

# Retrofit Applications



The Fairmont Empress Hotel – [Victoria, BC](#)



# Why Choose Bulldog for your Retrofit?

The Hybrid nature of the Bulldog Heat Pump system makes retrofitting existing systems a simpler process and offers more versatility.

- The Bulldog system can be made to operate as a two-pipe changeover fan coil system during the retrofit period until the last unit is installed and then reverts to standard operation which is water-cooled AC and Hydronic heating.
- The Vertical Stack self-contained chassis makes it a simpler process with less time spent working in the suites.
- Very small footprint is available to closely match existing fan coils footprint.
- Customized options are available such as circulating water pumps.

## Benefits of a Bulldog

A Hydronic Heating System offers design flexibility and benefits that a reversing WSHP doesn't.

- Quieter
- Uses less electricity
- Has lower failure rates
- Better heat sharing capability
- Modulating heat
- Fewer moving parts
- More reliable
- 40-70% lower heating costs

Because a compressor that doesn't operate...

- Doesn't make any noise
- Doesn't consume any power
- Lasts longer
- Doesn't fail
- Has lower operating costs

A Bulldog system delivers benefits for the building owner, the occupants, and the budget.

- Dry cooler capability
- Small footprint
- Dehumidification
- Fresh air delivered directly to occupied space
- Chassis change out in minutes
- Low flow rate
- Smaller emergency generator
- Fewer water loops

# Bulldog vs. Regular WSHP

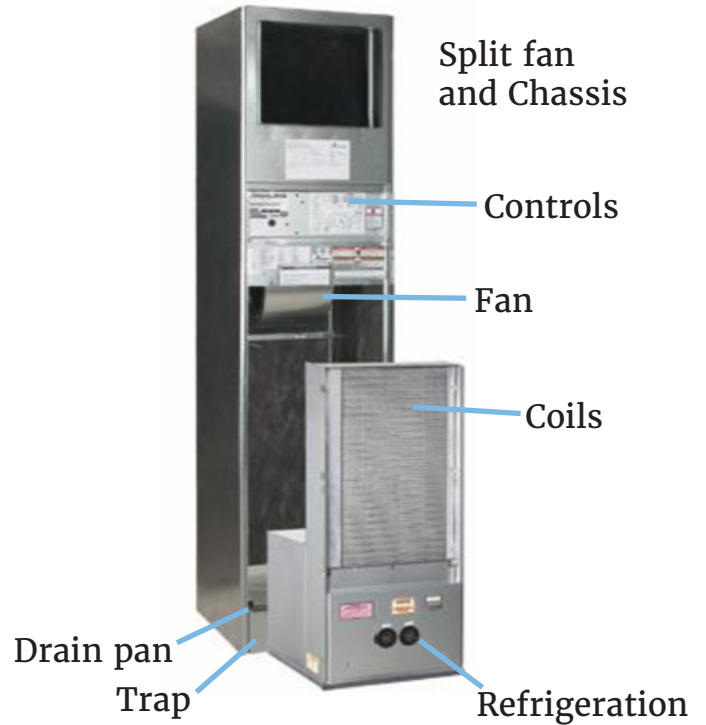
## Side by Side Comparison

### Bulldog

The advantage is that the Bulldog chassis can be installed into the existing cabinet as opposed to separately installing new fans and new controls in the existing cabinet.



### Competitor



## 100% Complete Self-Contained Chassis

### Vertical Stack Applications

- Refrigeration
- Fan
- Controls
- Drain pan
- Control valves

All in one enclosure!



