

# Rittling Induction Units

Catalog









Zehnder decorative radiators



Heating and cooling ceiling systems

**zehnder**

always the  
best climate



Comfortable indoor ventilation



Clean air solutions

Always the best climate for

# IMPROVED QUALITY OF LIFE

With Zehnder, you will find the perfect climate for any space.

[www.zehnder-systems.com](http://www.zehnder-systems.com)



---

# A trusted name in hydronic based equipment

Since 1946, when Charles Rittling founded Rittling Heat Transfer, Inc., the company has led the industry in quality, responsiveness and innovation. With patented and proven heating and cooling products and custom-build engineering with CAD design capabilities, Zehnder Rittling is a single source supplier for the full variety of hydronic solutions.

Based in Western New York, Zehnder Rittling employs a highly skilled and diverse work force. Certified ISO 9001:2008, the company prides itself on the skills of its employees, the design talent of its engineers and the cost savings innovations of management.

Whether you're an architect, engineer or contractor, Zehnder Rittling hydronic heating and cooling products are built to keep your job moving smoothly. Exacting quality control and on-time delivery systems make it easier to coordinate the many different components and aspects of large-scale construction projects. Our on-staff engineering department and CAD systems result in lower operating costs, reduced pricing and custom-build capabilities that rival any in the industry.

<b>Induction unit models</b>	<b>2</b>
<b>Application</b>	<b>4</b>
<b>Features</b>	<b>6</b>
<b>Options &amp; accessory equipment</b>	<b>8</b>
<b>Nomenclature</b>	<b>9</b>
<b>Technical data tables</b>	<b>10</b>
<b>Sound level charts</b>	<b>11</b>
<b>Performance data</b>	<b>12</b>
<b>Dimensions and data</b>	<b>21</b>
<b>Mechanical specifications</b>	<b>30</b>
<b>Warranty</b>	<b>31</b>

## Water control models

Nine models are available in low profile wall hung, wall hung and ceiling mounted types. Each model has 4 lengths and 5 nozzle arrangements to meet the desired air flow.

The vertical units are best suited for under the window applications to counteract downdrafts during the heating season. Horizontal units are the best choice where the use of full length draperies is desirable and heating requirements are not too severe.

### Ceiling models



**Model HC:**  
Horizontal ceiling 2-pipe system



**Model H4C:**  
Horizontal ceiling 4-pipe system

### Wall models



**Model VL:**  
Vertical wall with low profile 2-pipe system



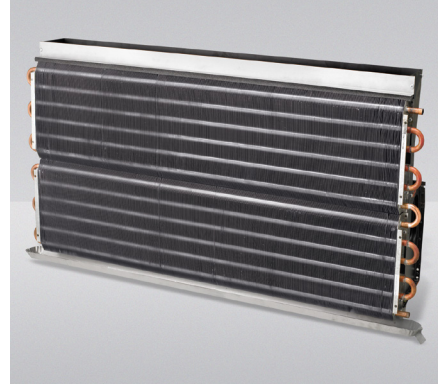
**Model V4L:**  
Vertical wall low profile 4-pipe system



## Wall models



**Model VH:**  
Vertical wall with heat recovery stack 2-pipe system



**Model V2H:**  
Vertical wall with heat recovery stack high capacity coil 2-pipe system



**Model V4H:**  
Vertical wall with heat recovery stack 4-pipe system



**Model VW:**  
Vertical wall 2-pipe system



**Model V4W:**  
Vertical wall 4-pipe system

# Application

Induction Systems were originally designed for the perimeter zones of multi-room, multi-story buildings such as office buildings, patient rooms in hospitals, apartments and hotels. By giving each room its own individual induction unit, it was possible to satisfy the individual cooling and heating loads in these perimeter zones.

The perimeter zone is the area running along the exterior walls of the building and extending 10 to 20 feet into the building. These perimeter zones are subjected to relatively constant heat gains from lights, people and miscellaneous equipment. In addition these areas are also subjected to the highly variable solar heat gains from the sun through the windows. Lastly, these areas are subjected to both heat gains and losses by transmission through the exterior walls/windows.

There will be times when some of the perimeter zones will need cooling while others need heating. For example, the eastern perimeter zones may need cooling in the morning while the western perimeter zones may need heating at the same time. In this instance the HVAC system must have the flexibility to alternatively provide either heating or cooling to every zone. When properly designed an induction system using a two-pipe water distribution network offers this flexibility.

Other air conditioning systems must use a more expensive 4-pipe water distribution network to offer this same flexibility. An Induction System makes use of two air streams and the water supplied to the induction unit to provide this flexibility. One air stream is delivered from the central air handlers and is referred to as the primary air. The other is referred to as secondary

air and is the room air that is induced over the water coil in the induction unit.

Primary air, generally 100% outside air, is filtered, cooled or heated and dehumidified or humidified at the central air handlers in the building. The primary air is then supplied to all the induction units through the duct work system. The primary air passes through the induction unit into the room where it adds or removes sensible heat and moisture. The conditioned primary air flows into the unit plenum and passes through its balancing damper to the induction nozzles. This balancing damper can handle up to 3-in. wg pressure drop without adversely affecting the unit's sound power level. The entire plenum is surrounded with acoustical insulation. As the primary air leaves the nozzles, it induces secondary (room) air through the unit's coils. Depending on the temperature of the water supplied to the coils, the secondary air will either be cooled or heated. In a 4-pipe system, separate circuits are provided for hot and cold water. The primary air provides the necessary ventilation, some heating or cooling and supplies the necessary motive power for inducing secondary flow.

Unit capacity is controlled either manually or by a room thermostat which modulates a field-installed control valve. The valve, in turn, modulates the water flow through the coils to maintain the desired room temperature.

Depending on the degree of modular flexibility desired, one thermostat can control one to three units.

The two air streams and water loop conditions can be controlled to provide either cooling or heating to every

perimeter zone. The system can be designed to deliver any combination of warm and cold air and/or water.

In general, a typical induction system design provides comfort as follows:

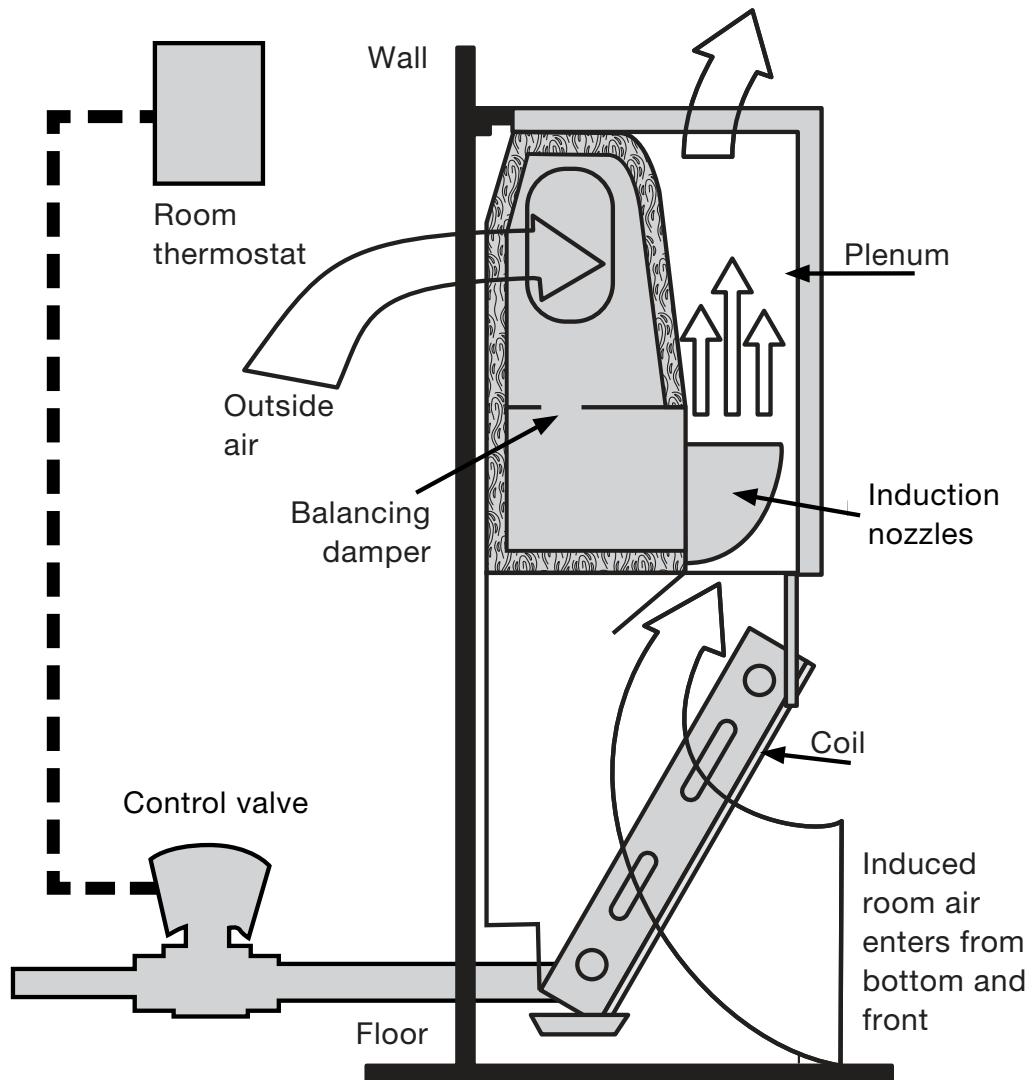
- Humidity is controlled by controlling the dew point temperature of the primary air.
- Cleanliness is controlled by filtering the primary air at the central air handlers. Lint screens are also used in room induction units to filter the secondary air.
- Air movement is controlled by the amount of primary air delivered and the amount of secondary air induced by the primary air.
- The room's dry bulb temperature is controlled by varying the temperature of the primary air and varying the secondary water flow and temperature so that the sensible heat gains or losses to the space are balanced.

There will likely be times during the intermediate seasons when some amount of reheating/recooling will occur to simultaneously satisfy every zone's heating or cooling load. This possibility can be largely eliminated if separate air handlers are used to serve each exposure and the interior zones.



# Application

## Water control operation



### 100% cooling

Damper closed, full air flow through coil

## Features and benefits

The Rittling Induction Unit is designed to provide air quality and acoustical performance similar to conventional displacement systems, but is designed for operations in North American climates. Standard induction principles are used to effectively blend conditioned outside air with filtered room air to deliver a constant volume (variable temperature) displacement supply of air to the space while maintaining comfortable space conditions.

Design and install your system with minimum controls to minimize first costs. Then, as tenants move in, control the newly occupied space by converting slave units to control units. Simply plug the self contained control option into the unit, there is no interruption in comfort to the adjacent areas.

With individual electric heat units supplying heat to rooms as required, the need for large volumes of primary air for heating in a non-changeover system is eliminated.

The specially designed balancing damper, acoustical plenum and high efficiency nozzles combine to ensure a quiet operation at all comfort demand levels.

Balancing the system from a primary air and water supply is easily done. Each balancing air damper is provided with a positive Allen-head operated adjustment screw for simple, precise adjustment. Out of the way location of the screw minimizes tampering by room occupants. Water balancing is just as uncomplicated. All units have the same water side pressure drop. This means uniform water flow in the piping system with less time and labor required for balancing.

Rittling Induction Units are used for space saving and economical air conditioning in office buildings, hotels, schools, apartments and elderly housing to provide year round comfort.

### Water control

A wide variety of models are available to meet the application. The water control unit offers vertical arrangement V2H, V4H, V4L, V4W, VH, VL and VW and horizontal arrangements: H4C and HC.

The vertical units are best suited for under the window applications to counteract downdrafts during the heating season. Horizontal units are the best choice where the use of full length draperies is desirable and heating requirements are not too severe.

### Why choose Zehnder Rittling?

#### ■ Heat and cool from a single terminal

Choose the most economical way to heat... hot water, steam or electric.

#### ■ Energy savings with gravity heat

On vertical units, the air distribution system can be shut down to save fan horsepower. Hot water circulates to maintain the temperature in unoccupied rooms. Simple, economical convector heating.

#### ■ Low central station air handling system costs

Installation costs are minimized by reducing the requirements for the building service connections for electricity, water and drainage.

#### ■ Automatic actual load adjustment

System operating costs are not materially affected by the excess capacity of the system. The terminals automatically adjust to the actual loads, allowing a wide design latitude, without paying the penalty

of high operating costs.

#### ■ Quiet, reliable operation

Each terminal has a specially designed balancing damper, acoustical plenum insulation and high efficiency nozzles and coils to ensure a reliable, quiet operation.

#### ■ Positive ventilation

Conditioned outside air is always being provided into the space for better indoor air quality.

#### ■ Constant air movement

The primary air provides continuous air movement and circulation throughout the space.

#### ■ Space saving design

Typically, units are wall hung (less than 8" wide) or ceiling mounted so less rentable floor space is used. The major portion of the cooling is done with water. This reduces the size of the air supply ducts used to supply air to each room. This enables the footprint of the space to be larger.

#### ■ Controlled space humidity year round

Primary air humidity can be controlled year round by the central air handling unit. Dehumidifying the air in the summer and humidifying the air in the winter, thus providing comfort to the end user.

#### ■ Complete design flexibility

The wide range of capacities and models, coupled with the fact that Zehnder Rittling offers units for both 2 and 4-pipe systems, leaves an almost unlimited range of cost and energy saving design options.

#### ■ Lower maintenance costs

With Rittling Induction Units, there are no moving parts thus reducing the required maintenance. Only the lint screens need an occasional cleaning.

#### ■ Even air temperature

No hot or cold spots. No drafts. Air is discharged smoothly and evenly throughout the space.

# Standard features

## A: Cooling/heating coil

### Standard 1-row, 6-tube

- Sturdy, mechanically bonded copper/aluminum coil with 13 fins per inch and 1/2" nominal tubes.
- Coil assemblies tested for a maximum of 250 psig working pressure.
- Optional coil connections are available.

## B: Drain pan

Non-drainable style.

## C: Air plenum

The air plenum will be constructed of 24-gauge epoxy painted galvanized steel. Internal areas shall be thermally and acoustically insulated with fiberglass insulation. Insulation to meet UL 723 for flame spread and smoke development. Plenum will be designed for series connection and shall contain a balancing damper to manually adjust the volume of primary air.

## D: Support bracket

A wall mounting strip is attached to the wall. The induction unit is hung from several heavy gauge support brackets on the wall mounting strip.

## E: Primary air nozzles

The induction nozzles are manufactured from a heat resistant, pliable plastic with five nozzle configurations available depending on quantity of primary air required.



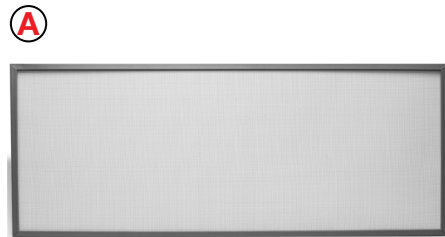
# Options and accessory equipment

## A: Lint screen

This special galvanized screen and frame attaches to the coil with four clips provided with the base unit. The screen protects the coil from dirt and lint and can easily be removed for cleaning, thus ensuring maximum coil efficiency.

## B: Drainable condensate pan

This special condensate pan, with 11/16-in. ODF sweat drain connection is available for applications such as hotels or apartments that may have periodic high-latent loads. Available as drainable left or right hand.



## C: Wall mounting strip

Wall mounting strip is made of 14-gauge galvanized steel and is required for hanging all vertical base units, enclosures and enclosure accessories. Base unit and its enclosures can be mounted on same strip. Strips are available in either 5- or 8-ft. lengths.

## D: Primary air transition fitting

Primary air transition fitting can provide air transition from the oval entrance on unit to a standard 4-in. round duct.

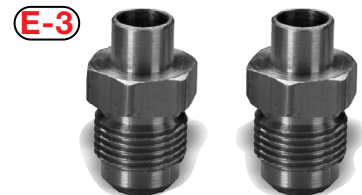


## E: Coil connections

Four types of connections are available on base unit:

1. Standard connection is 1/2-in. ODF sweat on both supply and return (not shown)
2. 1/2-in. ODF sweat with manual air vent on return and 1/2-in. ODF sweat on supply
3. 1/2-in. ODM flare on both supply and return
4. 1/2-in. ODM flare with manual air vent on return and 1/2-in. ODM flare on supply

The specified connection is factory mounted on the unit.





