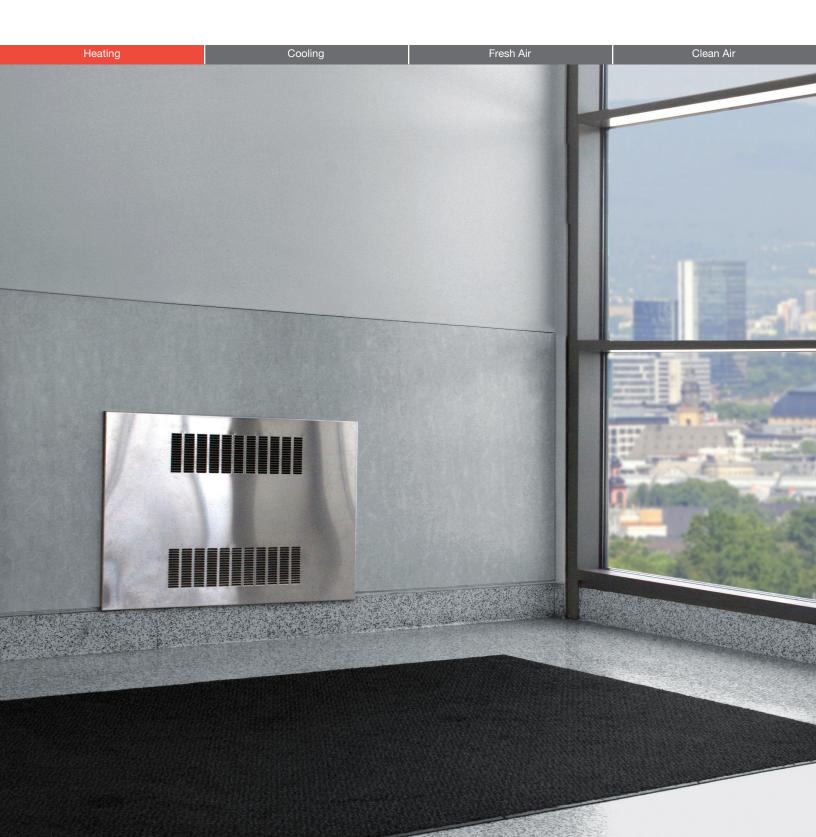
Rittling Cabinet Convectors

Catalog





Zehnder – everything you need to create a comfortable, healthy and energy-efficient indoor climate

Heating, cooling, fresh and clean air: at Zehnder, you will find everything you need to create a comfortable, healthy and energy-efficient indoor climate. Zehnder's wide and clearly structured portfolio can offer the right product for any project, be it private, public or commercial, new build or refurbishment. And where service is also concerned, you'll find that Zehnder is "always around you."

At Zehnder, **Heating** doesn't just come in the form of designer radiators. We offer solutions in all shapes and sizes, from radiant ceiling panels to heat pumps with integrated ventilation devices.

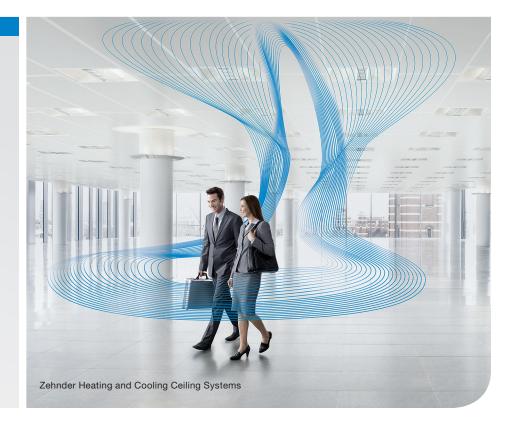
Heating

- Designer radiators
- Compact energy station with integrated heat pump
- Heating and cooling ceiling systems
- Comfortable indoor ventilation with heat recovery





Zehnder also offers sophisticated solutions for indoor **Cooling**. These range from cooling ceiling systems to comfortable indoor ventilation with a supply of pre-cooled fresh air.





always around you

Fresh air

Fresh air – a product range with a long tradition at Zehnder. Zehnder Comfosystems provides products and solutions for comfortable indoor ventilation with heat recovery for houses and apartments, for new builds and for renovation projects.

- Comfortable indoor ventilation
- Compact energy station with integrated ventilation device



Clean air

Zehnder Clean air Solutions provide **Clean air** in buildings particularly prone to dust. In residential applications, the comfortable indoor ventilation provided by Zehnder Comfosystems filters external pollutants out of the air.

