	0.781	0.850	0.783	0.846	0.785	0.839	0.787	0.829
	16	0.754	0.855	0.755	0.845	0.756	0.836	0.757	0.826	0.758	0.819	0.760	0.807	0.762	0.796
50	6	0.788	0.905	0.793	0.902	0.801	0.899	0.807	0.897	0.814	0.895	0.822	0.892	0.831	0.891
	8	0.763	0.886	0.767	0.882	0.775	0.878	0.779	0.875	0.784	0.872	0.790	0.868	0.797	0.866
	10	0.738	0.866	0.742	0.861	0.746	0.856	0.748	0.851	0.752	0.851	0.757	0.845	0.762	0.840
	12	0.730	0.853	0.732	0.847	0.736	0.840	0.738	0.834	0.740	0.831	0.743	0.824	0.747	0.818
	14	0.723	0.841	0.725	0.833	0.729	0.824	0.731	0.816	0.732	0.812	0.734	0.803	0.736	0.795
	16	0.718	0.828	0.720	0.818	0.721	0.809	0.722	0.799	0.722	0.792	0.723	0.780	0.724	0.769

**NOTES:** When using numerous correction factors, it is possible for the calculations to give sensible performance higher than total performance. In that case, the cooling is sensible only and the total cooling should be corrected to equal the sensible.

**Gt** - Glycol correction factor for total capacity

**Gs** - Glycol correction factor for sensible capacity

# Correction Factors

## Propylene Glycol Correction Factors

% Temp Rise	°F	ENTERING FLUID TEMPERATURE (°F)													
		40°		42°		44°		45°		46°		48°		50°	
		Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs	Gt	Gs
10	6	0.980	0.989	0.980	0.989	0.980	0.989	0.980	0.989	0.980	0.989	0.980	0.989	0.980	0.989
	8	0.971	0.985	0.971	0.984	0.971	0.984	0.971	0.984	0.971	0.983	0.971	0.983	0.971	0.983
	10	0.962	0.980	0.962	0.979	0.962	0.979	0.962	0.979	0.962	0.978	0.962	0.978	0.962	0.977
	12	0.954	0.976	0.954	0.974	0.954	0.972	0.954	0.971	0.954	0.971	0.954	0.970	0.954	0.969
	14	0.947	0.973	0.947	0.971	0.947	0.969	0.947	0.968	0.947	0.968	0.947	0.966	0.947	0.965
	16	0.938	0.969	0.938	0.967	0.938	0.965	0.938	0.964	0.938	0.962	0.938	0.959	0.938	0.956
20	6	0.946	0.969	0.948	0.968	0.950	0.967	0.952	0.966	0.954	0.966	0.958	0.965	0.964	0.964
	8	0.927	0.960	0.929	0.959	0.931	0.958	0.933	0.957	0.935	0.956	0.939	0.955	0.943	0.954
	10	0.907	0.950	0.905	0.949	0.907	0.948	0.908	0.947	0.909	0.946	0.912	0.944	0.915	0.942
	12	0.891	0.942	0.892	0.941	0.893	0.939	0.894	0.937	0.895	0.936	0.897	0.933	0.900	0.930
	14	0.877	0.933	0.878	0.931	0.879	0.929	0.880	0.927	0.881	0.926	0.882	0.923	0.884	0.919
	16	0.863	0.925	0.864	0.922	0.865	0.918	0.866	0.916	0.866	0.914	0.867	0.910	0.869	0.905
30	6	0.891	0.939	0.894	0.938	0.897	0.937	0.900	0.936	0.902	0.935	0.907	0.934	0.913	0.933
	8	0.857	0.924	0.860	0.921	0.863	0.918	0.865	0.915	0.867	0.913	0.871	0.910	0.875	0.906
	10	0.829	0.909	0.831	0.905	0.833	0.901	0.835	0.898	0.836	0.896	0.839	0.891	0.842	0.886
	12	0.813	0.896	0.815	0.890	0.817	0.884	0.818	0.880	0.819	0.878	0.821	0.872	0.824	0.866
	14	0.796	0.883	0.797	0.875	0.798	0.867	0.799	0.861	0.801	0.859	0.803	0.851	0.805	0.843
	16	0.778	0.872	0.779	0.863	0.780	0.854	0.780	0.849	0.781	0.845	0.782	0.835	0.783	0.825
40	6	0.816	0.897	0.819	0.895	0.822	0.893	0.824	0.891	0.826	0.890	0.832	0.887	0.838	0.884
	8	0.776	0.875	0.779	0.873	0.782	0.871	0.784	0.870	0.786	0.868	0.790	0.862	0.795	0.858
	10	0.736	0.853	0.738	0.850	0.740	0.847	0.742	0.845	0.744	0.843	0.748	0.838	0.751	0.833
	12	0.745	0.838	0.747	0.834	0.749	0.830	0.750	0.827	0.751	0.825	0.753	0.820	0.756	0.814
	14	0.711	0.824	0.713	0.819	0.715	0.814	0.716	0.811	0.717	0.808	0.718	0.801	0.720	0.794
	16	0.695	0.809	0.696	0.803	0.697	0.797	0.697	0.794	0.698	0.790	0.698	0.783	0.699	0.775
50	6	0.731	0.856	0.736	0.853	0.741	0.851	0.744	0.849	0.747	0.848	0.755	0.845	0.764	0.841
	8	0.701	0.829	0.705	0.826	0.710	0.822	0.712	0.820	0.715	0.818	0.722	0.814	0.730	0.809
	10	0.671	0.802	0.675	0.799	0.679	0.795	0.681	0.797	0.683	0.794	0.687	0.789	0.692	0.783
	12	0.658	0.788	0.661	0.784	0.664	0.779	0.665	0.776	0.667	0.773	0.671	0.767	0.676	0.760
	14	0.645	0.773	0.647	0.767	0.649	0.761	0.651	0.758	0.652	0.753	0.655	0.755	0.658	0.747
	16	0.632	0.759	0.633	0.753	0.634	0.746	0.635	0.740	0.636	0.738	0.638	0.730	0.641	0.721