# Nomenclature

## Unit designations

1, 2, 3	4, 5	6	7	8	9
V2H	24	G	L	1	2

**Model**

- H4C = Horizontal ceiling hung, 4-pipe system - no controls
- HC = Horizontal ceiling hung, 2-pipe system - no controls
- V2H = Vertical wall hung with heat recovery stack, high capacity coil, 2-pipe system - no controls
- V4H = Vertical wall hung with heat recovery stack, 4-pipe system - no controls
- V4L = Vertical low profile wall hung, 4-pipe system - no controls
- V4W = Vertical wall hung, 4-pipe system - no controls
- VH = Vertical wall hung with heat recovery stack, 2-pipe system - no controls
- VL = Vertical low profile wall hung, 2 pipe system - no controls
- VW = Vertical wall hung, 2-pipe systems - no controls

**Plenum Length**

- 24 = 24"
- 32 = 32"
- 40 = 40"
- 52 = 52"

**Nozzle style**

- F = Gray
- G = Red
- H = Black
- J = Black & blue gray
- K = Blue gray

**Coil side connection**

- L = Left-hand
- R = Right-hand
- M = Left-hand same end connection (4-pipe only)
- S = Right-hand same end connection (4-pipe only)

**Coil connections style**

- 0 = 1/2" ODF Sweat
- 1 = 1/2" ODF Sweat w/vent
- 2 = 1/2" ODM flare
- 3 = 1/2" ODM flare w/vent

**Drain pan style**

- 1 = Non drainable - galvaneal
- 2 = Drainable = galvaneal

# Technical data

## Unit operating weights (lbs)

Model	Unit Size			
	24"	32"	40"	52"
<b>H4C</b>	38	48	56	70
<b>HC</b>	33	42	49	61
<b>V2H</b>	32	40	49	63
<b>V4H</b>	34	42	52	67
<b>V4L</b>	23	28	35	44
<b>V4W</b>	34	44	52	66
<b>VH</b>	29	37	45	58
<b>VL</b>	18	23	28	35
<b>VW</b>	28	37	43	54

**Notes**

- Weights include water in the coil but do not include field supplied control valve packages.

## Standard ratings

Unit size	Nozzle arrangement	Primary air (CFM)	Coil cooling capacity (Btuh)						
			HC & VW	VL	VH	V2H	H4C & V4W	V4L	V4H
<b>24"</b>	<b>F</b>	<b>19.4</b>	1960	2060	2510	2720	1770	1940	2360
	<b>G</b>	<b>27.2</b>	2570	2650	3180	3500	2320	2440	2930
	<b>H</b>	<b>38.9</b>	3090	3090	3650	4080	2790	2780	3290
	<b>J</b>	<b>50.8</b>	3380	3290	3780	4340	3040	2900	3330
	<b>K</b>	<b>62.8</b>	3590	3410	3850	4500	3230	2900	3270
<b>32"</b>	<b>F</b>	<b>25.3</b>	2600	2730	3330	3600	2340	2570	3130
	<b>G</b>	<b>35.4</b>	3370	3450	4140	4550	3030	3170	3810
	<b>H</b>	<b>50.5</b>	4030	4030	4740	5310	3620	3630	4270
	<b>J</b>	<b>64.9</b>	4350	4240	4870	5590	3910	3730	4290
	<b>K</b>	<b>81.6</b>	4610	4370	4930	5770	4150	3710	4190
<b>40"</b>	<b>F</b>	<b>31.1</b>	3290	3460	4220	4570	2960	3250	3970
	<b>G</b>	<b>43.5</b>	4220	4330	5180	5710	3800	3980	4770
	<b>H</b>	<b>62.2</b>	5010	5010	5910	6620	4510	4510	5320
	<b>J</b>	<b>81.3</b>	5380	5230	6000	6890	4840	4600	5280
	<b>K</b>	<b>100.5</b>	5680	5380	6070	7100	5110	4570	5160
<b>52"</b>	<b>F</b>	<b>40.8</b>	4210	4430	5390	5840	3790	4160	5070
	<b>G</b>	<b>57.1</b>	5330	5460	6550	7210	4800	5020	6030
	<b>H</b>	<b>81.6</b>	6330	6330	7460	8350	5700	5700	6710
	<b>J</b>	<b>105.5</b>	6730	6560	7550	8660	6050	5770	6640
	<b>K</b>	<b>131.9</b>	7100	6740	7610	8900	6390	5730	6470

**Notes**

- Units are rated in accordance with AHRI Standard 445-87, under the following conditions: 1.5 gpm of 50 °F water, 8 ft of water pressure drop thru coil (16 ft for V2H), 75 °F DB and 57 °F WB air entering coil and 1.5 in w.g. nozzle static pressure.

## Sound selection guide\*

NC level	Room effect (Lw - Lp)	Nozzle pressure (in w.g)				
		Unit nozzle arrangement				
		F	G	H	J	K
30	<b>8 dB</b>	2.4	2.2	2.0	1.8	1.5
<b>35</b>		<b>3.0</b>	<b>2.7</b>	<b>2.5</b>	<b>2.4</b>	<b>2.0</b>
40		3.5	3.5	3.2	3.1	2.6
45		3.5	3.5	3.5	3.5	3.5
30	<b>10 dB</b>	2.6	2.4	2.2	2.1	1.7
<b>35</b>		<b>3.3</b>	<b>3.1</b>	<b>2.9</b>	<b>2.7</b>	<b>2.3</b>
40		3.5	3.5	3.5	3.4	3.0
45		3.5	3.5	3.5	3.5	3.5

**Notes**

- Boldface entries are the commonly accepted levels for an office space.
- Consider nozzle pressure and nozzle selection when determining the design needed to meet sound requirements.
- \*Based upon 32" units with 1.5 in w.g. damper pressure drop.
- Lw = Sound power level (dB)
- Lp = Sound pressure level (dB)

# Sound power level ratings

Nozzle type	Nozzle pressure (in. wg)	Unit size 24"						Unit size 32"					
		Sound power level (dB re 10-12 watts)						Sound power level (dB re 10-12 watts)					
		Octave band mid-frequency, Hz						Octave band mid-frequency, Hz					
		250	500	1000	2000	4000	8000	250	500	1000	2000	4000	8000
F	0.5	-	-	-	-	-	-	-	-	-	-	-	-
G		-	-	-	-	-	-	-	-	-	-	-	-
H		32	-	-	-	-	-	33	-	-	-	-	-
J		34	29	25	24	21	-	35	29	25	23	21	-
K		36	31	27	28	24	23	36	31	27	27	24	-
F	1.5	38	34	30	27	26	27	39	35	31	28	27	28
G		39	36	31	29	28	29	40	37	32	30	29	30
H		41	38	34	32	31	32	42	39	35	32	31	32
J		44	40	37	35	33	34	44	40	37	35	33	34
K		46	42	39	38	36	37	46	42	39	38	36	37
F	2.5	42	40	36	34	35	37	43	41	37	35	36	38
G		44	41	38	36	36	39	45	42	39	37	37	40
H		46	43	40	39	39	41	47	44	41	39	39	41
J		48	45	42	41	41	42	48	45	42	41	41	42
K		50	47	45	44	43	44	50	47	45	44	43	45
F	3.5	45	43	40	39	40	44	46	44	42	40	42	45
G		47	45	42	41	42	45	48	46	43	42	43	46
H		49	47	44	43	44	47	50	48	45	44	45	48
J		51	49	46	45	46	48	51	49	46	45	46	49
K		53	50	48	48	48	50	53	51	49	48	48	51

\*Add 2 dB to every octave band sound power level to account for electric heater in discharge.

## Notes

- Lw for octave bands below 250 Hz are below normal background levels and need not be considered in the application of this data.
- Usage of the data presumes a well-designed air and water system which does not contribute to the unit sound power level.
- Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Nozzle type	Nozzle pressure (in. wg)	Unit size 40"						Unit size 52"					
		Sound power level (dB re 10-12 watts)						Sound power level (dB re 10-12 watts)					
		Octave band mid-frequency, Hz						Octave band mid-frequency, Hz					
		250	500	1000	2000	4000	8000	250	500	1000	2000	4000	8000
F	0.5	-	-	-	-	-	-	-	-	-	-	-	-
G		-	-	-	-	-	-	33	27	-	-	-	-
H		33	28	-	-	-	-	35	29	23	20	-	-
J		35	30	25	23	21	-	36	30	25	23	21	-
K		37	31	27	26	24	24	38	32	27	26	24	23
F	1.5	40	36	31	28	28	29	41	37	33	30	29	30
G		41	38	33	30	30	31	42	39	34	31	31	32
H		43	39	35	33	32	33	44	40	36	33	33	34
J		45	41	37	35	34	35	45	42	38	35	34	35
K		46	43	39	38	36	37	47	43	40	38	37	37
F	2.5	44	42	38	36	37	39	45	43	39	37	38	40
G		46	43	40	38	38	41	47	44	41	39	39	42
H		47	45	42	40	40	42	49	46	43	41	41	43
J		49	46	43	42	42	44	50	47	44	42	42	45
K		51	48	45	44	43	45	51	49	46	44	44	46
F	3.5	47	45	42	41	42	46	48	46	44	42	44	47
G		49	47	44	43	44	47	50	48	45	44	45	48
H		50	48	46	45	46	49	51	50	47	46	47	50
J		52	50	47	46	47	51	53	51	48	47	48	51
K		54	51	49	48	49	51	54	52	50	49	50	53

\*Add 2 dB to every octave band sound power level to account for electric heater in discharge.

## Notes

- Lw for octave bands below 250 Hz are below normal background levels and need not be considered in the application of this data.
- Usage of the data presumes a well-designed air and water system which does not contribute to the unit sound power level.
- Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

# Performance data

## H4C: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																				
		F				G				H				J				K				
		Unit Size																				
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	
15	324	1383 (0.89)																				
20	432	1820 (1.59)	1872 (0.94)			1888 (0.81)																
25	540	2251 (2.48)	2316 (1.47)	2358 (0.97)		2199 (1.26)	2402 (0.74)															
30	648	2678 (3.57)	2756 (2.11)	2806 (1.39)		2490 (1.82)	2720 (1.07)	2904 (0.71)		2375 (0.89)												
35	756		3192 (2.88)	3250 (1.90)	3233 (1.10)	2766 (2.48)	3022 (1.46)	3227 (0.97)		2612 (1.21)	2884 (0.71)											
40	864		3625 (3.76)	3691 (2.48)	3672 (1.44)	3030 (3.24)	3310 (1.91)	3534 (1.26)	3746 (0.73)	2837 (1.58)	3131 (0.94)			2646 (0.92)								
45	972			4129 (3.14)	4108 (1.82)		3587 (2.42)	3830 (1.60)	4060 (0.93)	3050 (2.01)	3367 (1.19)	3627 (0.78)		2823 (1.17)	3200 (0.72)							
50	1080			4565 (3.88)	4542 (2.25)		3854 (2.99)	4116 (1.97)	4362 (1.14)	3255 (2.48)	3594 (1.46)	3870 (0.96)	4151 (0.56)	2991 (1.45)	3391 (0.89)					2852 (0.95)		
55	1188				4974 (2.72)		4113 (3.62)	4392 (2.39)	4655 (1.39)	3453 (3.57)	3811 (1.77)	4105 (1.17)	4403 (0.68)	3152 (1.75)	3573 (1.07)	3860 (0.68)				2995 (1.15)		
60	1296				5403 (3.24)			4661 (2.85)	4940 (1.65)	3643 (3.57)	4022 (2.11)	4331 (1.39)	4645 (0.81)	3307 (2.09)	3748 (1.28)	4049 (0.81)				3131 (1.36)	3545 (0.81)	
65	1405				5832 (3.80)			4923 (3.34)	5217 (1.94)		4225 (2.48)	4550 (1.63)	4881 (0.95)	3455 (2.45)	3917 (1.50)	4231 (0.95)				3263 (1.60)	3693 (0.95)	
70	1512							5178 (3.88)	5488 (2.25)		4423 (2.87)	4763 (1.90)	5109 (1.10)	3599 (2.84)	4079 (1.74)	4407 (1.11)				3389 (1.86)	3836 (1.10)	4215 (0.72)
75	1620								5753 (2.58)		4615 (3.30)	4971 (2.18)	5331 (1.26)	3738 (3.26)	4237 (2.00)	4578 (1.27)	5027 (0.75)	3511 (2.13)	3974 (1.26)	4366 (0.83)		
80	1730									6012 (2.94)	4803 (3.76)	5173 (2.48)	5548 (1.44)	3873 (3.71)	4390 (2.27)	4743 (1.45)	5209 (0.86)	3629 (2.43)	4108 (1.44)	4513 (0.95)		
85	1838								6265 (3.32)		5370 (2.80)	5759 (1.62)		4539 (2.57)	4904 (1.63)	5385 (0.87)	3743 (2.74)	4238 (1.62)	4656 (1.07)			
90	1942								6515 (3.72)		5563 (3.14)	5966 (1.82)		4684 (2.88)	5060 (1.83)	5557 (1.09)	3855 (3.08)	4364 (1.82)	4794 (1.20)	5279 (0.69)		
95	2055									5751 (3.50)	6168 (2.03)		4825 (3.21)	5213 (2.04)	5725 (1.21)	3963 (3.43)	4486 (2.03)	4929 (1.34)	5427 (0.77)			
100	2160									5936 (3.87)	6367 (2.25)		4963 (3.56)	5362 (2.26)	5888 (1.34)	4069 (3.80)	4606 (2.25)	5060 (1.48)	5572 (0.86)			
105	2265											6561 (2.48)		5098 (3.92)	5508 (2.50)	6048 (1.48)		4722 (2.48)	5188 (1.63)	5713 (0.95)		
110	2375											6752 (2.72)			5650 (2.74)	6205 (1.63)		4836 (2.72)	5313 (1.79)	5851 (1.04)		
115	2482											6940 (2.97)			5790 (2.99)	6359 (1.78)		4948 (2.97)	5436 (1.96)	5986 (1.14)		
120	2590											7125 (3.24)			5927 (3.26)	6509 (1.94)		5057 (3.24)	5556 (2.13)	6118 (1.24)		
125	2700											7307 (3.51)			6061 (3.54)	6657 (2.10)		5164 (3.51)	5673 (2.32)	6247 (1.34)		
130	2810											7486 (3.80)			6194 (3.83)	6802 (2.27)		5269 (3.80)	5788 (2.51)	6374 (1.45)		
135	2918															6944 (2.45)			5901 (2.70)	6498 (1.57)		
140	3022															7084 (2.64)			6012 (2.91)	6620 (1.69)		
145	3130																7222 (2.83)		6121 (3.12)	6741 (1.81)		
150	3240															7358 (3.03)			6229 (3.34)	6859 (1.94)		
155	3350																7492 (3.23)		6334 (3.56)	6975 (2.07)		
160	3460															7624 (3.44)			6438 (3.80)	7089 (2.20)		
165	3565																7754 (3.66)			7202 (2.34)		
170	3675																7882 (3.89)			7313 (2.49)		

- Notes:**
- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
  - To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
  - The values in the ( ) indicate the nozzle pressure (inches of wg).
  - The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
  - All ratings include allowance for lint screens.
  - $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).
  - All ratings include reduction in capacity for double coil (4-pipe).