- Comfortable indoor ventilation with integrated fresh-air filter
- Compact energy station with integrated fresh-air filter
- Systems for clean air





Unmatched selection of standard and diverse options

Rittling Cabinet Convectors can be integrated into any environment and provide a perfect solution for entrances, stairwells or other areas where heat loss is predominant. The sleek, decorative appearance and its flexibility are popular with architects and designers who seek a solution without creating a focal point within the space.

Rittling Cabinet Convectors are offered in six (6) standard styles with varying heat outputs to provide a solution for any application. We offer a variety of non-standard lengths and heights as well as different sheet metal gauges to fit the needs of any application. A variety of inlets and outlets can be provided for each of the Convector styles: perforation patterns, bar grille and louvered.

Zehnder Rittling experts are able to help with complex specification plans for any of our products through our competent sales team who can visit the site if requested. "If you can draw it, we can build it."

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Enclosure styles

Wall models



Type PL: Fully recessed wall This fully recessed wall convector is designed to provide high outputs. The liner is recessed completely into the wall, leaving only the front panel exposed. Front inlet and outlet louvers are standard for wall mounted units. An optional arched inlet is available.



Type RL: Partially recessed wall This partially recessed wall convector is designed to provide high outputs. The liner is partially recessed into the wall, leaving only the front panel exposed. Front inlet and outlet louvers are standard for wall mounted units. An optional arched inlet is available.

Floor models



Type SL: Wall hung slope top

This fully exposed slopedtop convector is designed for wall mounting. It features a louvered outlet grille in the slope top that keeps debris from accumulating on the top of the unit. The inlet air is directed through the open bottom to produce high outputs.



Type FL: Fully exposed floor This fully exposed floor-mounted convector is attached to the wall. The flat top design features front inlet and outlet louvers. An optional arched inlet is available.



Type SF: Free standing slope top This fully exposed floor convector has sloping outlet louvers and is designed for mounting to a sidewall. The inlet air is directed through the bottom front inlet louver. An optional arched inlet is available.



Type WL: Wall hung This fully exposed wallmounted convector is attached to the wall. The flat top design features bottom open inlet and outlet louvers. An optional arched inlet is available.

Features



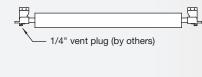
Heating elements

Heating elements are available in three standard nominal depths: 4" with 2-tube element; 6" with 3-tube element: and 8" with 4-tube element. The element assembly is protected by shield plates running the entire length of the element, and s supported in enclosure by a welded bracket to eliminate strain on piping or element. Fins of 0.010" aluminum have integral collars to assure uniform spacing. Tubes are mechanically expanded into collars to permit maximum heat transfer. Headers are cast brass with 3/4" NPT top or bottom tappings.

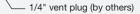
Reversed headers

One header can be reversed to be mounted "up," while the other is mounted "down," for reverse piping applications. (Specify when ordering.)





Optional coil header



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Enclosures

Rittling Convectors are specially constructed to satisfy the requirements of strength and safety in many different building applications. Rittling Convectors are also available in louvered, perforated and aluminum grille inlet and outlets.

Inlets and outlets

Standard units have louvered optional inlets and outlets. Units are available in 16-gauge and 14-gauge. The louvered openings are fabricated to be "pencil proof."

Finish

All convectors are thoroughly cleaned and phosphatized after fabrication and finished with a polyester-epoxy powder coating.

Units shown, back to front:

- Type SL wall-mounted with slope top louvered outlet.
- Type FL floor-mounted with optional arched inlet and vertical architectural bar grille outlet.
- Type SF free standing with slope top and optional security perforated inlet/outlet.

Notes:

- Size unit capacities for actual coil length.
- Not available as standard on units less than 28".

Options and accessory equipment

Factory assembled

Cabinet

Construction

Cabinets are all suitably braced and reinforced and are optionally available in heavy-gauge cold rolled steel, 16-gauge, 14-gauge, 12-gauge (perforated inlet and outlet) only for special institutional applications. Stainless steel is also an option; consult factory.

Metal gauge combinations

Liner									
Front	18	18	16	16	16	14	14	16	14

Fasteners



(+) Spanner

opuillioi

Allen Key

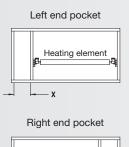
Non-standard sizes

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Sizes other than standard can be provided for virtually any application. Please consult factory with requirements. Size increments of 1" recommended.

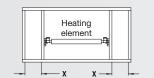
End pockets

End pockets may be installed at one or both ends of the cabinet convectors. The heating element is shortened and a vertical baffle with element support is provided between the end of the element and the end of the cabinet. End pockets are available in either 6" or 8" widths. Consult factory for other custom end pocket designs. Consult factory for custom end pocket designs. (Note: Size unit capacities for actual coil length.) Not available as standard on units less than 28".