Model Size	Capacity
RKA - 008 to 015	$\frac{3}{4}$ - 1 $\frac{1}{4}$ tons
RKB - 015 to 024	1 $\frac{1}{4}$ - 2 tons
RKC - 024 to 036	2 - 3 tons

# The Palace - Burlington, ON

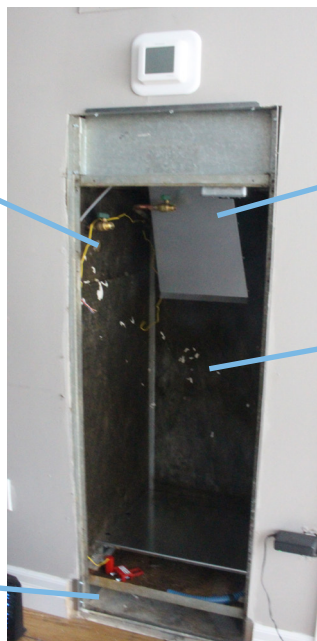


Keep existing water lines and add new water valves

Install new duct transition

Remove old split chassis/fan and controls

Keep existing drain pan



Slide in self-contained Bulldog chassis

Condensate hose to existing drain



Finished Installation



## McAuley Center – West Hartford, CT



The chassis slides right in!

The former WSHP system had reached its useful life, and out of control maintenance costs were making the system both unreliable and too expensive to maintain. The cost of electricity was significantly higher than the cost of using Natural Gas as a fuel source, which meant changing to the Bulldog Heat Pump system would yield significant energy cost savings. The savings in maintenance and heating costs resulted in an excellent ROI with a very quick payback period. 380 suites were retrofitted with Bulldog units.

## Weinberg House – Brighton, MA



**2Life**  
COMMUNITIES

Age affordably. Live well.

2Life Communities develops, builds, maintains, and manages broadly affordable housing for older adults.



After touring the McAuley Center and getting very favorable reviews concerning their Bulldog retrofit project, 2Life Communities selected the Bulldog system for their Golda Meir House and The Harry & Jeanette Weinburg House. The Bulldog unit design allows for fresh air connection. Both projects deliver fresh air directly to the occupied space through the Bulldog units. One project with simple fresh air damper assemblies and the other with integral ERV's.

# The Fairmont Empress – Victoria, BC



The Empress Hotel – [Victoria, BC](#)

The former system had hot water heating only fan coils in architectural enclosures, which were retrofitted to accept the Bulldog Console units.

The Bulldog system was preferred since the low flow rate of 2gpm/ton meant that the existing piping system was adequate and did not require any pipe insulation.



Bulldog SpaceKeeper Console (SKC)

# Swartz Creek D.S.B – Swartz Creek, MI



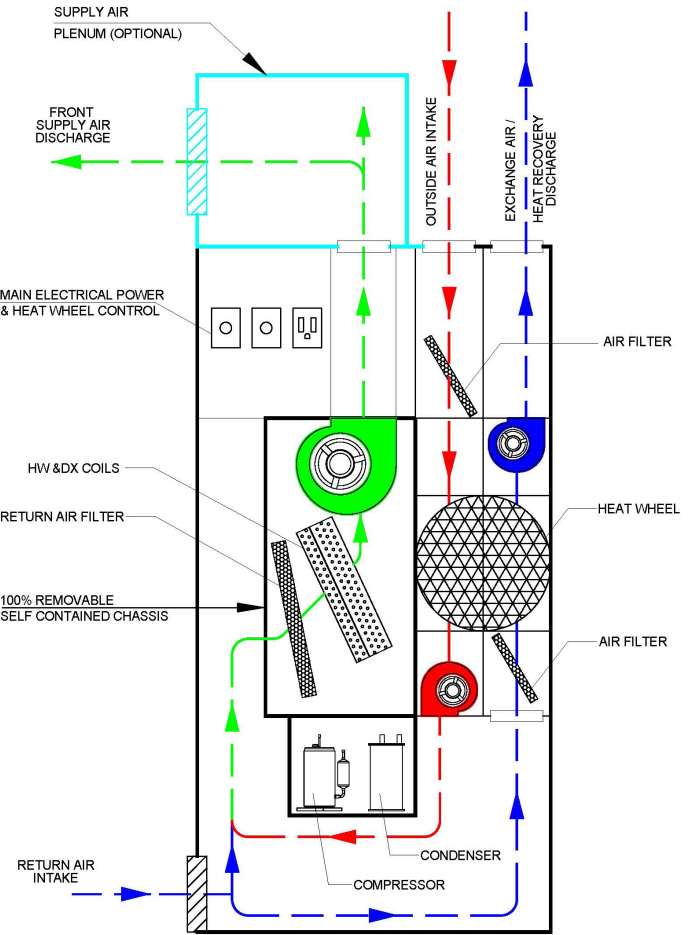
Raymond C. Syring Elementary – Swartz Creek, MI