# Performance data

## HC: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																					
		F				G				H				J				K					
		Unit Size																					
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"		
15	324	1537 (0.89)																					
20	432	2022 (1.59)	2080 (0.94)		2098 (0.81)																		
25	540	2501 (2.48)	2573 (1.47)	2620 (0.97)		2443 (1.26)	2669 (0.74)																
30	648	2976 (3.57)	3062 (2.11)	3118 (1.39)		2767 (1.82)	3022 (1.07)	3227 (0.71)		2639 (0.89)													
35	756		3546 (2.88)	3611 (1.90)	3592 (1.10)	3074 (2.48)	3357 (1.46)	3585 (0.97)		2902 (1.21)	3204 (0.71)												
40	864		4028 (3.76)	4101 (2.48)	4080 (1.44)	3367 (3.24)	3678 (1.91)	3927 (1.26)	4163 (0.73)	3152 (1.58)	3479 (0.94)				2940 (0.92)								
45	972		4588 (3.14)	4564 (1.82)		3986 (2.42)	4256 (1.60)	4511 (0.93)	3389 (2.01)	3742 (1.19)	4030 (0.78)			3137 (1.17)	3555 (0.72)								
50	1080			5073 (3.88)	5046 (2.25)		4283 (2.99)	4573 (1.97)	4847 (1.14)	3617 (2.48)	3993 (1.46)	4300 (0.96)	4612 (0.56)	3324 (1.45)	3767 (0.89)					3169 (0.95)			
55	1188				5526 (2.72)	4570 (3.62)	4880 (2.39)	5173 (1.39)	3836 (3.00)	4235 (1.77)	4561 (1.17)	4892 (0.68)	3503 (1.75)	3970 (1.07)	4289 (0.68)					3328 (1.15)			
60	1296				6004 (3.24)			5179 (2.85)	5489 (1.65)	4048 (3.57)	4469 (2.11)	4812 (1.39)	5162 (0.81)	3674 (2.09)	4164 (1.28)	4499 (0.81)				3479 (1.36)	3939 (0.81)		
65	1405							5470 (3.34)	5797 (1.94)		4695 (2.48)	5056 (1.63)	5423 (0.95)	3839 (2.45)	4352 (1.50)	4702 (0.95)				3625 (1.60)	4104 (0.95)		
70	1512								6098 (2.25)		4915 (1.90)	5293 (1.10)	5677 (2.84)	3999 (1.74)	4533 (1.11)	4897				3765 (1.86)	4263 (1.10)	4683 (0.72)	
75	1620								6392 (2.58)		5128 (3.30)	5523 (2.18)	5924 (1.26)	4154 (3.26)	4708 (2.00)	5086 (1.27)	5586 (0.75)	3901 (2.13)	4416 (1.26)	4852 (0.83)			
80	1730								6680 (2.94)		5337 (3.76)	5747 (2.48)	6164 (1.44)	4304 (3.71)	4878 (2.27)	5270 (1.45)	5788 (0.86)	4032 (2.43)	4564 (1.44)	5015 (0.95)			
85	1838								6962 (3.32)		5966 (2.80)	6399 (1.62)			5043 (2.57)	5449 (1.63)	5984 (0.97)	4159 (2.74)	4709 (1.62)	5173 (1.07)			
90	1942										6181 (3.14)	6629 (1.82)			5204 (2.88)	5622 (1.83)	6175 (1.09)	4283 (3.08)	4849 (1.82)	5327 (1.20)	5866 (0.69)		
95	2055										6390 (3.50)	6854 (2.03)			5361 (3.21)	5792 (2.04)	6361 (1.21)	4403 (3.43)	4985 (2.03)	5476 (1.34)	6030 (0.77)		
100	2160											7074 (2.25)			5514 (3.56)	5958 (2.26)	6543 (1.34)	4521 (3.80)	5118 (2.25)	5622 (1.48)	6191 (0.86)		
105	2265												7290 (2.48)		5664 (3.92)	6120 (2.50)	6721 (1.48)		5247 (2.48)	5765 (1.63)	6348 (0.95)		
110	2375														7503 (2.72)		6278 (2.74)	6895 (1.63)		5374 (2.72)	5904 (1.79)	6501 (1.04)	
115	2482														7711 (2.97)		6433 (2.99)	7065 (1.78)		5498 (2.97)	6040 (1.96)	6651 (1.14)	
120	2590														7917 (3.24)		6586 (3.26)	7232 (1.94)		5619 (3.24)	6173 (2.13)	6797 (1.24)	
125	2700														8119 (3.51)		6735 (3.54)	7396 (2.10)		5738 (3.51)	6303 (2.32)	6941 (1.34)	
130	2810																7558 (2.27)		5854 (3.80)	6431 (2.51)	7082 (1.45)		
135	2918																	7716 (2.45)		6557 (2.70)	7220 (1.57)		
140	3022																	7872 (2.64)		6680 (2.91)	7356 (1.69)		
145	3130																		8025 (2.83)		6802 (3.12)	7490 (1.81)	
150	3240																		8176 (3.03)		6921 (3.34)	7621 (1.94)	
155	3350																		8325 (3.23)		7038 (3.56)	7750 (2.07)	
160	3460																		8471 (3.44)		7154 (3.80)	7877 (2.20)	
165	3565																					8002 (2.34)	
170	3675																					8126 (2.49)	

### Notes:

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula: (trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F  $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- All ratings include allowance for lint screens.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).
- All ratings include reduction in capacity for double coil (4-pipe).

# Performance data

## V2H: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																							
		F				G				H				J				K							
		Unit Size																							
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"				
15	324	2131 (0.89)																							
20	432	2803 (1.59)	2884 (0.94)			2839 (0.81)																			
25	540	3467 (2.48)	3567 (1.47)	3632 (0.97)		3306 (1.26)	3611 (0.74)																		
30	648	4125 (3.57)	4244 (2.11)	4321 (1.39)		3744 (1.82)	4089 (1.07)	4367 (0.71)		3484 (0.89)															
35	756		4915 (2.88)	5005 (1.90)	4979 (1.10)	4159 (2.48)	4543 (1.46)	4851 (0.97)		3831 (1.21)	4230 (0.71)														
40	864		5582 (3.76)	5684 (2.48)	5655 (1.44)	4556 (3.24)	4976 (1.91)	5314 (1.26)	5632 (0.73)	4160 (1.58)	4593 (0.94)			3784 (0.92)											
45	972			6359 (3.14)	6326 (1.82)		5393 (2.42)	5758 (1.60)	6103 (0.93)	4474 (2.01)	4939 (1.19)	5319 (0.78)		4037 (1.17)	4576 (0.72)										
50	1080			7031 (3.88)	6995 (2.25)		5795 (3.62)	6188 (2.39)	6558 (1.39)	4775 (1.48)	5271 (1.46)	5677 (0.96)	6088 (0.56)	4278 (1.45)	4849 (0.89)					3974 (0.95)					
55	1188				7660 (2.72)		6184 (3.62)	6603 (2.39)	6999 (1.39)	5064 (3.00)	5590 (1.77)	6021 (1.17)	6457 (0.68)	4508 (1.75)	5109 (1.07)	5520 (0.68)				4173 (1.15)					
60	1296				8332 (3.24)			7007 (2.85)	7427 (1.65)	5343 (3.57)	5899 (2.11)	6353 (1.39)	6813 (0.81)	4729 (2.09)	5360 (1.28)	5791 (0.81)				4363 (1.36)	4939 (0.81)				
65	1405				8981 (3.80)			7400 (3.34)	7844 (1.94)		6197 (2.48)	6674 (1.63)	7158 (0.95)	4941 (2.45)	5601 (1.50)	6051 (0.95)				4546 (1.60)	5146 (0.95)				
70	1512							7784 (3.88)	8251 (2.25)		6487 (2.87)	6987 (1.90)	7493 (1.10)	5147 (2.84)	5834 (1.74)	6303 (1.11)				4722 (1.86)	5345 (1.10)	5873 (0.72)			
75	1620								8648 (2.58)		6769 (3.30)	7290 (2.18)	7819 (1.26)	5346 (3.26)	6059 (2.00)	6546 (1.27)	7189 (0.75)	4892 (2.13)	5538 (1.26)	6084 (0.83)					
80	1730								9038 (2.94)		7045 (3.76)	7587 (2.48)	8137 (1.44)	5539 (3.71)	6278 (1.45)	6783 (0.86)	7449 (2.43)	5056 (1.44)	5724 (0.95)	6289 (0.95)					
85	1838								9419 (3.32)		7876 (2.80)	8447 (1.62)		6491 (2.57)	7012 (1.63)	7701 (0.97)	5216 (2.74)	5905 (1.62)	6487 (1.07)						
90	1942								9794 (3.71)		8159 (3.14)	8750 (1.82)		6698 (2.88)	7236 (1.83)	7947 (1.09)	5371 (3.08)	6080 (1.82)	6680 (1.20)	7356 (0.69)					
95	2055										8435 (3.50)	9047 (2.03)		6900 (3.21)	7455 (2.04)	8187 (1.21)	5522 (3.43)	6251 (2.03)	6868 (1.34)	7562 (0.77)					
100	2160										8707 (3.87)	9338 (2.25)		7097 (3.56)	7668 (2.26)	8421 (1.34)	5669 (3.80)	6417 (2.25)	7050 (1.48)	7764 (0.86)					
105	2265											9624 (2.48)		7290 (3.92)	7876 (2.50)	8649 (1.48)		6580 (2.48)	7229 (1.63)	7960 (0.95)					
110	2375											9904 (2.72)			8080 (2.74)	8873 (1.63)		6739 (2.72)	7403 (1.79)	8152 (1.04)					
115	2482											10179 (2.97)			8280 (2.99)	9093 (1.78)		6874 (2.97)	7574 (1.96)	8340 (1.14)					
120	2590											10450 (3.24)			8476 (3.26)	9308 (1.94)		7046 (3.24)	7741 (2.13)	8524 (1.24)					
125	2700											10717 (3.51)			8668 (3.54)	9519 (2.10)		7195 (3.51)	7905 (2.32)	8704 (1.34)					
130	2810											10979 (3.80)			8857 (3.83)	9727 (2.27)		7341 (3.80)	8065 (2.51)	8881 (1.45)					
135	2918															9931 (2.45)			8223 (2.70)	9054 (1.57)					
140	3022															10131 (2.64)			8377 (2.91)	9225 (1.69)					
145	3130															10328 (2.83)			8529 (3.12)	9392 (1.81)					
150	3240															10523 (3.03)			8679 (3.34)	9557 (1.94)					
155	3350															10714 (3.23)			8826 (3.56)	9719 (2.07)					
160	3460															10902 (3.44)			8971 (3.80)	9878 (2.20)					
165	3565															11088 (3.89)				10035 (2.34)					
170	3675															11272 (3.89)				10190 (2.49)					

- Notes:**
- Coil capacity for other than 25 °F  $\Delta$ T use the following formula: (trm - tew)/25 x rating at 25 °F  $\Delta$ T.
  - To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
  - The values in the ( ) indicate the nozzle pressure (inches of wg).
  - The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
  - All ratings include allowance for lint screens.
  - $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).

# Performance data

## V4H: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																			
		F				G				H				J				K			
		Unit Size																			
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"
15	324	1851 (0.89)																			
20	432	2436 (1.59)	2505 (0.94)			2375 (0.81)															
25	540	3012 (2.48)	3100 (1.47)	3156 (0.97)		2765 (1.26)	3021 (0.74)														
30	648	3584 (3.57)	3687 (2.11)	3754 (1.39)		3132 (1.82)	3421 (1.07)	3652 (0.71)		2803 (0.89)											
35	756		4270 (2.88)	4348 (1.90)	4326 (1.10)	3479 (2.48)	3800 (1.46)	4057 (0.97)		3083 (1.21)	3403 (0.71)										
40	864		4850 (3.76)	4939 (2.48)	4912 (1.44)	3811 (3.24)	4162 (1.91)	4445 (1.26)	4710 (0.73)	3347 (1.58)	3695 (0.94)			2900 (0.92)							
45	972			5525 (3.14)	5496 (1.82)		4510 (2.42)	4816 (1.60)	5104 (0.93)	3000 (2.01)	3974 (1.19)	4280 (0.78)		3094 (1.17)	3508 (0.72)						
50	1080			6108 (3.88)	6077 (2.25)		4847 (2.99)	5175 (1.97)	5485 (1.14)	3841 (2.48)	4241 (1.46)	4568 (0.96)	4899 (0.56)	3279 (1.45)	3716 (0.89)				2893 (0.95)		
55	1188				6654 (2.72)		5172 (3.62)	5523 (2.39)	5854 (1.39)	4074 (3.00)	4497 (1.77)	4894 (1.17)	5195 (0.68)	3455 (1.75)	3916 (1.07)	4231 (0.68)			3038 (1.15)		
60	1296				7230 (3.24)			5861 (2.85)	6212 (1.65)	4300 (3.57)	4746 (2.11)	5111 (1.39)	5482 (0.81)	3625 (2.09)	4108 (1.28)	4439 (0.81)			3177 (1.36)	3596 (0.81)	
65	1405				7812 (3.80)			6190 (3.34)	6562 (1.94)		4986 (2.48)	5370 (1.63)	5760 (0.95)	3788 (2.84)	4293 (1.50)	4591 (0.95)			3309 (1.60)	3746 (0.95)	
70	1512							6511 (3.88)	6901 (2.25)		5219 (2.87)	5621 (1.90)	6030 (1.10)	3945 (2.84)	4471 (1.74)	4831 (1.11)			3438 (1.86)	3899 (1.10)	
75	1620								7233 (2.58)		5446 (3.30)	5865 (2.18)	6291 (1.26)	4098 (3.26)	4645 (2.00)	5018 (1.27)	5511 (0.75)		3562 (2.13)	4032 (1.26)	
80	1730								7559 (2.94)		5667 (3.76)	6104 (2.48)	6547 (1.44)	4245 (3.71)	4812 (2.27)	5200 (1.27)	5710 (0.86)		3682 (2.43)	4167 (1.44)	
85	1838								7878 (3.32)		6336 (2.80)	6796 (1.62)		4975 (2.57)	5375 (1.63)	5903 (0.97)			3797 (2.74)	4300 (1.62)	
90	1942								8191 (3.72)		6564 (3.14)	7090 (1.82)		5289 (2.88)	5714 (1.83)	6275 (1.09)			3910 (3.08)	4426 (1.82)	
95	2055										6787 (3.50)	7280 (2.03)		5440 (3.21)	5878 (2.04)	6454 (1.21)			4127 (3.43)	4672 (2.03)	
100	2160										7005 (3.87)	7513 (2.25)		5440 (3.56)	5878 (2.26)	6454 (1.34)			4127 (3.80)	4672 (2.25)	
105	2265											7743 (2.48)		5588 (3.92)	6037 (2.50)	6630 (1.48)			4790 (2.48)	5262 (1.63)	5795 (0.95)
110	2375											7968 (2.72)			6194 (2.74)	6802 (1.63)			4906 (2.72)	5390 (1.79)	5935 (1.04)
115	2482											8190 (2.97)			6397 (2.99)	6970 (1.78)			5018 (2.97)	5514 (1.96)	6072 (1.14)
120	2590											8408 (3.24)			6497 (3.26)	7134 (1.94)			5130 (3.24)	5636 (2.13)	6205 (1.24)
125	2700											8622 (3.51)			6644 (3.54)	7296 (2.10)			5238 (3.51)	5757 (2.32)	6337 (1.34)
130	2810											8834 (3.80)			6790 (3.83)	7455 (2.27)			5344 (3.80)	5871 (2.51)	6465 (1.45)
135	2918																		5986 (2.70)	6592 (1.57)	
140	3022																		6099 (2.91)	6716 (1.69)	
145	3130																		6210 (3.12)	6837 (1.81)	
150	3240																		6318 (3.34)	6957 (1.94)	
155	3350																		6425 (3.56)	7076 (2.07)	
160	3460																		6531 (3.80)	7191 (2.20)	
165	3565																		7306 (2.34)		
170	3675																		7418 (3.89)		

### Notes:

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F  $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).
- All ratings include reduction in capacity for double coil (4-pipe system).