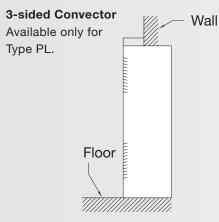




Left and right end pocket



End pocket size: (dimension X) = 6" or 8"



Access doors

Access doors are provided in the front panel of cabinet convectors for inspection or operation of valves, traps or air vents.

These doors are attached on one side with a heavy-duty hinge.

A 1/4-turn locking device is provided with an optional Allen-head or spanner-head operator when security conditions dictate. Access doors are available in many locations; consult factory for best positions.

Access doors are available in many locations.

- Certain door location options and door sizes depend on the height and length of the cabinet.
- Consult factory on door location options and door sizes at 20" high and below, and less than 32" long.
- All doors are 5" x 5" (standard) and 4" x 5" as noted.
- #5 & #6 NOT available on SL type.
- #3 & #4 NOT available on SL and SF types.

#3	#4
#1	#2
#5	#6

Damper

The damper assembly covers the entire outlet area of the enclosure and consists of a 20-gauge cold rolled steel damper blade painted to match cabinet color, which is flanged at the top and bottom for additional rigidity. Standard damper assemblies are equipped with a knob operator or an optional tamper-resistant operator functions with a simple Allen wrench and is particularly valuable in school or instituional settings where only supervisory operation is desired.



Options and accessory equipment

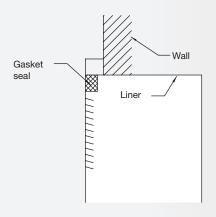
Factory assembled

Insulation

1/2" thick fiberglass insulation is available on convector sides, tops, fronts or backs for special applications. (Top does not apply to sloping models.)Cabinet for availability. Bar grille convectors are available in optional 16-gauge and 14-gauge.

Urethane Gasket

A gasket seal can be added to type PL convectors.



Inlets and outlets Perforation

Rittling institutional Convectors are available in two styles of perforations. 1/8" diameter holes on 3/16" staggered center lines are standard. 3/16" diameter holes on 1/4" staggered center lines are optional. Perforated convectors are available in optional 16-gauge, 14-gauge, and 12-gauge.

Bar grille

The optional architectural grille inlet and outlet consist of a heavy-duty extruded aluminum bar grille with a deep etched clear anodized (R-204) finish. Bar grille convectors are available in 16-gauge and 14-gauge. The vanes of the continuous extrusion



proof. Consult factory for availability. Bar grille convectors are available in optional 16-gauge and 14-gauge.

Arched inlet

The optional arched inlet is available on models PL, SF and FL only. Type PL must be 3-sided overlap. Units with arched inlets can have louvered, perforated or bar grille outlets. Units are available in optional 16-gauge or 14-gauge.

Color

is also available.

Cabinets may be finished in one of the standard Zehnder Rittling decorator colors. Additional colors are optionally available, please furnish a color chip for custom color.

With perforated outlets, 12-gauge



Applications

Vapor and vaccum systems (steam)

Figure 1: Down-feed hook-up, reverse header coil

This arrangement of downfeed hook-up is used when the steam mains are above the cabinet convectors with drops that are connected to the unit. This arrangement can be used only with freestanding units. The valve is shown inside the cabinet as it can easily be operated by lifting the removable front for an optional access door. A thermostatic control valve with a bulb in the inlet may be substituted for the hand-operated valve shown. The valve can also be installed outside the cabinet if desired. (Valve and piping installed by others.)

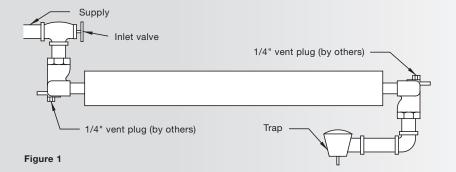
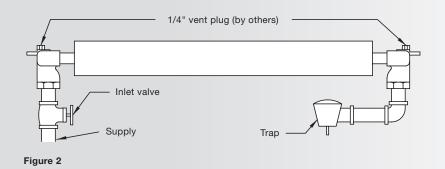


Figure 2: Up-feed hook-up, standard header coil

This figure shows an arrangement for an up-feed hook-up for semirecessed or freestanding units. A "straight" through trap of proper size may be substituted for the "angle" trap shown, which allows access to the valve.

On all steam systems, the convector element should pitch down to the return.



Rittling Convectors are not recommended for one-pipe steam systems. Typical connections are shown. Other arrangements, however, can be used.