**Gt** - Glycol correction factor for total capacity

**Gs** - Glycol correction factor for sensible capacity

### GLYCOL PRESSURE DROP CORRECTION

%	ETHYLENE	PROPYLENE
10	1.054	1.072
20	1.119	1.159
30	1.188	1.254
40	1.262	1.363
50	1.347	1.483

## Airflow Correction Factors

% OF NOMINAL CFM	CORRECTION MULTIPLIER	
	Q <sub>tf</sub>	Q <sub>sf</sub>
130	1.13	1.18
125	1.11	1.17
120	1.09	1.15
115	1.07	1.12
110	1.05	1.08
105	1.03	1.03
100	1.00	1.00
95	0.97	0.96
90	0.95	0.93
85	0.92	0.89
80	0.89	0.85
75	0.86	0.82
70	0.83	0.78
65	0.81	0.74
60	0.78	0.70
55	0.75	0.67
50	0.72	0.63

**NOTES:** These correction multipliers are averaged. Results may differ when compared to the selection program.

## Altitude Correction Factors \*

ELEVATION	TOTAL CAPACITY	SENSIBLE CAPACITY
1000	0.99	0.96
2000	0.98	0.93
3000	0.97	0.89
4000	0.96	0.86
5000	0.94	0.83
6000	0.92	0.80

\*In Feet Above Sea Level

# Guide Specifications

Furnish and install YORK vertical floor consoles as indicated on the plans and specifications. Types, sizes, and performance shall be as indicated in the schedule. Each unit shall be ARI certified and consist of and comply with the following:

## CASINGS AND CABINETS

Flat Top Floor Model (**VFB**) and Slope Top Floor Model (**VSB**) – Cabinet shall be a vertical console type enclosure fabricated of heavy 18 gauge galvanized steel and finished with an electrostatically applied, baked-on light gray paint. Cabinet shall include a discharge grille angled to provide optimal air discharge and full width electrical and piping compartments. The discharge grille shall be made of heavy-duty, 18 gauge stamped steel and painted to match unit color. Units provided with unit mounted controls shall have a single access door. Cabinet shall be easily removed without tools for service.

Basic Unit (**VCB**) – Basic unit shall consist of base casing and removable front panel fabricated of heavy gauge galvanized steel with top duct discharge opening for installation in custom enclosure furnished by contractor.

## ELECTRICAL

Unit shall have an electrical box provided a single location for all field wiring connections and factory installed electrical disconnect.

## COILS

Coils shall have high efficiency aluminum fins with mechanically expanded copper tubes. All water coils shall have a manual air vent. Coil performance shall be as indicated in the schedule.

## FAN ASSEMBLY

Fans shall be centrifugal, forward curved, and dynamically balanced for smooth, quiet operation. Fan housing shall be fabricated of heavy gauge galvanized steel and be easily removed, thus allowing complete service access to the fans and motors.

## MOTORS

All units shall have (120/1/60) (208-240/1/60) (277/1/

60) (220/1/50) three speed motors with permanently lubricated sleeve bearings, permanent split capacitor, inherent thermal overload protection with automatic reset, and resilient rubber motor mounts.

## SPEED CONTROL (OPTIONAL)

Units shall have a (unit) (wall) mounted three speed switch with integral on/off switch which shall provide high / medium / low fan speed control.

## DRAIN PAN

Primary drain pan shall be constructed of galvanized steel and coated to resist corrosion. Secondary drain pan shall be constructed of injection molded plastic. Secondary drain pan shall be capable of rotating 180 degrees to allow field piping to enter the unit from different locations.

## INSULATION

Cabinet insulation shall be 1/2" multi-density glass fiber.

## FILTER

Filter shall be permanent type and cleanable.

## OPTIONS

Valve Packages – Valve packages shall consist of various combinations of 2-way or 3-way motorized valves and/or combination balance/shut-off valves on the supply and return piping.

Fresh Air Kit – A manual or motorized fresh air damper shall be provided by the manufacturer for field installation.

Tamperproof Access Door – Units shall be provided with tamperproof access door on the thermostat/fan control compartment.