# Performance data

## V4L: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																					
		F				G				H				J				K					
		Unit Size																					
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"		
15	324	1517 (0.89)																					
20	432	1996 (1.59)	2054 (0.94)			1979 (0.81)																	
25	540	2469 (2.48)	2540 (1.47)	2587 (0.97)		2304 (1.26)	2516 (0.74)																
30	648	2938 (3.57)	3022 (2.11)	3079 (1.39)		2609 (1.82)	2850 (1.07)	3043 (0.71)		2375 (0.89)													
35	756		3500 (2.88)	3565 (1.90)	3546 (1.10)	2899 (2.48)	3166 (1.46)	3381 (0.97)		2612 (1.21)	2884 (0.71)												
40	864		3976 (3.76)	4048 (2.48)	4027 (1.44)	3175 (3.24)	3468 (1.91)	3703 (1.26)	3926 (0.73)	2837 (1.58)	3131 (0.94)			2523 (0.92)									
45	972			4529 (3.14)	4506 (2.25)		3758 (2.42)	4013 (1.60)	4254 (0.93)	3050 (2.01)	3368 (1.19)	3627 (0.78)		2691 (1.17)	3050 (0.72)								
50	1080			5007 (3.88)	4981 (2.25)		4039 (2.99)	4312 (1.97)	4571 (1.14)	3255 (2.48)	3594 (1.46)	3870 (0.96)	4151 (0.56)	2852 (1.45)	3231 (0.89)					2560 (0.95)			
55	1188				5454 (2.72)		4310 (3.62)	4602 (2.39)	4958 (1.39)	3453 (3.00)	3812 (1.77)	4105 (1.17)	4403 (0.68)	3005 (1.75)	3407 (1.07)	3680 (0.68)				2687 (1.15)			
60	1296				5926 (3.24)			4883 (2.85)	5176 (1.65)	3643 (3.57)	4022 (2.11)	4335 (1.39)	4646 (0.81)	3152 (2.09)	3573 (1.28)	3861 (0.81)				2809 (1.36)	3181 (0.81)		
65	1405				6396 (3.80)			5158 (3.34)	5467 (1.94)		4226 (2.48)	4559 (1.63)	4881 (0.95)	3294 (2.45)	3734 (1.50)	4034 (0.95)				2927 (1.60)	3314 (0.95)		
70	1512							5425 (3.88)	5750 (2.25)		4424 (2.87)	4769 (1.90)	5109 (1.10)	3431 (2.84)	3889 (1.74)	4202 (1.11)				3040 (1.86)	3442 (1.10)	3782 (0.72)	
75	1620								6028 (2.58)		4615 (3.30)	4971 (2.18)	5332 (1.26)	3564 (3.26)	4039 (2.00)	4364 (1.27)	4793 (0.75)	5134 (2.13)	3359 (1.26)	3803 (1.26)	4177 (0.83)	4736 (0.83)	
80	1730								6300 (2.94)		4803 (3.76)	5172 (2.48)	5548 (1.44)	3693 (3.71)	4183 (2.27)	4522 (1.45)	4966 (0.86)	3256 (2.43)	3686 (1.44)	4050 (0.95)			
85	1838								6565 (3.32)			5370 (2.80)	5759 (1.62)		4327 (2.57)	4675 (1.63)	5134 (0.97)	3359 (2.74)	3803 (1.62)	4177 (1.07)			
90	1942								6826 (3.72)			5563 (3.14)	5966 (1.82)		4465 (2.88)	4824 (1.83)	5298 (1.09)	3459 (3.08)	3915 (1.82)	4301 (1.20)	4736 (0.69)		
95	2055											5751 (3.50)	6169 (2.03)		4600 (3.21)	4970 (2.04)	5458 (1.21)	3556 (3.43)	4025 (2.03)	4423 (1.34)	4870 (0.77)		
100	2160											5936 (3.87)	6367 (2.25)		4731 (3.56)	5112 (2.26)	5614 (1.34)	3651 (3.80)	4133 (2.25)	4540 (1.48)	5000 (0.86)		
105	2265												6561 (2.48)		4860 (3.92)	5251 (2.50)	5766 (1.48)		4237 (2.48)	4655 (1.63)	5126 (0.95)		
110	2375												6753 (2.72)			5387 (2.74)	5916 (1.63)		4340 (2.72)	4768 (1.79)	5250 (1.04)		
115	2482												6940 (2.97)			5520 (2.99)	6061 (1.78)		4440 (2.97)	4877 (1.96)	5370 (1.14)		
120	2590												7126 (3.24)			5651 (3.26)	6205 (1.94)		4537 (3.24)	4985 (2.13)	5489 (1.24)		
125	2700												7307 (3.51)			5780 (3.54)	6346 (2.10)		4633 (3.51)	5090 (2.32)	5605 (1.34)		
130	2810												7485 (3.80)			5905 (3.83)	6485 (2.27)		4727 (3.80)	5194 (2.51)	5719 (1.45)		
135	2918																		6620 (2.45)		5295 (2.70)	5830 (1.57)	
140	3022																		6754 (2.64)		5395 (2.91)	5940 (1.69)	
145	3130																		6885 (2.83)		5493 (3.12)	6048 (1.81)	
150	3240																		7075 (3.03)		5589 (3.34)	6154 (1.94)	
155	3350																		7142 (3.23)		5683 (3.56)	6259 (2.07)	
160	3460																		7268 (3.44)		5777 (3.80)	6361 (2.20)	
165	3565																		7392 (3.66)			6462 (2.34)	
170	3675																		7515 (3.89)			6560 (2.49)	

- Notes:**
- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
  - To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
  - The values in the ( ) indicate the nozzle pressure (inches of wg).
  - The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
  - All ratings include allowance for lint screens.
  - $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).
  - All ratings include reduction in capacity for double coil (4-pipe).



# Performance data

## V4W: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																				
		F				G				H				J				K				
		Unit Size																				
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	
15	324	1383 (0.89)																				
20	432	1820 (1.59)	1872 (0.94)			1888 (0.81)																
25	540	2251 (2.48)	2316 (1.47)	2358 (0.97)		2199 (1.26)	2402 (0.74)															
30	648	2678 (3.57)	2756 (2.11)	2806 (1.39)		2490 (1.82)	2720 (1.07)	2904 (0.71)		2375 (0.89)												
35	756		3192 (2.88)	3250 (1.90)	3233 (1.10)	2766 (2.48)	3022 (1.46)	3227 (0.97)		2612 (1.21)	2884 (0.71)											
40	864		3625 (3.76)	3691 (2.48)	3672 (1.44)	3030 (3.24)	3310 (1.91)	3534 (1.26)	3746 (0.73)	2837 (1.58)	3131 (0.94)			2646 (0.92)								
45	972			4129 (3.14)	4108 (1.82)		3587 (2.42)	3830 (1.60)	4060 (0.93)	3050 (2.01)	3367 (1.19)	3627 (0.78)		2823 (1.17)	3200 (0.72)							
50	1080			4565 (3.88)	4542 (2.25)		3854 (2.99)	4116 (1.97)	4362 (1.14)	3255 (2.48)	3594 (1.46)	3870 (0.96)	4151 (0.56)	2991 (1.45)	3391 (0.89)				2852 (0.95)			
55	1188				4974 (2.72)		4113 (2.39)	4392 (1.39)	4655 (3.00)	3453 (1.77)	3811 (1.17)	4105 (0.68)	4403 (1.50)	3152 (0.68)	3573 (1.07)	3860 (0.68)			2995 (1.15)			
60	1296				5403 (3.24)			4661 (2.85)	4940 (1.65)	3643 (3.57)	4022 (2.11)	4331 (1.39)	4645 (0.81)	3307 (2.09)	3748 (1.28)	4049 (0.81)			3131 (1.36)	3545 (0.81)		
65	1405				5832 (3.80)			4923 (3.34)	5217 (1.94)		4225 (2.48)	4550 (1.63)	4881 (0.95)	3455 (2.45)	3917 (1.50)	4231 (0.95)			3263 (1.60)	3693 (0.95)		
70	1512							5178 (3.88)	5488 (2.25)		4423 (2.87)	4763 (1.90)	5109 (1.10)	3599 (2.84)	4079 (1.74)	4407 (1.11)			3389 (1.86)	3836 (1.10)	4215 (0.72)	
75	1620								5753 (2.58)		4615 (3.30)	4971 (2.18)	5331 (1.26)	3738 (3.26)	4237 (2.00)	4578 (1.27)	5027 (0.75)	3511 (2.13)	3974 (1.26)	4366 (0.83)		
80	1730								6012 (2.94)		4803 (3.76)	5173 (2.48)	5548 (1.44)	3873 (3.71)	4390 (2.27)	4743 (1.45)	5209 (0.86)	3629 (2.43)	4108 (1.44)	4513 (0.95)		
85	1838								6265 (3.32)		5370 (3.32)	5759 (2.80)	5759 (1.62)	4539 (2.80)	4904 (1.62)	5385 (2.57)	3743 (1.63)	4238 (0.97)	4656 (2.74)	4656 (1.62)	5279 (1.07)	
90	1942								6515 (3.72)			5563 (3.14)	5966 (1.82)	4684 (2.88)	5060 (1.83)	5557 (1.09)	3855 (3.08)	4364 (1.82)	4794 (1.20)	5279 (0.69)		
95	2055											5751 (3.50)	6168 (2.03)	4825 (3.21)	5213 (2.04)	5725 (1.21)	3963 (3.43)	4486 (2.03)	4929 (1.34)	5427 (0.77)		
100	2160											5936 (3.87)	6367 (2.25)	4963 (3.56)	5362 (2.26)	5888 (1.34)	4069 (3.80)	4606 (2.25)	5060 (1.48)	5572 (0.86)		
105	2265												6561 (2.48)	5098 (3.92)	5508 (2.50)	6048 (1.48)		4722 (2.48)	5188 (1.63)	5713 (0.95)		
110	2375												6752 (2.72)			5650 (2.74)	6205 (1.63)		4836 (2.72)	5313 (1.79)	5851 (1.04)	
115	2482												6940 (2.97)			5790 (2.99)	6359 (1.78)		4948 (2.97)	5436 (1.96)	5986 (1.14)	
120	2590												7125 (3.24)			5927 (3.26)	6509 (1.94)		5057 (3.24)	5556 (2.13)	6118 (1.24)	
125	2700												7307 (3.51)			6061 (3.54)	6657 (2.10)		5164 (3.51)	5673 (2.32)	6247 (1.34)	
130	2810												7486 (3.80)			6194 (3.83)	6802 (2.27)		5269 (3.80)	5788 (2.51)	6374 (1.45)	
135	2918																6944 (2.45)		5901 (2.70)	6498 (1.57)		
140	3022																7084 (2.64)		6012 (2.91)	6620 (1.69)		
145	3130																	7222 (2.83)		6121 (3.12)	6741 (1.81)	
150	3240																	7358 (3.03)		6229 (3.34)	6859 (1.94)	
155	3350																	7492 (3.23)		6334 (3.56)	6975 (2.07)	
160	3460																	7624 (3.44)		6438 (3.80)	7089 (2.20)	
165	3565																		7754 (3.66)		7202 (2.34)	
170	3675																		7882 (3.89)		7313 (2.49)	

### Notes:

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula: (trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F  $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- All ratings include allowance for lint screens.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).
- All ratings include reduction in capacity for double coil (4-pipe system).

# Performance data

## VH: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																			
		F				G				H				J				K			
		Unit Size																			
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"
15	324	1969 (0.89)																			
20	432	2591 (1.59)	2665 (0.94)			2581 (0.81)															
25	540	3204 (2.48)	3297 (1.47)	3357 (0.97)		3005 (1.26)	3283 (0.74)														
30	648	3812 (3.57)	3922 (2.11)	3994 (1.39)		3404 (1.82)	3718 (1.07)	3970 (0.71)		3114 (0.89)											
35	756		4543 (2.88)	4626 (1.90)	4602 (1.10)	3781 (2.48)	4130 (1.46)	4410 (0.97)		3425 (1.21)	3781 (0.71)										
40	864		5159 (3.76)	5254 (2.48)	5226 (1.44)	4142 (3.24)	4524 (1.91)	4831 (1.26)	5120 (0.73)	3719 (1.58)	4106 (0.94)			3296 (0.92)							
45	972			5878 (3.14)	5847 (1.82)		4902 (2.42)	5235 (1.60)	5548 (0.93)	4000 (2.01)	4415 (1.19)	4755 (0.78)		3516 (1.17)	3986 (0.72)						
50	1080			6498 (3.88)	6465 (2.25)		5268 (2.99)	5625 (1.97)	5962 (1.14)	4268 (2.48)	4712 (1.46)	5075 (0.96)	5443 (0.56)	3726 (1.45)	4223 (0.89)				3404 (0.95)		
55	1188				7079 (2.72)		5622 (3.62)	6003 (2.39)	6363 (1.39)	4527 (3.00)	4997 (1.77)	5382 (1.17)	5772 (0.68)	3926 (1.75)	4450 (1.07)	4808 (0.68)			3574 (1.15)		
60	1296				7691 (3.24)			6370 (2.85)	6752 (1.65)	4777 (3.57)	5273 (2.11)	5679 (1.39)	6091 (0.81)	4119 (2.09)	4668 (1.28)	5044 (0.81)			3737 (1.36)	4230 (0.81)	
65	1405				8301 (3.80)			6728 (3.34)	7131 (1.94)		5540 (2.48)	5966 (1.63)	6399 (0.95)	4304 (2.45)	4878 (1.50)	5271 (0.95)			3893 (1.60)	4407 (0.95)	
70	1512							7077 (3.88)	7501 (2.25)		5799 (2.87)	6246 (1.90)	6699 (1.10)	4483 (2.84)	5081 (1.74)	5490 (1.11)			4044 (1.86)	4578 (1.10)	
75	1620								7862 (2.58)		6051 (3.30)	6517 (2.18)	6990 (1.26)	4656 (3.26)	5278 (2.00)	5702 (1.27)	6262 (0.75)	4190 (2.13)	4743 (1.26)		
80	1730								8216 (2.94)		6297 (3.76)	6782 (2.48)	7274 (1.44)	4824 (3.71)	5468 (2.27)	5908 (1.45)	6488 (0.86)	4331 (2.43)	4902 (1.44)		
85	1838								8563 (3.32)			7040 (2.80)	7551 (1.62)		5653 (2.57)	6108 (1.63)	6708 (0.97)	4467 (2.74)	5057 (1.62)		
90	1942								8903 (3.72)			7293 (3.14)	7822 (1.82)		5834 (2.88)	6303 (1.83)	6922 (1.09)	4600 (3.08)	5207 (1.82)		
95	2055											7541 (3.50)	8088 (2.03)		6010 (3.21)	6493 (2.04)	7131 (1.21)	4729 (3.43)	5354 (2.03)		
100	2160											7783 (3.87)	8348 (2.25)		6182 (3.56)	6679 (2.26)	7334 (1.34)	4855 (3.80)	5496 (2.25)		
105	2265												8603 (2.48)		6350 (3.92)	6860 (2.50)	7534 (1.48)		5635 (2.48)	6191 (1.63)	6818 (0.95)
110	2375												8853 (2.72)			7038 (2.74)	7729 (1.63)		5771 (2.72)	6341 (1.79)	6982 (1.04)
115	2482												9100 (2.97)			7212 (2.99)	7920 (1.78)		5904 (2.97)	6487 (1.96)	7143 (1.14)
120	2590												9342 (3.24)			7383 (3.26)	8107 (1.94)		6035 (3.24)	6630 (2.13)	7300 (1.24)
125	2700												9580 (3.51)			7550 (3.54)	8291 (2.10)		6162 (3.51)	6770 (2.32)	7455 (1.34)
130	2810												9815 (3.80)			7715 (3.83)	8472 (2.27)		6287 (3.80)	6907 (2.51)	7606 (1.45)
135	2918																8650 (2.45)			7042 (2.70)	7755 (1.57)
140	3022																8824 (2.64)			7175 (2.91)	7901 (1.69)
145	3130																8996 (2.83)			7305 (3.12)	8044 (1.81)
150	3240																9165 (3.03)			7433 (3.34)	8185 (1.94)
155	3350																9332 (3.23)			7559 (3.56)	8324 (2.07)
160	3460																9496 (3.44)			7683 (3.80)	8460 (2.20)
165	3565																9658 (3.66)				8595 (2.34)
170	3675																9818 (3.89)				8727 (2.49)

**Notes:**

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- All ratings include allowance for lint screens.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).