Applications

Hot water systems

Figure 3: Down-feed hook-up, reverse header coil

This figure shows a down-feed arrangement. The supply must be above the tube level of the element. Air valves are not needed at the individual units. A proper piping system allows for the collection of air and venting at the high point.

On all down-feed systems, the pitch should be down toward the return.

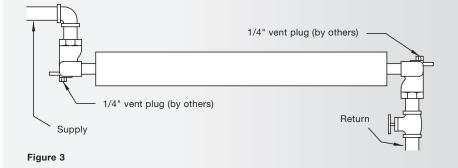


Figure 4: Up-feed hook-up, standard header coil

This figure shows an up-feed arrangement which can be used with first floor units where mains are in the basement or where the upper floors are supplied by risers from lower floors. Up-feed systems require venting at each convector, and the pitch should be down toward the supply.

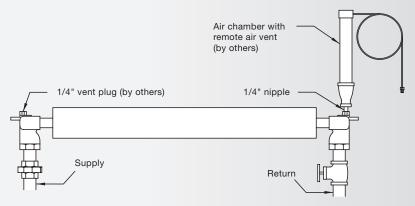
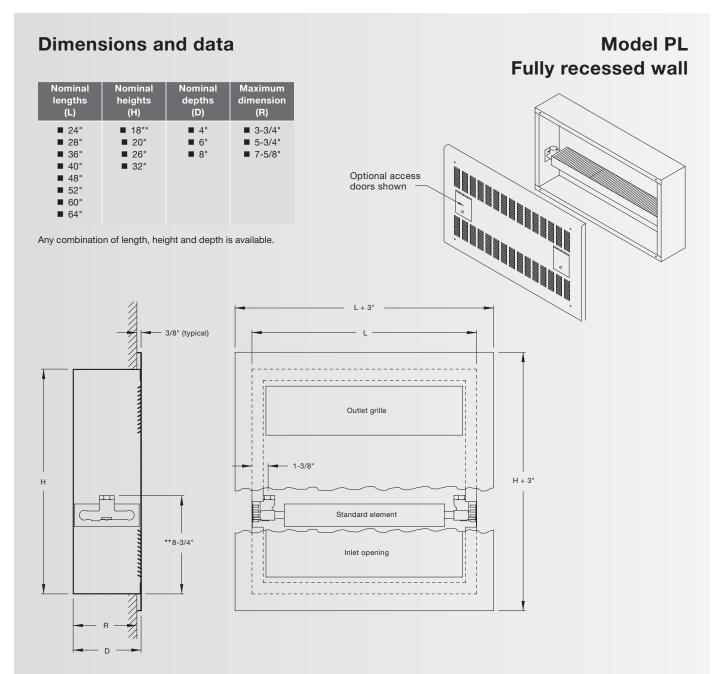


Figure 4

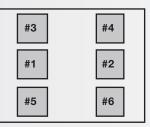
Two different arrangements are shown for hot water piping connections, down-feed and up-feed.



PL Convector Access Door Location Availability

Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Less than 18"	All Lengths	0	No access door loc	ations available
18" to 19"	Less than 32"	1	3, 4, 5, 6	4"H x 5"W
18" to 19"	Less than 32"	2	3, 5 or 4, 6	4"H x 5"W
18" to 19"	32" and longer	4	3, 4, 5, 6	4"H x 5"W
20" to 25"	Less than 32"	1	1, 2, 3, 4, 5, 6	4"H x 5"W
20" to 25"	Less than 32"	2	1, 2 or 3, 5 or 4, 6	4"H x 5"W
20" to 25"	32" and longer	4	3, 4, 5, 6	5"H x 5"W
26" and over	Less than 32"	2	1, 2 or 3, 5 or 4, 6	5"H x 5"W
26" and over	Less than 32"	4	1, 2, 3, 5 or 1, 2, 4, 6	5"H x 5"W
26" and over	32" and longer	6	1, 2, 3, 4, 5, 6	5"H x 5"W

Standard Convector Access Door Locations



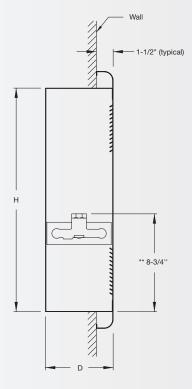
Note:

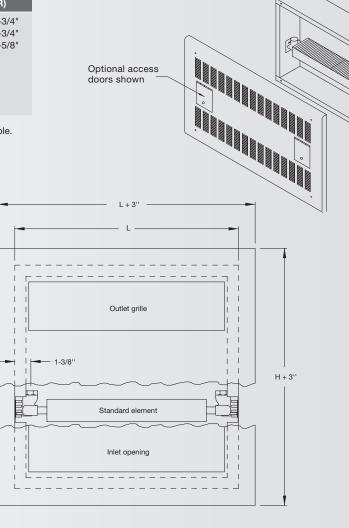
- Access doors not available in locations 5 and 6 with arched inlet.
- *Contact factory on heights less than 20"

- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.
- **The coil is adjustable 7/8" up in 7/16" increments.