Elms Road Elementary – Swartz Creek, MI

Frederick K. Dieck Elementary – Swartz Creek, MI

Morrish Elementary – Swartz Creek, MI



## Bulldog KlassKeeper (KKV)



The chassis simply slides out for easy maintenance and repairs outside of the classroom and allows for a replacement chassis.

# Yet another Hotel and Residence will be retrofitted with the Bulldog system



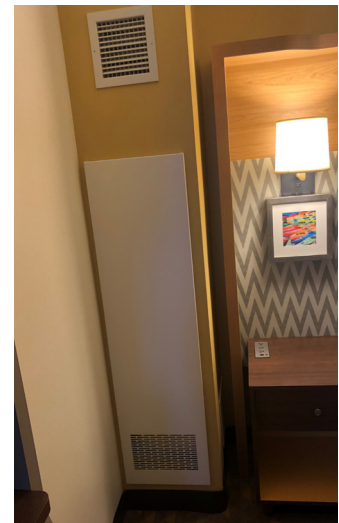
**In July 2020, CGC was awarded two retrofit projects based on the Bulldog systems ability to address the special requirements of a retrofit application, Holiday Inn Downtown Toronto and Park Southern Apartments in Washington, DC. One main reason why CGC was selected on these two projects is that the Hydronic coil can be made to operate as a two-pipe changeover fan coil system until such time as the entire building has been retrofitted. Once the final unit is installed, the Bulldog units will revert back to standard DX cooling and Hydronic heating operation.**

## Holiday Inn Toronto

The Holiday Inn Downtown Toronto is located in an iconic part of the city right next to the famed former Maple Leaf Gardens. The current system is a two-pipe change over fan coil system and with relatively small rooms, space is limited. Wanting to upgrade to a system that offers a choice of either heating or cooling, the designers and owner selected the Bulldog system.