# Performance data

## VL: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																					
		F				G				H				J				K					
		Unit Size																					
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"		
15	324	1614 (0.89)																					
20	432	2123 (1.59)	2185 (0.94)			2151 (0.81)																	
25	540	2626 (2.48)	2702 (1.47)	2752 (0.97)		2504 (1.26)	2735 (0.74)																
30	648	3125 (3.57)	3215 (2.11)	3274 (1.39)		2836 (1.82)	3098 (1.07)	3308 (0.71)		2639 (0.89)													
35	756		3724 (2.88)	3792 (1.90)	3772 (1.10)	3151 (2.48)	3441 (1.46)	3675 (0.97)		2902 (1.21)	3204 (0.71)												
40	864		4229 (3.76)	4306 (2.48)	4284 (1.44)	3451 (3.24)	3770 (1.91)	4025 (1.26)	4267 (0.73)	3152 (1.58)	3479 (0.94)			2867 (0.92)									
45	972			4818 (3.14)	4793 (1.82)		4085 (2.42)	4362 (1.60)	4624 (0.93)	3389 (2.01)	3742 (1.19)	4030 (0.78)		3058 (1.17)	3466 (0.72)								
50	1080			5326 (3.88)	5299 (2.25)		4390 (2.99)	4687 (1.97)	4968 (1.14)	3617 (2.48)	3993 (1.46)	4300 (0.96)	4612 (0.56)	3241 (1.45)	3673 (0.89)				3011 (0.95)				
55	1188				5803 (2.72)		4685 (3.62)	5002 (2.39)	5302 (1.39)	3836 (3.00)	4235 (1.77)	4561 (1.17)	4892 (0.68)	3415 (1.75)	3871 (1.07)	4182 (0.68)			3161 (1.15)				
60	1296				6304 (3.24)			5308 (2.85)	5626 (1.65)	4048 (3.57)	4469 (2.11)	4812 (1.39)	5162 (0.81)	3582 (2.09)	4060 (1.28)	4387 (0.81)			3305 (1.36)	3742 (0.81)			
65	1405				6804 (3.80)			5606 (3.34)	5942 (1.94)		4695 (2.48)	5056 (1.63)	5423 (0.95)	3743 (2.45)	4243 (1.50)	4584 (0.95)			3444 (1.60)	3898 (0.95)			
70	1512							5897 (3.88)	6250 (2.25)		4915 (2.87)	5293 (1.90)	5677 (1.10)	3899 (2.84)	4419 (1.74)	4775 (1.11)			3577 (1.86)	4049 (1.10)	4449 (0.72)		
75	1620								6552 (2.58)		5128 (3.30)	5523 (2.18)	5924 (1.26)	4050 (3.26)	4590 (2.00)	4959 (1.27)	5446 (0.75)	3706 (2.13)	4195 (1.26)	4609 (0.83)			
80	1730								6847 (2.94)		5337 (3.76)	5747 (2.48)	6164 (1.44)	4196 (3.71)	4756 (2.27)	5138 (1.45)	5643 (0.86)	3830 (2.43)	4336 (1.44)	4764 (0.95)			
85	1838								7136 (3.32)		5966 (2.80)	6399 (1.62)		4917 (2.80)	5312 (1.62)	5834 (2.57)	3951 (1.63)	4473 (0.97)	4914 (2.74)				
90	1942								7419 (3.72)		6181 (3.14)	6629 (1.82)		5074 (2.88)	5482 (1.83)	6020 (1.09)	4069 (3.08)	4606 (1.82)	5060 (1.20)	5572 (0.69)			
95	2055										6390 (3.50)	6854 (2.03)		5227 (3.21)	5647 (2.04)	6202 (1.21)	4183 (3.43)	4735 (2.03)	5203 (1.34)	5729 (0.77)			
100	2160										6596 (3.87)	7074 (2.25)		5376 (3.56)	5809 (2.26)	6379 (1.34)	4295 (3.80)	4862 (2.25)	5341 (1.48)	5881 (0.86)			
105	2265												7290 (2.48)	5523 (3.92)	5967 (2.50)	6552 (1.48)		4985 (2.48)	5476 (1.63)	6030 (0.95)			
110	2375												7503 (2.72)		6121 (2.74)	6722 (1.63)		5105 (2.72)	5609 (1.79)	6176 (1.04)			
115	2482												7711 (2.97)		6272 (2.99)	6888 (1.78)		5223 (2.97)	5738 (1.96)	6318 (1.14)			
120	2590												7917 (3.24)		6421 (3.26)	7051 (1.94)		5338 (3.24)	5864 (2.13)	6457 (1.24)			
125	2700												8119 (3.51)		6567 (3.54)	7211 (2.10)		5451 (3.51)	5988 (2.32)	6594 (1.34)			
130	2810												8317 (3.80)		6710 (3.83)	7369 (2.27)		5561 (3.80)	6110 (2.51)	6728 (1.45)			
135	2918																7523 (2.45)		6229 (2.70)	6859 (1.57)			
140	3022																7675 (2.64)		6346 (2.91)	6988 (1.69)			
145	3130																7824 (2.83)		6462 (3.12)	7115 (1.81)			
150	3240																7972 (3.03)		6575 (3.34)	7240 (1.94)			
155	3350																	8116 (3.23)		6686 (3.56)	7363 (2.07)		
160	3460																	8259 (3.44)		6796 (3.80)	7483 (2.20)		
165	3565																	8400 (3.66)		7602 (2.34)			
170	3675																	8539 (3.89)		7719 (2.49)			

### Notes:

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- All ratings include allowance for lint screens.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).

# Performance data

## VW: Cooling coil capacities (Btuh)

Cfm	F $\Delta$ T (Btuh) Capacity 20°	Nozzle Arrangement																							
		F				G				H				J				K							
		Unit Size																							
		24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"	24"	32"	40"	52"				
15	324	1537 (0.89)																							
20	432	2022 (1.59)	2080 (0.94)			2098 (0.81)																			
25	540	2501 (2.48)	2573 (1.47)	2620 (0.97)		2443 (1.26)	2669 (0.74)																		
30	648	2976 (3.57)	3062 (2.11)	3118 (1.39)		2767 (1.82)	3022 (1.07)	3227 (0.71)		2639 (0.89)															
35	756		3546 (2.88)	3611 (1.90)	3592 (1.10)	3074 (2.48)	3357 (1.46)	3585 (0.97)		2902 (1.21)	3204 (0.71)														
40	864		4028 (3.76)	4101 (2.48)	4080 (1.44)	3367 (3.24)	3678 (1.91)	3927 (1.26)	4163 (0.73)	3152 (1.58)	3479 (0.94)			2940 (0.92)											
45	972			4588 (3.14)	4564 (1.82)		3986 (2.42)	4256 (1.60)	4511 (0.93)	3389 (2.01)	3742 (1.19)	4030 (0.78)		3137 (1.17)	3555 (0.72)										
50	1080			5073 (3.88)	5046 (2.25)		4283 (2.99)	4573 (1.97)	4847 (1.14)	3617 (2.48)	3993 (1.46)	4300 (0.96)	4612 (0.56)	3324 (1.45)	3767 (0.89)					3169 (0.95)					
55	1188				5526 (2.72)		4570 (3.62)	4880 (2.39)	5173 (1.39)	3836 (3.00)	4235 (1.77)	4561 (1.17)	4892 (0.68)	3503 (1.75)	3970 (1.07)	4289 (0.68)				3328 (1.15)					
60	1296				6004 (3.24)			5179 (2.85)	5489 (1.65)	4048 (3.57)	4469 (2.11)	4812 (1.39)	5162 (0.81)	3674 (2.09)	4164 (1.28)	4499 (0.81)				3479 (1.36)	3939 (0.81)				
65	1405							5470 (3.34)	5797 (1.94)		4695 (2.48)	5056 (1.63)	5423 (0.95)	3839 (2.45)	4352 (1.50)	4702 (0.95)				3625 (1.60)	4104 (0.95)				
70	1512								6098 (2.25)		4915 (2.87)	5293 (1.90)	5677 (1.10)	3999 (2.84)	4533 (1.74)	4897 (1.11)				3765 (1.86)	4263 (1.10)	4683 (0.72)			
75	1620								6392 (2.58)		5128 (3.30)	5523 (2.18)	5924 (1.26)	4154 (3.26)	4708 (2.00)	5086 (1.27)	5586 (0.75)	3901 (2.13)	4416 (1.26)	4852 (0.83)					
80	1730								6680 (2.94)		5337 (3.76)	5747 (2.48)	6164 (1.44)	4304 (3.71)	4878 (2.27)	5270 (1.45)	5788 (0.86)	4032 (2.43)	4564 (1.44)	5015 (0.95)					
85	1838								6962 (3.32)			5966 (2.80)	6399 (1.62)		5043 (2.57)	5449 (1.63)	5984 (0.97)	4159 (2.74)	4709 (1.62)	5173 (1.07)					
90	1942											6181 (3.14)	6629 (1.82)		5204 (2.88)	5622 (1.83)	6175 (1.09)	4283 (3.08)	4849 (1.82)	5327 (1.20)	5866 (0.69)				
95	2055											6390 (3.50)	6854 (2.03)		5361 (3.21)	5792 (2.04)	6361 (1.21)	4403 (3.43)	4985 (2.03)	5476 (1.34)	6030 (0.77)				
100	2160												7074 (2.25)		5514 (3.56)	5958 (2.26)	6543 (1.34)	4521 (3.80)	5118 (2.25)	5622 (1.48)	6191 (0.86)				
105	2265												7290 (2.48)		5664 (3.92)	6120 (2.50)	6721 (1.48)		5247 (2.48)	5765 (1.63)	6348 (0.95)				
110	2375												7503 (2.72)			6278 (2.74)	6895 (1.63)		5374 (2.72)	5904 (1.79)	6501 (1.04)				
115	2482												7711 (2.97)			6433 (2.99)	7065 (1.78)		5498 (2.97)	6040 (1.96)	6651 (1.14)				
120	2590												7917 (3.24)			6586 (3.26)	7232 (1.94)		5619 (3.24)	6173 (2.13)	6797 (1.24)				
125	2700												8119 (3.51)			6735 (3.54)	7396 (2.10)		5738 (3.51)	6303 (2.32)	6941 (1.34)				
130	2810																7558 (2.27)		5854 (3.80)	6431 (2.51)	7082 (1.45)				
135	2918																	7716 (2.45)		6557 (2.70)	7220 (1.57)				
140	3022																	7872 (2.64)		6680 (2.91)	7356 (1.69)				
145	3130																	8025 (2.83)		6802 (3.12)	7490 (1.81)				
150	3240																	8176 (3.03)		6921 (3.34)	7621 (1.94)				
155	3350																	8325 (3.23)		7038 (3.56)	7750 (2.07)				
160	3460																	8471 (3.44)		7154 (3.80)	7877 (2.20)				
165	3565																				8002 (2.34)				
170	3675																					8126 (2.49)			

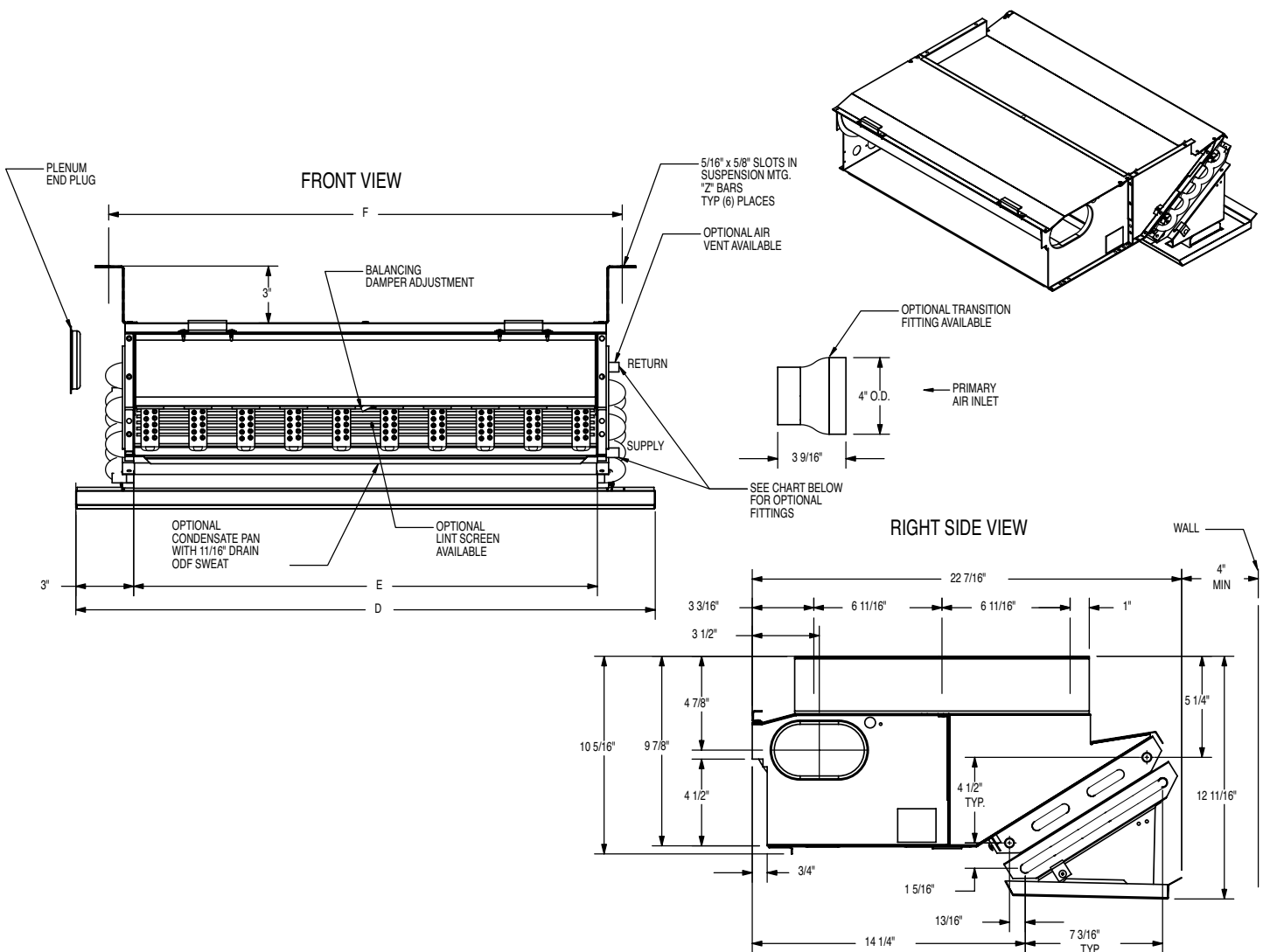
**Notes:**

- Coil capacity for other than 25 °F  $\Delta$ T use the following formula:  
(trm - tew)/25 x rating at 25 °F  $\Delta$ T.
- To aide in balancing the water systems, all units regardless of size have the same pressure drop across the water coils.
- The values in the ( ) indicate the nozzle pressure (inches of wg).
- The ratings above are based on 25 °F $\Delta$ T, 1.50 gpm water flow rate and 8 ft water coil pressure drop (all sizes) for a single coil.
- All ratings include allowance for lint screens.
- $\Delta$ T = trm - tew (trm = room temperature and tew = entering water temperature).