Nominal lengths (L)	Nominal heights (H)	Nominal depths (D)	Maximum dimension (R)
■ 24"	■ 18"*	4 "	3-3/4 "
■ 28"	2 0"	■ 6"	5-3/4 "
3 6"	■ 26"	■ 8"	7-5/8
40 "	3 2"		
48 "			
5 2"			
6 0"			
6 4"			

Any combination of length, height and depth is available.

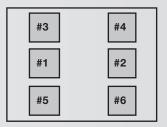




PL Convector Access Door Location Availability

Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Less than 18"	All Lengths	0	No access door loc	ations available
18" to 19"	Less than 32"	1	3, 4, 5, 6	4"H x 5"W
18" to 19"	Less than 32"	2	3, 5 or 4, 6	4"H x 5"W
18" to 19"	32" and longer	4	3, 4, 5, 6	4"H x 5"W
20" to 25"	Less than 32"	1	1, 2, 3, 4, 5, 6	4"H x 5"W
20" to 25"	Less than 32"	2	1, 2 or 3, 5 or 4, 6	4"H x 5"W
20" to 25"	32" and longer	4	3, 4, 5, 6	5"H x 5"W
26" and over	Less than 32"	2	1, 2 or 3, 5 or 4, 6	5"H x 5"W
26" and over	Less than 32"	4	1, 2, 3, 5 or 1, 2, 4, 6	5"H x 5"W
26" and over	32" and longer	6	1, 2, 3, 4, 5, 6	5"H x 5"W

Standard Convector Access Door Locations

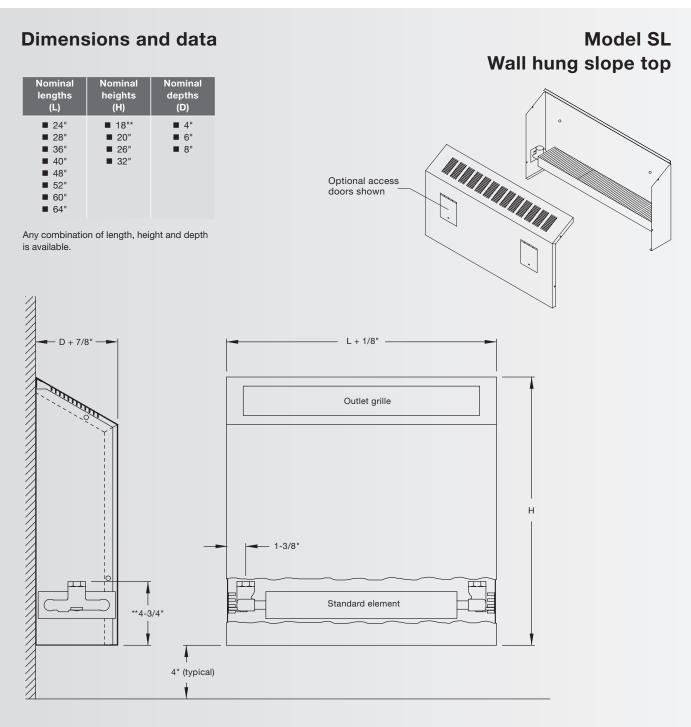


Note:

- Access doors not available in locations 5 and 6 with arched inlet.
- *Contact factory on heights less than 20"

- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.
- **The coil is adjustable 7/8" up in 7/16" increments.

Model RL Partially recessed wall



SL Convector Access Door Location Availability

Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Up to 20"	All lengths	2	1, 2	4"H x 5"W
20" and over	All lengths	2	1,2	5"H x 5"W

Standard Convector Access Door Locations

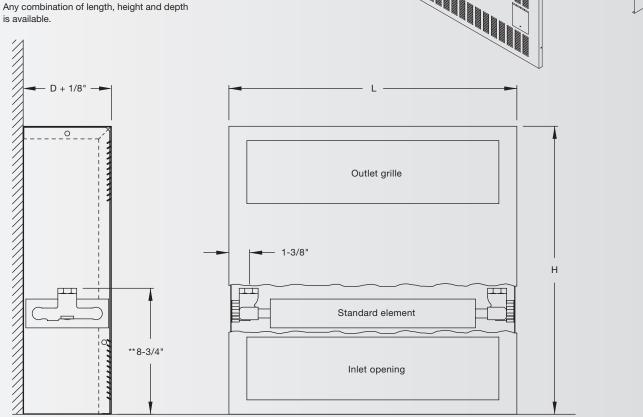
#3	#4
#1	#2
#5	#6

Note:

- *Contact factory on heights less than 20"
- **The coil is adjustable 7/8" up in 7/16" increments.
- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.