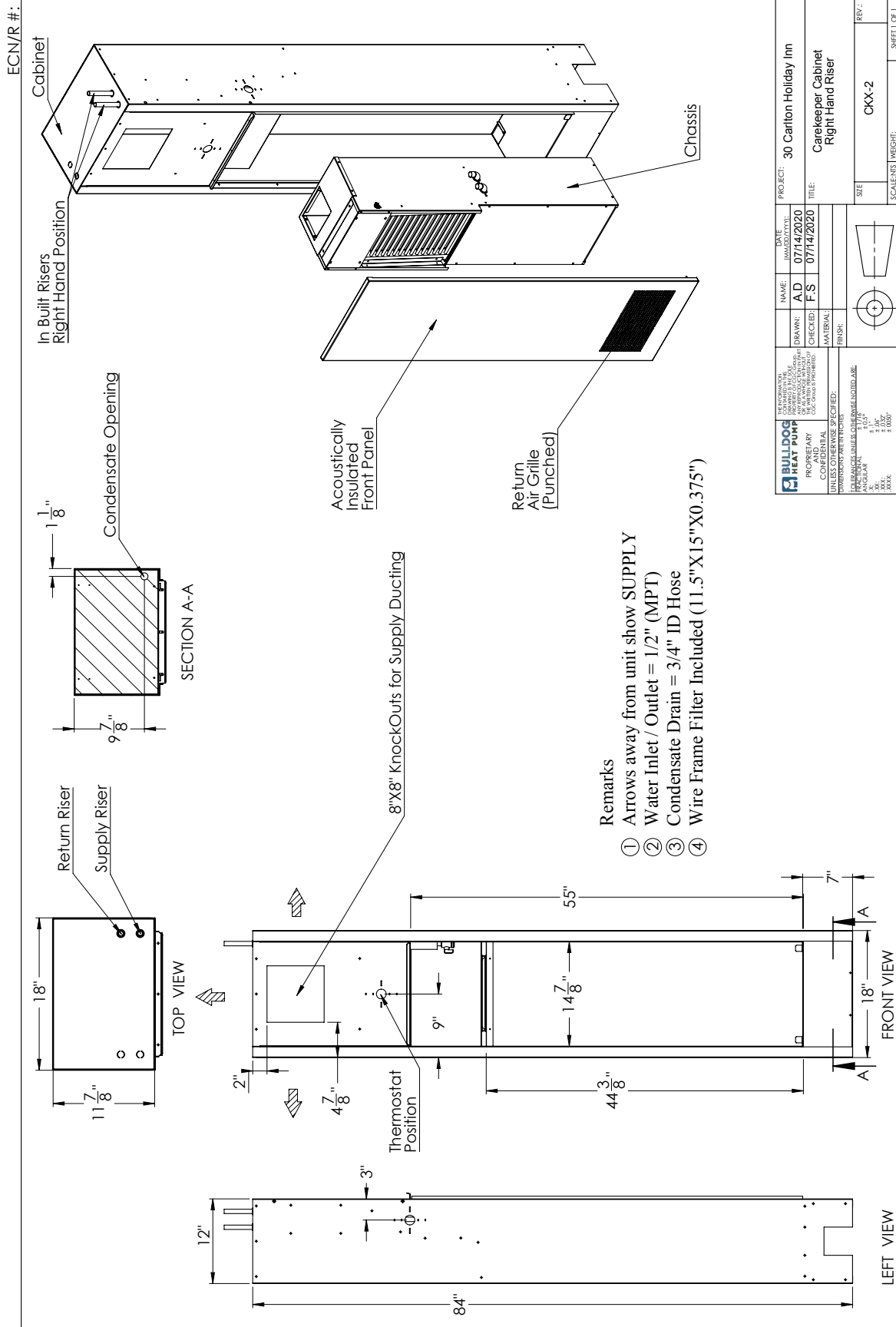
The original design of the Bulldog Vertical Stack InnKeeper in 1995 was formulated with the retrofit industry in mind. It allows for a much faster and easier retrofit application. The cabinet is completely free of any mechanical or electrical components making installation much easier and allows for a shorter construction cycle. The 100% self-contained chassis allows very quick installation and minimizes the amount of time spent in the suites. The Bulldog units for this application are only 12" wide x 18" deep allowing for a small footprint.

Prior to choosing the Bulldog system the owners visited an existing hotel where the Bulldog units have been installed for a few years in order to evaluate the reliability and the sound levels. One of the suites visited has hosted the Prime Minister of Canada and was deemed to be very quiet and reliable.





# Holiday Inn CareKeeper Unit



- Remarks**
- ① Arrows away from unit show SUPPLY
  - ② Water Inlet / Outlet = 1/2" (MPT)
  - ③ Condensate Drain = 3/4" ID Hose
  - ④ Wire Frame Filter Included (11.5"X15"X0.375")

<b>BULLDOG</b> SECURITY SYSTEMS 10000 W. 100th St. Overland Park, KS 66210 (913) 666-1100 www.bulldogsecurity.com	NAME:	AD	DATE:	07/14/2020
	DRAWN:	F.S.	CHECKED:	F.S.
	MATERIAL:		FINISH:	
	UNIT:		PROJECT:	
PROJECT: 30 Carlton Holiday Inn TITLE: Carekeeper Cabinet Right Hand Riser SIZE: CKX-2 SCALE: 1/4" = 1'-0" WEIGHT: _____ SHEET OF 1				

Last saved on: July-15-20; In the interest of continuous improvement, drawing subject to change without notice.