# Dimensions and data

## Models H4C



Unit size (H4C)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	30-1/4"	38-1/4"	46-1/4"	58-1/4"
Nom. coil (E)	24-1/8"	32"	40"	52"
Z Bar (F)	27-1/8"	35"	43"	55"
Min. free areas (sq. In.) Discharge grille	81	108	135	175
Recirculation grille	234	288	343	439
Approx. shipping weight (LB)	38	57	59	73

**Notes:**

- Condensate connection mounted same side as coil connection
- Four inch minimum distance from wall required to obtain rated capacity; 8-1/2" minimum for screen removal
- Shipping weight includes packaging

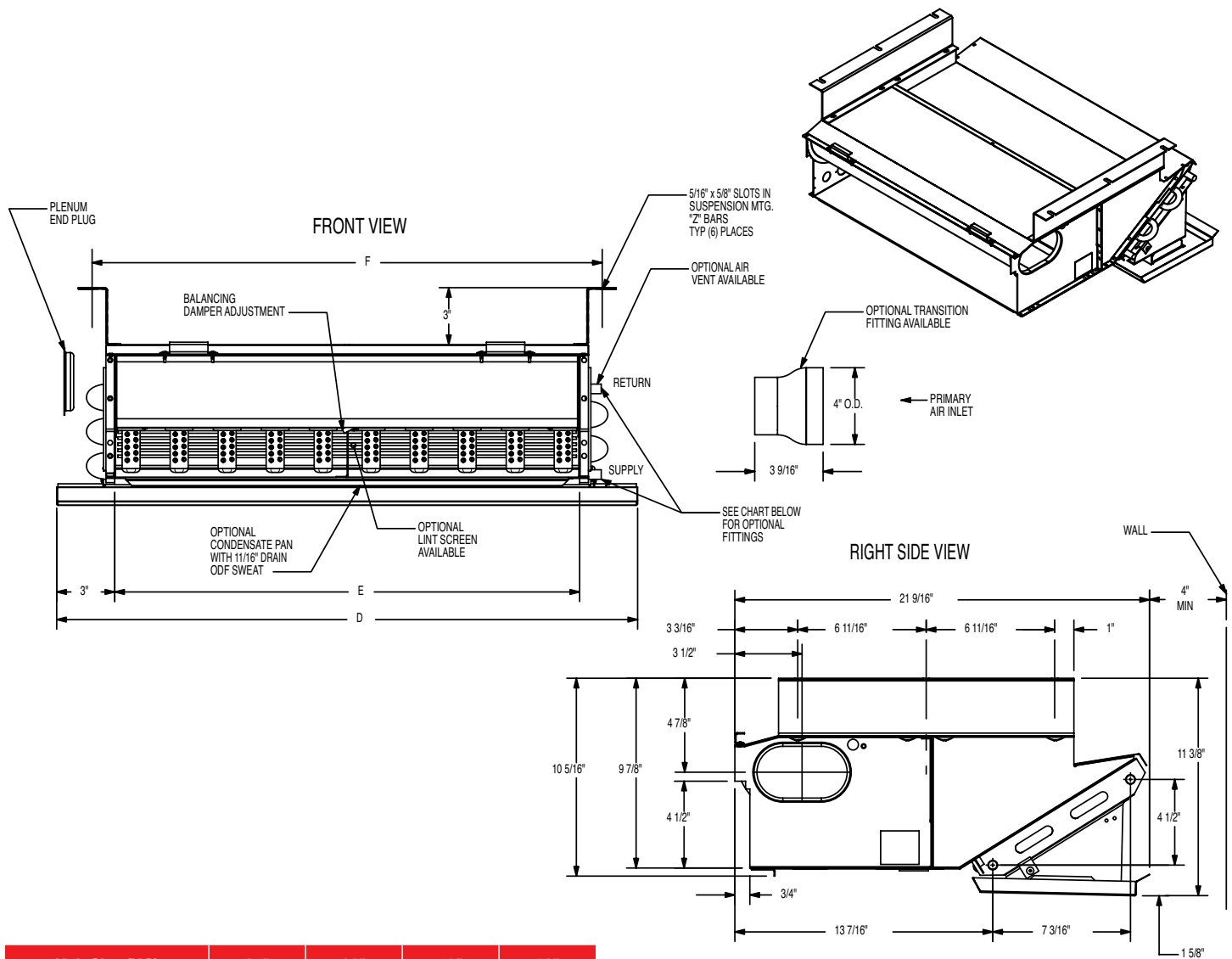
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The H4C is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - Two 6-tube coils with copper tubes and aluminum fins
  - Condensate pan as specified
  - Two Z brackets for mounting unit to a rigid flat horizontal surface
  - Coil connections as specified
  - Hardware kit includes:
    - (8) Mounting screws
    - (8) Tinnerman nuts
    - (1) Lint screen clip

# Dimensions and data

Models HC



Unit Size (HC)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	30-1/4"	38-1/4"	46-1/4"	58-1/4"
Nom. coil (E)	24-1/8"	32"	40"	52"
Z Bar (F)	27-1/8"	35"	43"	55"
Min. free areas (sq. In.) Discharge grille	81	108	135	175
Recirculation grille	234	288	343	439
Approx. shipping weight (LB)	36	45	52	64

**Notes:**

- Condensate connection mounted same side as coil connection
- Four inch minimum distance from wall required to obtain rate capacity; 8-1/2" minimum for screen removal
- Shipping weight includes packaging

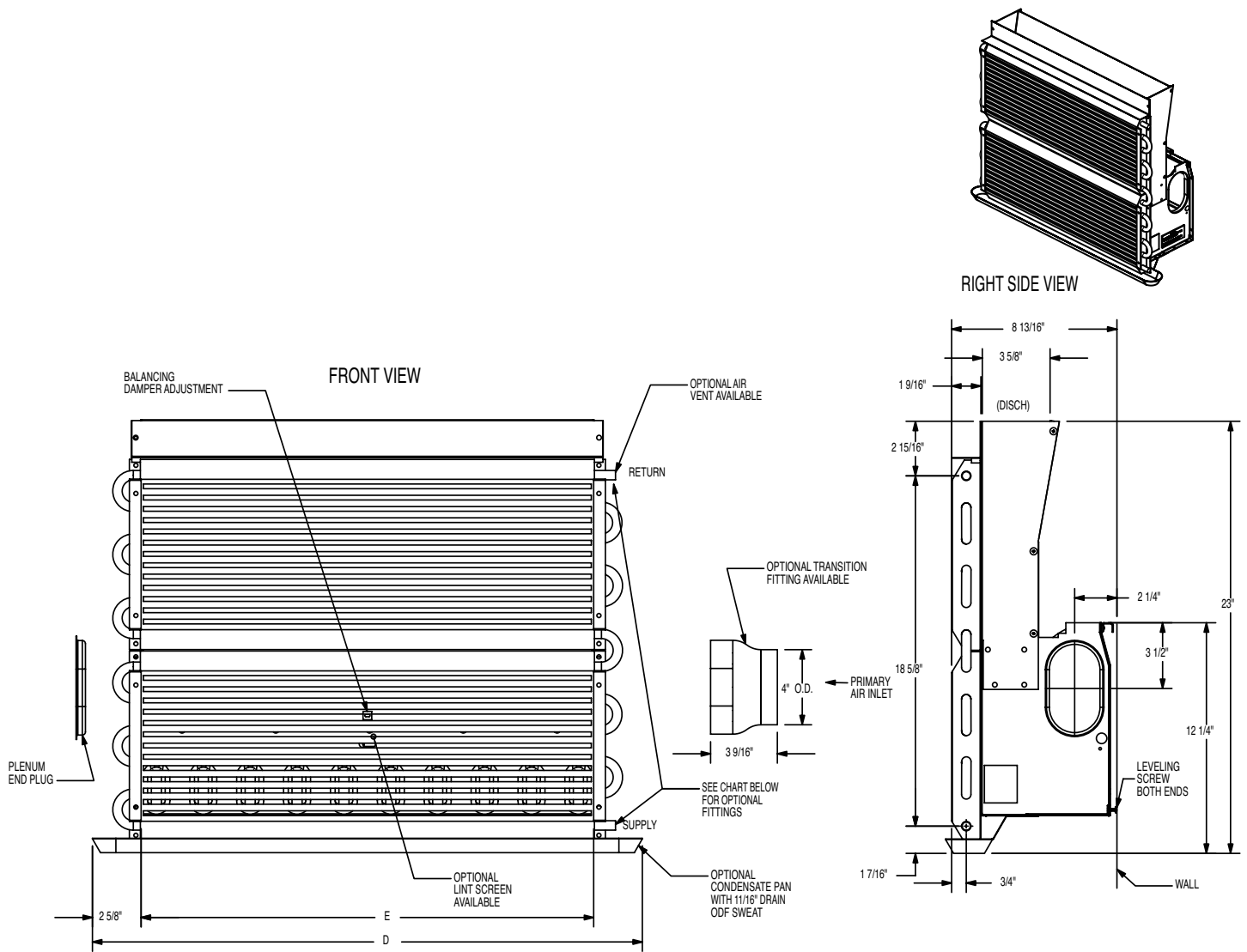
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The HC is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - One 6-tube coil with copper tubes and aluminum fins
  - Condensate pan as specified
  - Two Z brackets for mounting unit to a rigid flat horizontal surface
  - Coil connections as specified
  - Hardware kit includes:
    - (8) Mounting screws
    - (8) Tinnerman nuts
    - (1) Lint screen clip

# Dimensions and data

Models V2H



Unit Size (V2H)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Z Bar (F)	3 inches			
Min. free areas (sq. In.) Discharge grille	81	108	135	175
Recirculation grille	473	630	788	1023
Approx. shipping weight (LB)	35	43	52	66

**Notes:**

- Condensate connection mounted same side as coil connection
- Shipping weight includes packaging

Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

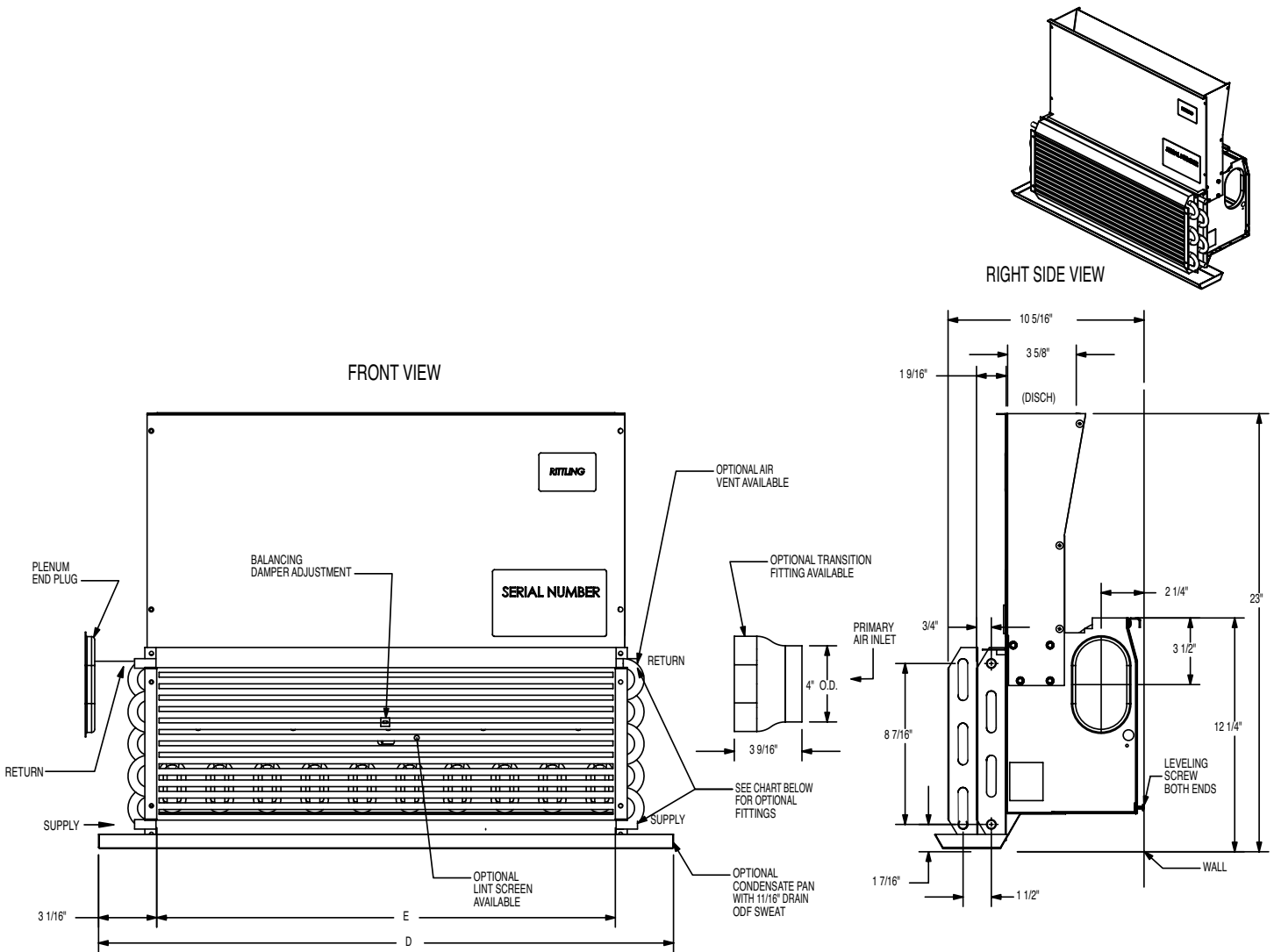
**Description:**

The V2H is shipped from the factory with the following:

- Acoustically designed plenum and nozzles as specified
- One 12-tube coil with copper tubes and aluminum fins
- Condensate pan as specified
- Coil connections as specified
- Recovery stack and drain pan assembled and ready for wall mounting
- Hardware kit includes:
  - (2) Leveling screws
  - (2) Leveling screw clips
  - (4) Lint screen clips
  - (2) Coil condensate plates with clips

# Dimensions and data

Models V4H



Unit Size (V4H)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	237	315	394	512
Approx. shipping weight (LB)	37	45	55	70

- Notes:
- Condensate connection mounted same side as cooling coil connection
- Shipping weight includes packaging
- Orientation of coil connections to be determined
- Inner coil is always for cooling and determines whether it is RH or LH connections. Heating coil connections are opposite of cooling connections

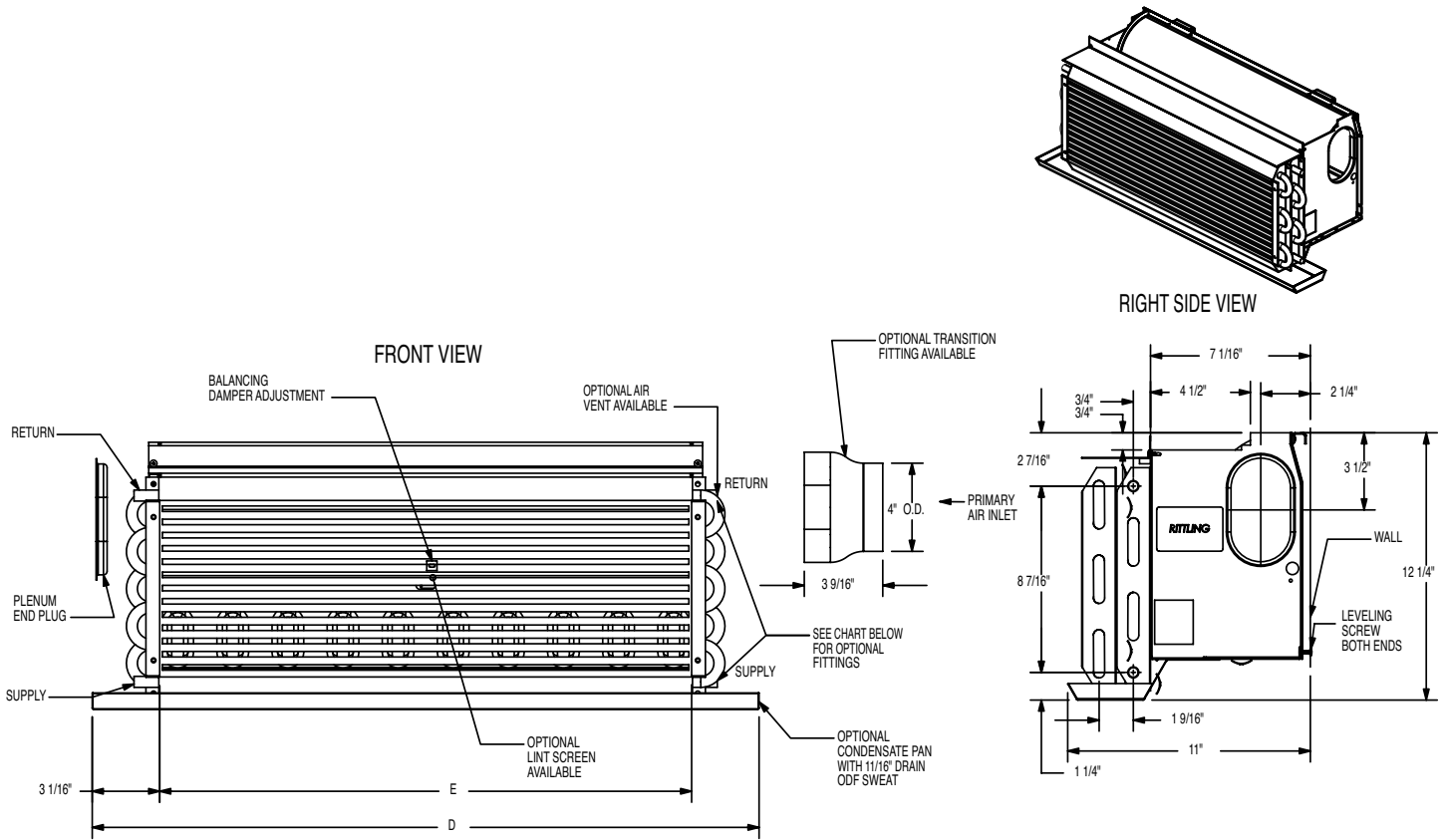
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The V4H shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - Two 6-tube coil with copper tubes and aluminum fins
  - Condensate pan as specified
  - Coil connections as specified
  - Recovery stack and drain pan, assembled ready for wall mounting
  - Hardware kit includes:
    - (2) Leveling screws
    - (2) Leveling screw clips
    - (4) Lint screen clips
    - (2) Coil condensate plates with clips