Nominal	Nominal	Nominal
lengths	heights	depths
(L)	(H)	(D)
 24" 28" 36" 40" 48" 52" 60" 64" 	 18"* 20" 26" 32" 	■ 4" ■ 6" ■ 8"

is available.

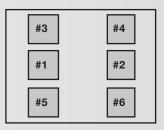


Optional access doors shown

FL Convector Access Door Location Availability

		-		
Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Up to 18"	Less than 32"	1	3, 4, 5, 6	4"H x 5"W
Up to 18"	Less than 32"	2	3, 5 or 4, 6	4"H x 5"W
Up to 18"	32" and longer	4	3, 4, 5, 6	4"H x 5"W
19"	Less than 32"	1	1, 2, 3, 4, 5, 6	4"H x 5"W
19"	Less than 32"	2	1, 2 or 3, 5 or 4, 6	4"H x 5"W
19"	32" and longer	4	1, 2, 5, 6	4"H x 5"W
20" and over	Less than 32"	2	1, 2 or 3, 5 or 4, 6	5"H x 5"W
20" and over	Less than 32"	4	1, 2, 3, 5 or 1, 2, 4, 6	5"H x 5"W
20" and over	32" and longer	6	1, 2, 3, 4, 5, 6	5"H x 5"W

Standard Convector Access Door Locations



Note:

- Access doors not available in locations 5 and 6 with arched inlet.
- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.

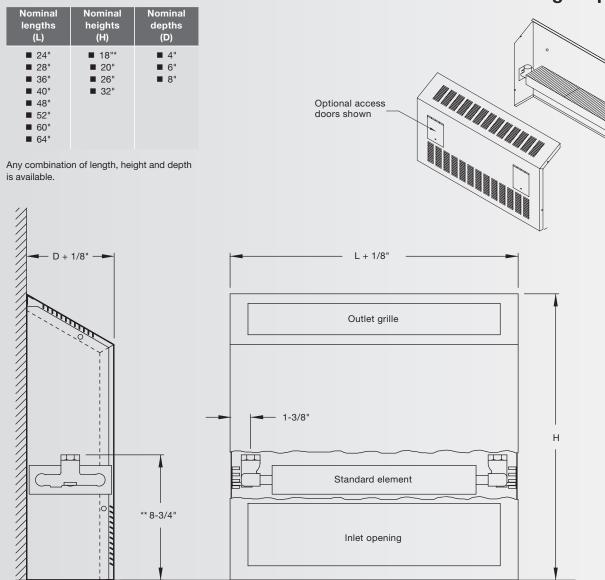
*Contact factory on heights less than 20"

■ **The coil is adjustable 7/8" up in 7/16" increments.

Model FL

Free standing floor

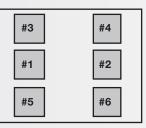
	Model SF
Free standing	slope top



SF Convector Access Door Location Availability

Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Up to 18"	Less than 32"	1	5 or 6	4"H x 5"W
Up to 18"	32" and longer	2	5,6	4"H x 5"W
18" to 19"	Less than 32"	3	1, 2, 5 or 1, 2, 6	4"H x 5"W
18" to 19"	32" and longer	4	1, 2, 5, 6	4"H x 5"W
20" and over	Less than 32"	3	1, 2, 5 or 1, 2, 6	5"H x 5"W
20" and over	32" and longer	4	1, 2, 5, 6	5"H x 5"W

Standard Convector Access Door Locations



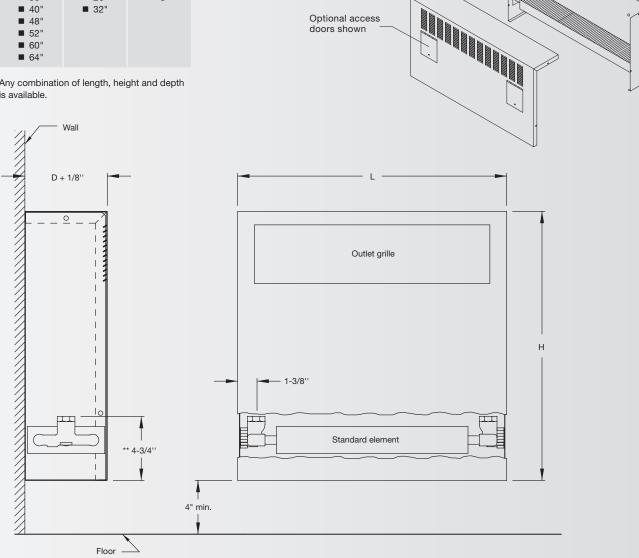
Note:

- Access doors not available in locations 5 and 6 with arched inlet.
- *Contact factory on heights less than 20"

- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.
- **The coil is adjustable 7/8" up in 7/16" increments.