## **Park Southern Apartments**

Park Southern Apartments in Washington, DC has a unique challenge in that they want to allow the building to remain occupied during the transition period. The current design is a two-pipe changeover fan coil system. This affordable housing facility has 358 apartments consisting of studio, two, and three bedrooms.

Prior to choosing the Bulldog system, the design team and owner conducted their due diligence by visiting another recent Bulldog retrofit project in NYC. With stunning views of Central Park, they were met at the 240 CPS (Central Park South) project by the design engineer who presented the system as trouble-free. The take away from their visit was:

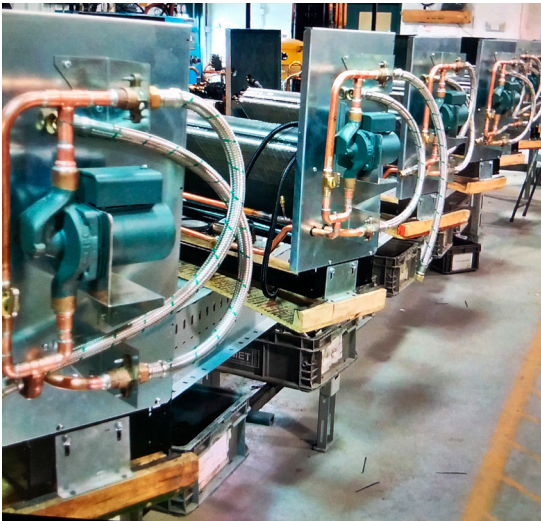
*“The engineer was very proud of his design and gave us an overview and presentation. It was amazing. The location alone on Central Park was very impressive. Engineer reiterated several times their reasoning behind selecting the Bulldog unit and its links to the success of their retrofit.”*



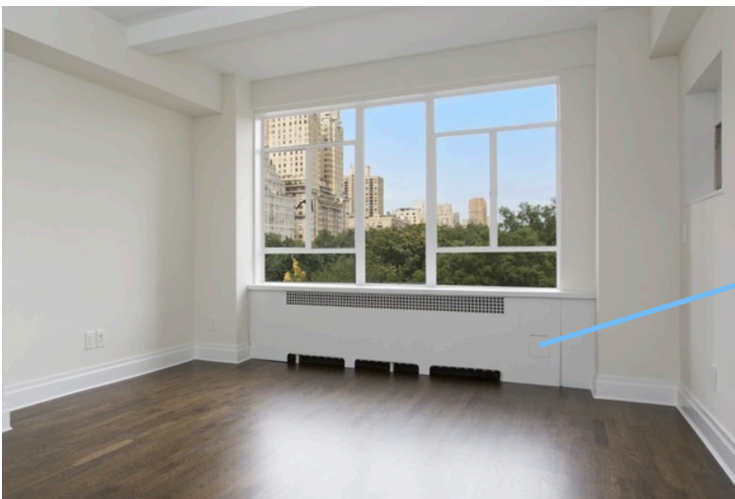
## 240 Central Park South – NYC, NY



The previous hydronic system was simple, hot water heating with cast iron radiators along with window AC units. The high temperature hydronic system for heating was in use during the Bulldog console unit's installation.



Individual unit-mounted circuit setting pumps were added to address the concerns of not having enough water flow throughout the existing system and to ensure adequate pressure.



Bulldog SpaceKeeper Console (SKC)

# Luther Village on the Park

Luther Village is located in Uptown Waterloo, Ontario. It is a single site retirement community with more than 450 residents.

The Sunshine Center is an Assisted Living community with 148 suites. In 2003 they incorporated Bulldog Vertical Stack Heat Pumps into the design as well as Varipak Make Up Air Units for common areas.



Because of the success of their 2003 project, Luther Village decided to incorporate Bulldog Heat Pumps in their 2015 renovation of Atrium Suites. This renovation consisted of transitioning from fan coils to Bulldog Heat Pumps for their 153 suites. In this wing, they opted to use SKV closet type units. Also installed were three 22 ton Compax Chillers, which provides chilled water to fan coils located in common areas.