# Dimensions and data

Models V4L



Unit Size (V4L)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	124	165	206	269
Approx. shipping weight (LB)	26	31	36	47

**Notes:**

- Condensate connection mounted same side as cooling coil connection
- Shipping weight includes packaging
- Orientation of coil connections to be determined
- Inner coil is always for cooling and determines whether it is RH or LH connections. Heating coil connections are opposite of cooling connections

Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

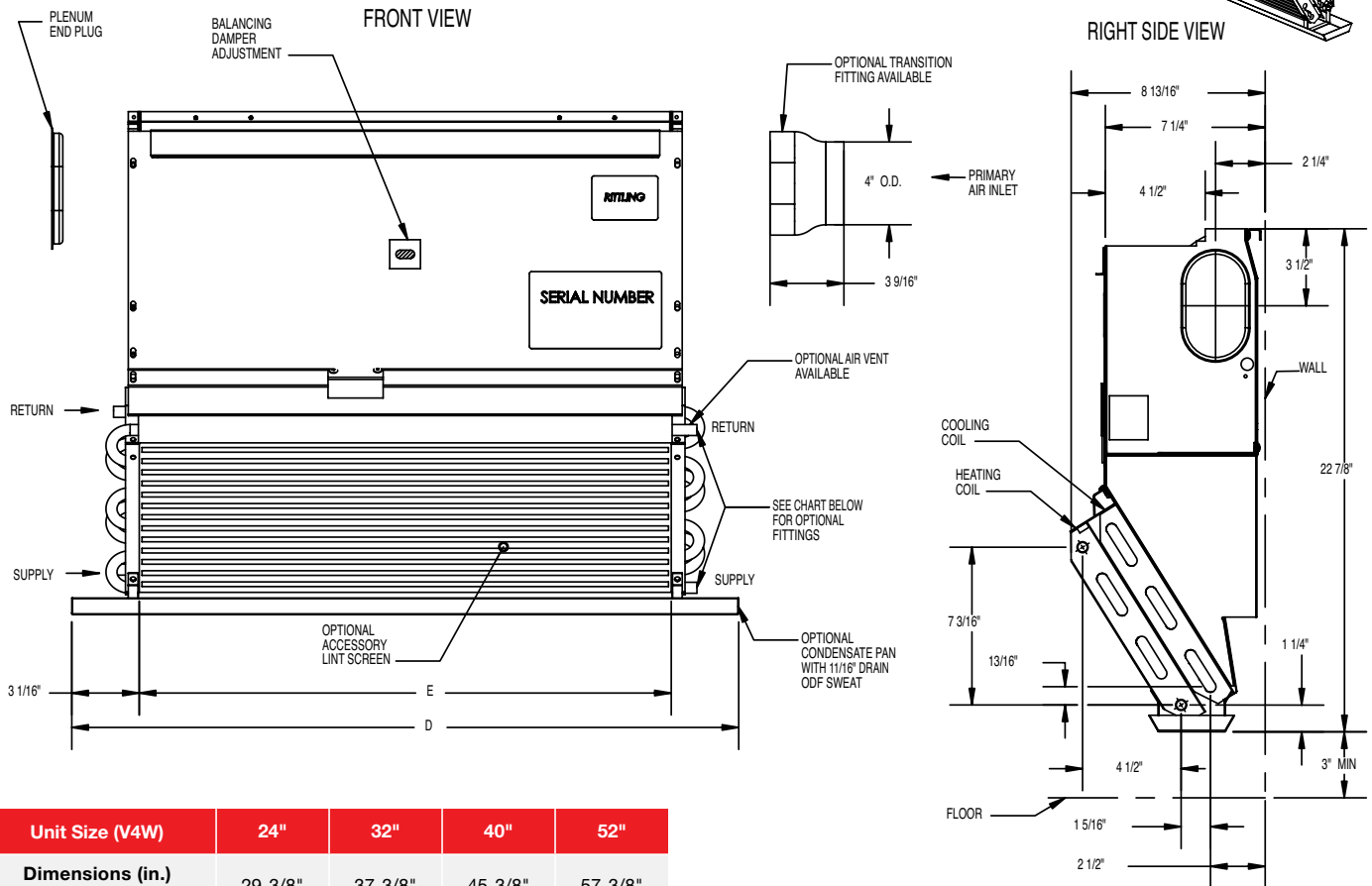
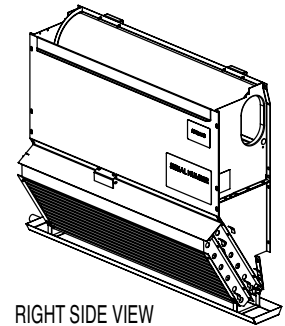
**Description:**

- The V4L is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - Two 6-tube coils with copper tubes and aluminum fins
  - Condensate pan as specified
  - Coil connections as specified
  - Hardware kit includes:
    - (2) Leveling screws
    - (2) Leveling screw clips
    - (4) Lint screen clips
    - (2) Coil condensate plates with clips



# Dimensions and data

Models V4W



Unit Size (V4W)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-3/8"	37-3/8"	45-3/8"	57-3/8"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. height from floor	3 inches			
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	237	315	394	512
Approx. shipping weight (LB)	37	47	55	69

**Notes:**

- Condensate connection mounted same side as cooling coil connection
- Shipping weight includes packaging
- Orientation of coil connections to be determined
- Inner coil is always for cooling and determines whether it is RH or LH connections. Heating coil connections are opposite of cooling connections

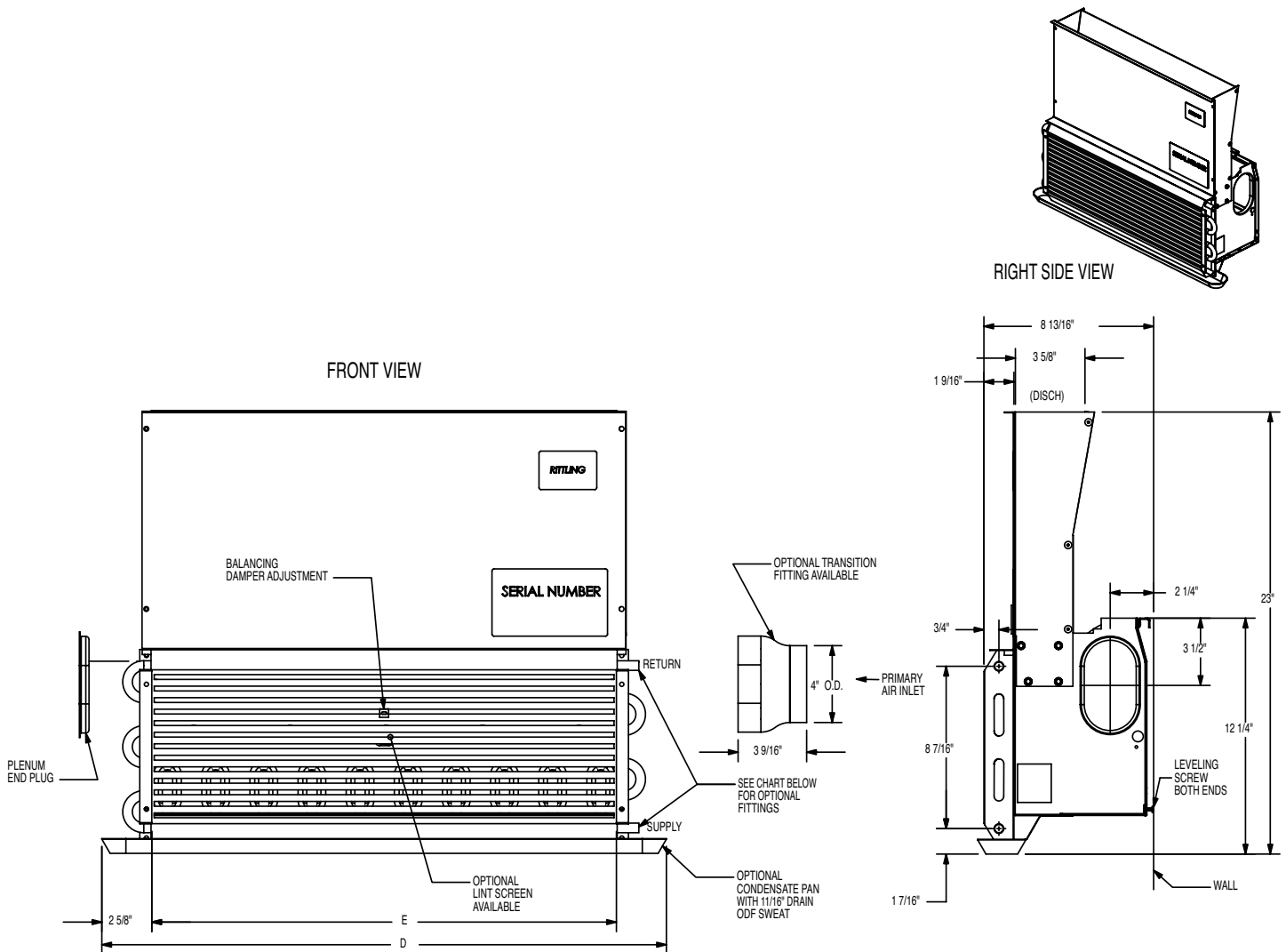
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The V4W is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - One 6-tube coil with copper tubes and aluminum fins
  - Condensate pan as specified
  - Coil connections as specified
  - Hardware kit includes:
    - (2) Leveling screws
    - (2) Leveling screw clips
    - (4) Lint screen clips
    - (2) Coil condensate plates with clips

# Dimensions and data

Models VH



Unit Size (VH)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. height from floor	3 inches			
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	237	315	394	512
Approx. shipping weight (LB)	32	40	48	61

- Notes:**
- Condensate connection mounted same side as coil connection
  - Shipping weight includes packaging

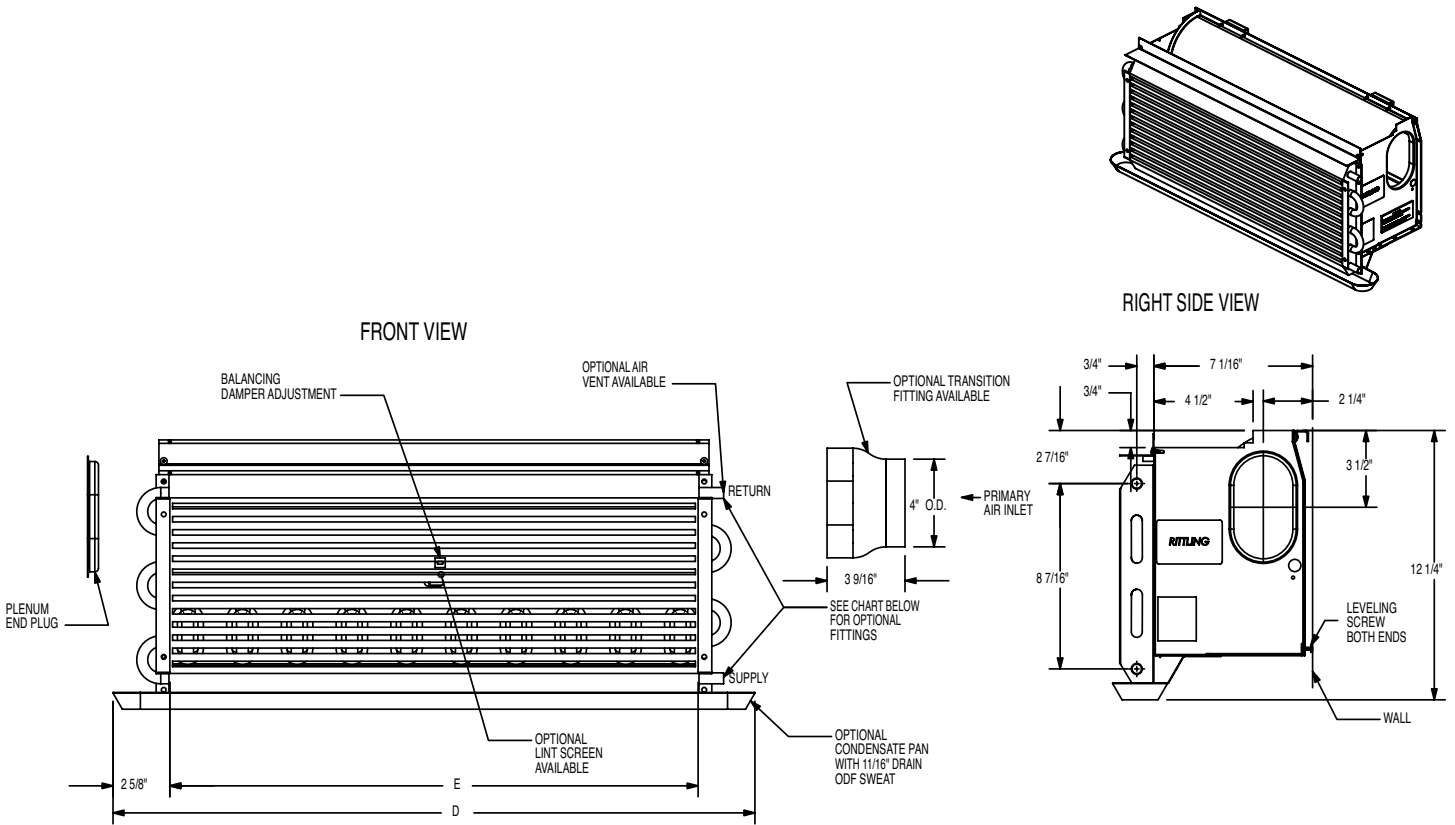
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The VH is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - One 6-tube coil with copper tubes and aluminum fins
  - Condensate pan as specified
  - Coil connections as specified
  - Recovery stack and drain pan, assembled and ready for wall mounting
  - Hardware kit includes:
    - (2) Leveling screws
    - (2) Leveling screw clips
    - (4) Lint screen clips
    - (2) Coil condensate plates with clips

# Dimensions and data

## Models VL



Unit Size (VL)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	124	165	206	269
Approx. shipping weight (LB)	21	26	31	38

- Notes:**
- Condensate connection mounted same side as coil connection
  - Shipping weight includes packaging