Nominal lengths (L)	Nominal heights (H)	Nominal depths (D)
■ 24"	■ 18"*	4 "
■ 28"	2 0"	■ 6"
3 6"	2 6"	■ 8"
4 0"	3 2"	
48 "		
5 2"		
60 "		
6 4"		

Any combination of length, height and depth is available.

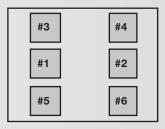


Optional access doors shown

WL Convector Access Door Location Availability

Unit Height	Unit Lengths	# of Doors Available	Available Locations	Door Size
Up to 20"	Less than 32"	1	3 or 4, 1 or 2	4"H x 5"W
Up to 20"	32" and longer	2	3, 4 or 1,2	4"H x 5"W
20" and over	Less than 32"	3	1, 2, 3 or 1, 2, 4	5"H x 5"W
20" and over	32" and longer	4	1, 2, 3, 4	5"H x 5"W

Standard Convector **Access Door Locations**

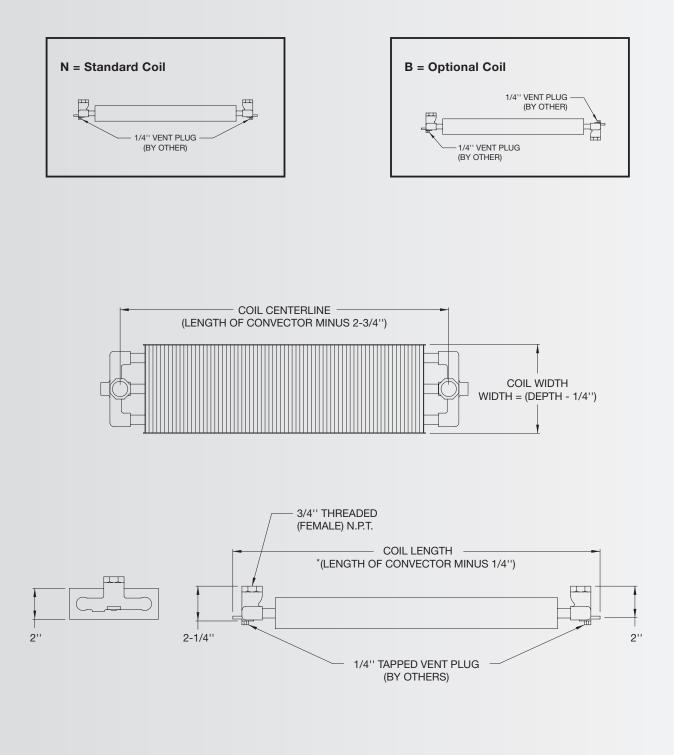


Note:

- Access doors not available in locations 5 and 6 with arched inlet.
- *Contact factory on heights less than 20"

- For convectors less than 28" long, end pockets are not offered as standard. Consult factory for availability.
- **The coil is adjustable 7/8" up in 7/16" increments.

Model WL Wall hung



Note:

- Fins are 0.010" thick aluminum.
- Header material is cast brass.
- *For Convectors with end pockets, subtract end pocket length from length of Convector.

Mechanical specifications

General

The contractor shall furnish and install Rittling Convectors with required mounting components and accessories to meet size, capacity and characteristics as required on the Equipment Schedule or on the plans. Units shall be installed in a neat and workmanlike manner in accordance with specifications and manufacturer recommendations. All material shall be manufactured by Zehnder Rittling.

Heating elements

The heating element is designed for either two-pipe steam or two-pipe hot water systems. The coil is manufactured using non-ferrous 1/2" nominal copper tubing and aluminum fins which are die cut with a thickness of no less than 0.010". The fins have integral collars, which provide maximum heat transfer between the tubes and the fins. The tubes are mechanically bonded to the fins to ensure permanent contact.

The entire fin assembly shall be encased in a heavy gauge galvanized steel frame with spacers locked at regular intervals to provide added protection to the finned element.

Headers are cast brass with 3/4" FNPT tapings. Standard configuration is supplied with both inlet and outlet connections facing downward. Optional reverse tapping is available with one connection facing upward and the other connection facing downward.