The transition from fan coils to Bulldog units began in the Fall when all of the fan coil units were calling for heat. Due to the fact that the Bulldog operates as a fan coil in heating, the switch over continued through the winter until all the fan coils were replaced with Bulldog units.



# Our Retrofit Projects

## Hospitality

Conrad Hotel - [Chicago, IL](#)

Eganridge Inn and Country Club - [Kawartha Lakes, ON](#)

Hart Hotels - [Buffalo, NY](#)

Holiday Inn Airport - [Buffalo, NY](#)

Holiday Inn - Select - [Mississauga, ON](#)

Holiday Inn Downtown - [Toronto, ON](#)

Hotel Nelligan - [Montreal, QC](#)

Hyatt Place Chicago/Downtown - [Chicago, IL](#)

Madison Avenue Manor Boutique Hotel - [Toronto, ON](#)

Sheraton Parkway Hotel - [Toronto, ON](#)

The Fairmont Empress - [Victoria, BC](#)



## Assisted Living

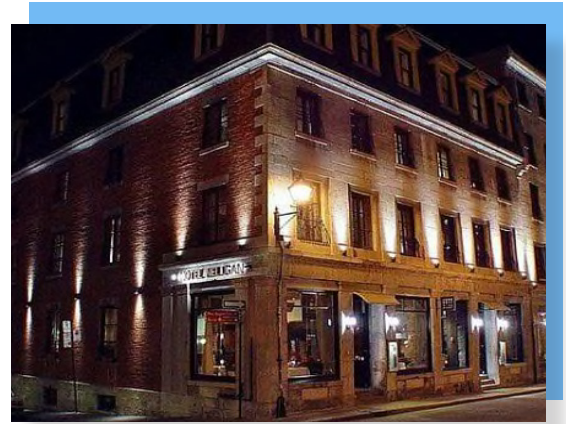
Golda Meir House - [Newton, MA](#)

Luther Village - [Waterloo, ON](#)

McAuley Centre - [Hartford, CT](#)

Versacare - [Sarnia, ON](#)

Weinberg House - [Boston, MA](#)



Hotel Nelligan - Montreal, QC



Hyatt Place Downtown - Chicago, IL



Golda Meir House - Newtown, MA

# Our Retrofit Projects

## Education

Assumption College P.S. - [Brantford, ON](#)

Banbury Heights P.S. - [Brantford, ON](#)

Belleview Elementary P.S. - [Brantford, ON](#)

Branlyn Community P.S. - [Brantford, ON](#)

Brant Haldimand Norfolk Catholic  
District School Board - [Brantford, ON](#)

Brantford Central P.S. - [Brantford, ON](#)

Brier Park Elementary P.S. - [Brantford, ON](#)

Cedarland Elementary P.S. - [Brantford, ON](#)

Elms Road Elementary - [Swartz Creek, MI](#)

Frederick K. Dieck Elementary - [Swartz Creek, MI](#)

Langdon Elementary School - [Langdon, AB](#)

McKinnon Park Secondary School - [Caledonia, ON](#)

Morrish Elementary School - [Swartz Creek, MI](#)

Ottawa-Carleton District School Board - [Napan, ON](#)

Raymond C. Syring Elementary - [Swartz Creek, MI](#)

St. George German Elementary P.S. - [St. George, ON](#)

Teacher Centre Office Building - [Brantford, ON](#)



**McKinnon Park - Caledonia, ON**



**Brant Haldimand Norfolk Catholic  
D.S.B - Brantford, ON**



**Frederick K. Dieck - Swartz Creek, MI**

# Our Retrofit Projects

## Residential

240 Central Park South - [New York, NY](#)

Bella Vista Place - [Mississauga, ON](#)

Knickerbocker Apartments - [Solon, OH](#)

Park Southern Apartments - [Washington, DC](#)

Residences of Royal Connaught - [Hamilton, ON](#)