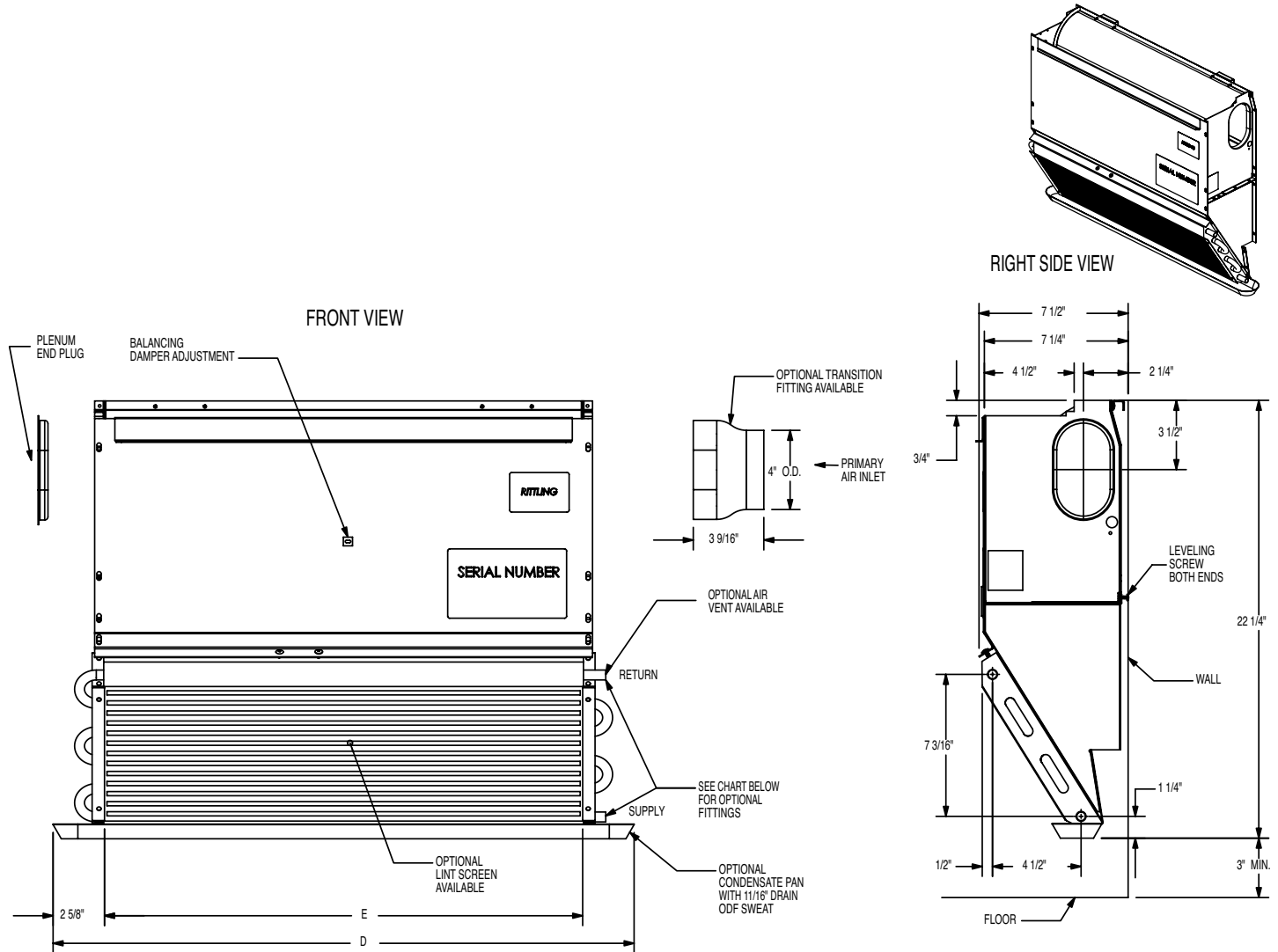
Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

- The VL is shipped from the factory with the following:
- Acoustically designed plenum and nozzles as specified
  - One 6-tube coil with copper tubes and aluminum fins
  - Condensate pan as specified
  - Coil connections as specified
  - Hardware kit includes:
    - (2) Leveling screws
    - (2) Leveling screw clips
    - (4) Lint screen clips
    - (2) Coil condensate plates with clips

# Dimensions and data

Models VW



Unit Size (VW)	24"	32"	40"	52"
Dimensions (in.) Drain pan (D)	29-1/2"	37-1/2"	45-1/2"	57-1/2"
Nom. coil (E)	24-1/8"	32"	40"	52"
Min. height from floor	3 Inches			
Min. free areas (sq. in.) Discharge grille	81	108	135	175
Recirculation grille	234	288	343	439
Approx. shipping weight (LB)	31	40	46	57

**Notes:**

- Condensate connection mounted same side as coil connection
- Shipping weight includes packaging

Optional fittings	
Code digit #8	Description
0	1/2" ODF sweat fitting
1	1/2" ODF sweat fitting w/vent
2	1/2" ODM flare fitting
3	1/2" ODM flare fitting w/vent

**Description:**

The VW is shipped from the factory with the following:

- Acoustically designed plenum and nozzles as specified
- One 6-tube coil with copper tubes and aluminum fins
- Condensate pan as specified
- Coil connections as specified
- Drain pan, assembled and ready for wall mounting
- Hardware kit includes:
  - (2) Leveling screws
  - (2) Leveling screw clips
  - (4) Lint screen clips
  - (2) Coil condensate plates with clips

# Mechanical specifications

**Furnish and install H4C, HC, V2H, V4H, V4L, V4W, VH, VL & VW water control units of the type, size and arrangement shown on the plans.**

**Base Unit Assembly** shall consist of an air inlet and plenum, induction nozzles, water coil assembly, air transition fitting, lint screen, air plug and condensate pan.

**Air Plenum** shall be constructed of 20 gauge galvanized steel. Internal areas shall be acoustically and thermally insulated with neoprene-coated fiberglass. Insulation shall conform to UL 181 for erosion and NFPA 90A for fire, smoke and melting and comply with a 25/50 flame spread and smoke developed index per ASTM E-84 or UL 723. Plenum shall be designed for series connection or feed-thru, and shall contain primary air balancing damper arranged for independent manual adjustment of primary air volume. Recovery stack and outlet collar where required shall be cold-rolled steel painted black. All sheet metal joints in the primary air plenum are sealed air tight.

**Induction nozzles** of heat resistant, pliable plastic shall be designed for minimum noise generation. Nozzle arrangement shall be selected to provide capacities, air flows and noise levels as specified.

**Water coil assembly** shall consist of a single-row reversible coil with 1/2" copper tubing mechanically expanded to aluminum plate fins, spaced no closer than 13 FPI. [Two separate coils shall be furnished for 4-pipe operation.] Coil connections shall be 1/2-in. ODF sweat [1/2-in. ODM flare] [1/2-in. ODF sweat with vent] [1/2-in. ODM flare with vent]. Added fittings may remove ability to field reverse the coil handing. Coil shall be suitable for working pressures up to 250 psig and be leak tested under water at 300 psig.

**Condensate pan** nondrainable galvanized steel condensate pan. Optional drain connection.

**Primary air transition fitting** (optional) for connection to 4-in. runout duct shall be die-formed, streamlined, and interchangeable with removable air plug, when interconnecting the units for series installation.

**Lint screen** shall be of fine mesh, properly supported and readily removable for servicing.

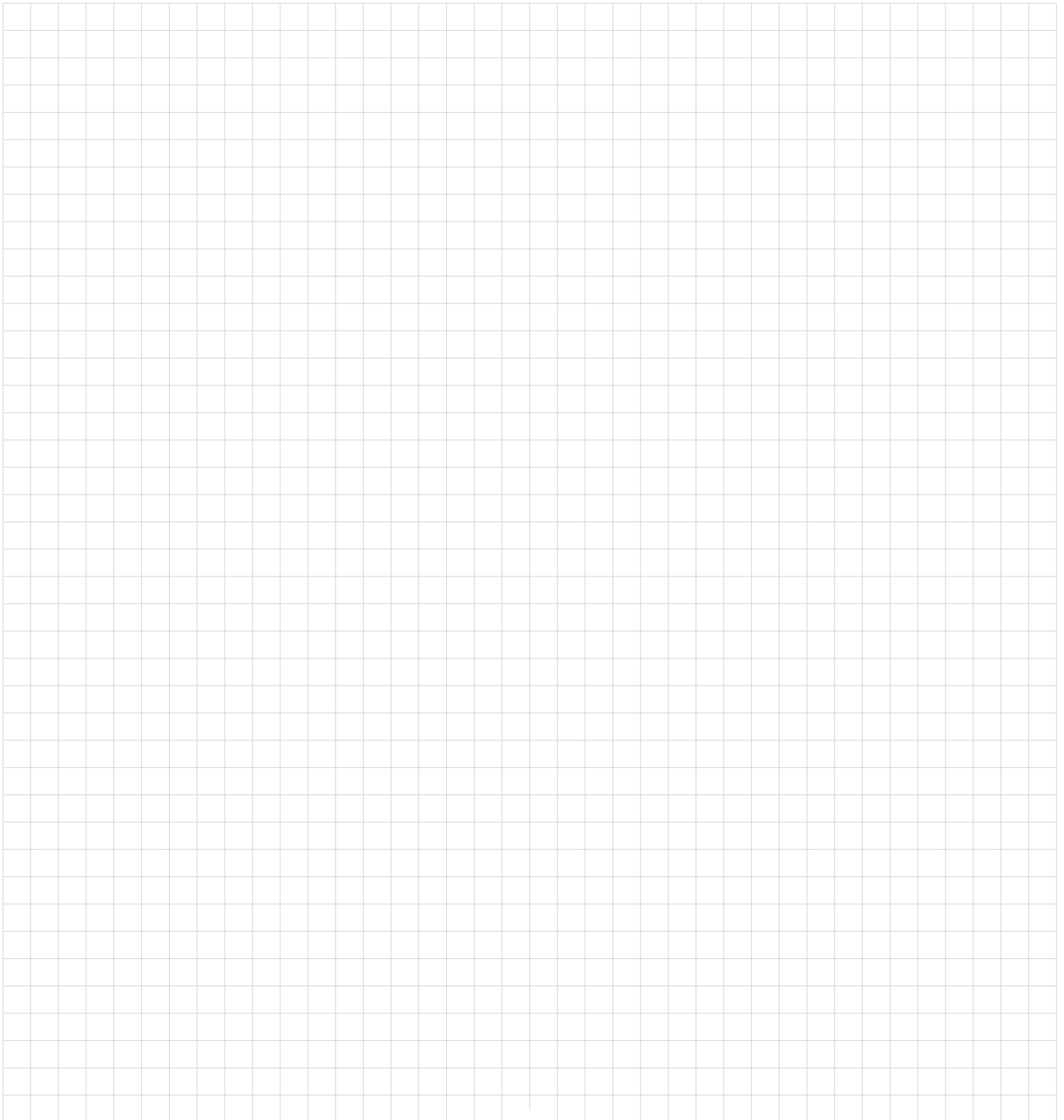


**zehnder**

always the  
best climate

Always the best climate for

# SMART IDEAS



The brand with the best indoor climate solutions.

## FOUR COMPLEMENTARY PRODUCT LINES

The broad and clearly structured portfolio from the Zehnder Group is split into four product lines. Consequently, we can provide the right product, the perfect system and the matching service for all types of projects - from new builds to renovations, single- or multiple- family homes, as well as commercial projects. This variety ensures that our wealth of experience is continuously expanding, providing tangible added value to our customers on a daily basis.



### Decorative radiators

Our individual decorative radiators for living and bathrooms not only make a home warmer but also more attractive. Created by renowned designers, they impress with excellent functionality.

## NUMBERS THAT SPEAK FOR THEMSELVES

MANUFACTURER OF THE

**1<sup>ST</sup>**

STEEL RADIATOR IN THE WORLD

**121**

YEARS OF INNOVATIVE TRADITION

AROUND

**3,000**

EMPLOYEES

FOUNDED IN

**1895**

REPRESENTED IN COUNTRIES

**19**

**1,800,000**

TONNES OF CO<sub>2</sub> SAVED SINCE 2005

## WARRANTY

Zehnder guarantees its products to be free from defects in material and workmanship for a period of two years from date of shipment from our Buffalo, NY factory, whichever comes first.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder. Upon receipt of written consent from Zehnder, the purchaser shall return the defective good(s) to the factory for inspection with freight prepaid. If inspection shows the goods to be defective, Zehnder will at its discretion repair or replace the said item(s).

Defects arising from damage due to shipment, improper installation, negligence or misuse by others are not covered by this warranty.



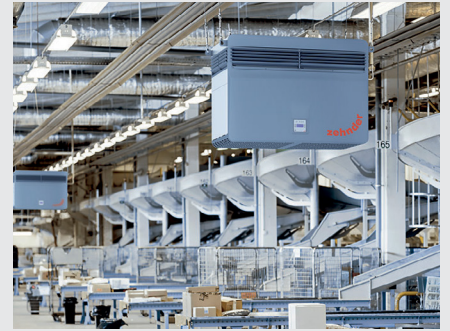
### Comfortable indoor ventilation

Our comfortable indoor ventilation is energy-efficient and provides a healthy indoor climate. It promotes the well-being of the occupants and increases the value of the property.



### Heating and cooling ceiling systems

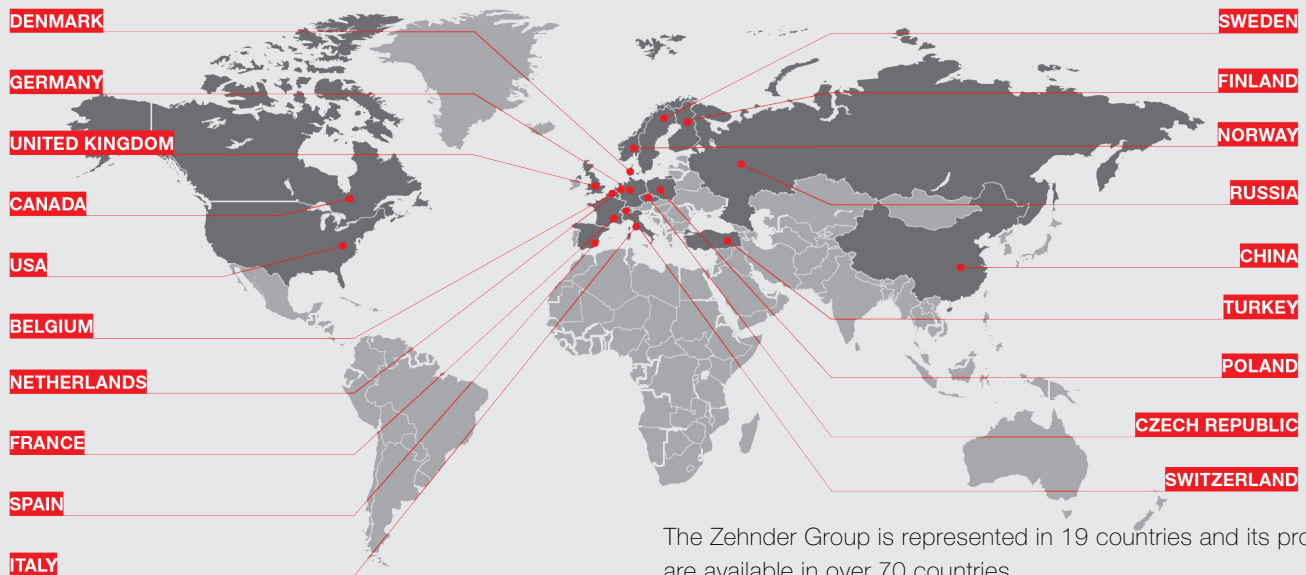
Zehnder heating and cooling ceiling systems are convenient and energy-efficient for heating and cooling. They are perfectly attuned to the relevant environment.



### Clean air solutions

Clean air solutions from Zehnder reduce the level of dust in the air, create a healthier working climate and reduce the amount of cleaning required.

## BEST CLIMATE IN THE WORLD



This warranty is extended only to the original purchaser from Zehnder.

**IMPORTANT: Approved submittal documentation, specific to each project, supersedes the general guidelines contained within this document.**

**zehnder**

The Zehnder brand offers excellent indoor climate solutions within the sectors of decorative radiators, clean air solutions, comfortable indoor ventilation and heating and cooling ceiling systems.