Assembled heating elements shall be hydrostatically tested to 1700 PSIG prior to leaving the factory and rated for a maximum 300 PSIG working pressure at 200°F.

Cabinet construction

Enclosures shall be of the size and style as shown on the plans. The cabinet fronts shall be manufactured from 12-gauge, 14-gauge, 16-gauge or 18-gauge standard. Pick one - cold rolled steel. Cabinet front shall be flanged on top and sides for added rigidity. The cabinet shall be reinforced and braced where necessary to provide additional stiffness. The liners shall be manufactured from 12-gauge, 14-gauge, 16-gauge, 18-gauge or 2-gauge standard. Pick one - cold rolled steel. 18-gauge cold rolled steel heating element support brackets shall be spot welded to the inside ends of the liners. Heating element support brackets allow for pitch adjustments of up to 1-1/4" for return of condensation in steam systems and as required by piping arrangements. Cabinet fronts are to be attached to liners using Phillips head fasteners standard. [Tamper proof Spanner head fasteners] [Tamper proof Allen Head fasteners]

Convector shall be provided with an air inlet/air discharge configuration as listed below. Must specify for each unit.

- Louvered inlet and/or outlet that are die-formed to allow directional flow of air with the maximum amount of free open area. The louvered openings are fabricated to be "pencil proof."
- Security perforated inlet/ perforated outlet shall be provided with 1/8" diameter holes on 3/16" staggered centerlines. 3/16" diameter holes on 1/4" staggered centerlines is also available.

Mechanical specifications

- Architectural grille inlet and/or outlet shall be a heavy-duty extruded aluminum bar grille with a deep etched clear anodized finish. The vanes of the continuous extrusion shall have a 15-degree deflection for directional airflow. The grille opening shall be "pencil proof."
- Arched inlet, available on SF, FL, RL and PL models, when an open inlet is required for floor mounted units. PL and RL models to be 3-sided overlap with this option.

Convector cabinets shall be provided with the following configurations:

- Type SF: This fully exposed floor convector has sloping outlet and is designed for mounting to a sidewall. The inlet air is directed through bottom front inlet. Louvered inlet and outlet as standard.
- Type FL: This fully exposed floor mounted convector is attached to the sidewall. The flat top design features front outlet and bottom front inlet. Louvered inlet and outlet as standard.
- Type SL: This fully exposed wall mounted convector with slope outlet. The inlet air is directed through the open bottom.
- Type WL: This fully exposed wall convector features a flat top with front vertical outlet. Inlet air passes through the open bottom.

- Type RL: This semi-recessed convector is designed for partially recessed wall mounting. The front inlet and outlet are advantageous where wall space is limited. The liner is recessed partially into the wall leaving the remaining front panel exposed. Louvered inlet and outlet as standard.
- Type PL: This convector is designed for full recess into the wall. The front inlet and outlet are advantageous where wall space is limited. The liner is recessed completely into the wall leaving only the front panel exposed. Louvered inlet and outlet as standard.

Finish

All enclosures and accessories shall be degreased and chemically phosphatized before application of a durable, attractive electrostatic epoxy powder coating. Color to be selected from standard Zehnder Rittling color chart.

Accessories and options

Dampers shall be provided where indicated. Damper blades shall be fabricated from 20-gauge cold rolled material painted to match enclosure color. Threaded damper screw and trunion shall provide positive operation of blade to provide variable heat output. Solid plastic damper knobs attached to damper screw shall operate damper. Recessed security Allen head operators shall be used in secure areas as indicated. Security damper must be operated by use of a hex key. Access doors shall be flush mounted with doors hinged at the top and use a slotted fastenerstandard. Tamper proof spanner head fasteners and tamper proof Allen head fasteners are optional

Convectors shall be provided with 1/2" thick faced fiberglass insulation on cabinet fronts, liners and sides for special applications. Urethane gasket seal shall be provided to seal front cover (type PL only).

End pockets shall be installed when noted on drawings and schedules. End pockets shall be left end only, right end only or both ends. Pick one. When provided the heating element shall be shortened and vertical baffle with element support shall be provided between the end of the element and the end of the cabinet. The end pocket length shall be 6" long or 8" long. Pick one. Consult factory for custom end pocket requirements. Units shall be manufactured in accordance with conformance to ISO 9001:2008 standards.

Warranty

Zehnder Rittling guarantees its products to be free from defects in material and workmanship for a period of one year from date of shipment from our factory.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder Rittlng. Upon receipt of written consent from Zehnder Rittling, 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 Rittling 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.

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

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

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