The Palace - [Burlington, ON](#)



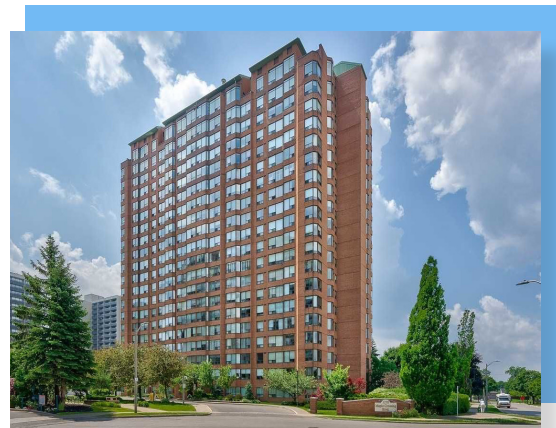
**Royal Connaught - Hamilton, ON**



**240 Central Park South - New York, NY**

## Commercial

Peel Art Gallery Museum - [Brampton, ON](#)



**The Palace - Burlington, ON**





### InnKeeper Vertical Stack

IKV 008-018	¾ - 1½ tons	18"W x 14"D x 84"H
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Risers not included in "W"

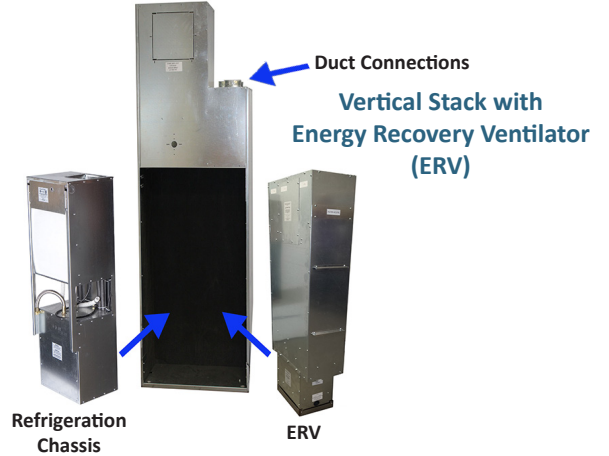
E-Series (IEV) high efficient model also available \*

### HomeKeeper Vertical Stack

HKV 016-030	1¼ - 2½ tons	20½"W x 20"D x 84"H
HKV 036-048	3 - 4 tons	24¾"W x 24"D x 84"H

Risers not included in "W"

E-Series (HEV) high efficient model also available \*



### Small SpaceKeeper Vertical

SKV008-018	¾ - 1½ tons
SKV020-036	1¾ - 3 tons
SKV042-060	3½ - 5 tons

E-Series (SEV) high efficient model also available \*

### Large SpaceKeeper Vertical

SKV070-100	5½ - 8½ tons
SKV120-150	10 - 12½ tons
SKV180-240	15 - 20 tons
SKV280-320	23 - 26½ tons
SKV360-480	30 - 40 tons



### SideWinder

SDW008-015	¾ - 1¼ tons
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Slide out chassis for quick change out and repairs \*



### SpaceKeeper Console

SKC008-018	¾ - 1½ tons
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### SpaceKeeper Horizontal

SKH008-018	¾ - 1½ tons
SKH020-036	1¾ - 3 tons
SKH042-060	3½ - 5 tons
SKH070-100	5½ - 8½ tons

E-Series (SEH) high efficient model also available \*



### SlimKeeper

SLK008-015	¾ - 1¼ tons
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11" High, no trap required \*



### Varipak Make-Up Air Units

4,000 CFM	10 - 20 tons
4,000-10,000 CFM	10 - 28 tons
12,000-25,000 CFM	20 - 125 tons
+ 25,000 CFM	Contact Factory

Varipak with Heat Wheel Option available \*



### KlassKeeper

KKV024-048	2-4 tons
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Slide out chassis for quick change out and repairs outside of the classroom \*