VIESMANN

climate of innovation

# Heating with Oil


# Modern Oil Heating

Today's leading oil heating technology is clean-burning and efficient. Unlike older systems, which are often outdated and unclean, modern oil heating can reduce fossil fuel consumption and help mitigate the effects of climate change.

Oil is a precious and indispensable natural resource. As such, oil heating must be economical, efficient and environmentally friendly. Modern oil heating technology from Viessmann satisfies these demands to deliver maximum performance and comfort year after year.

**An old boiler can cost you**

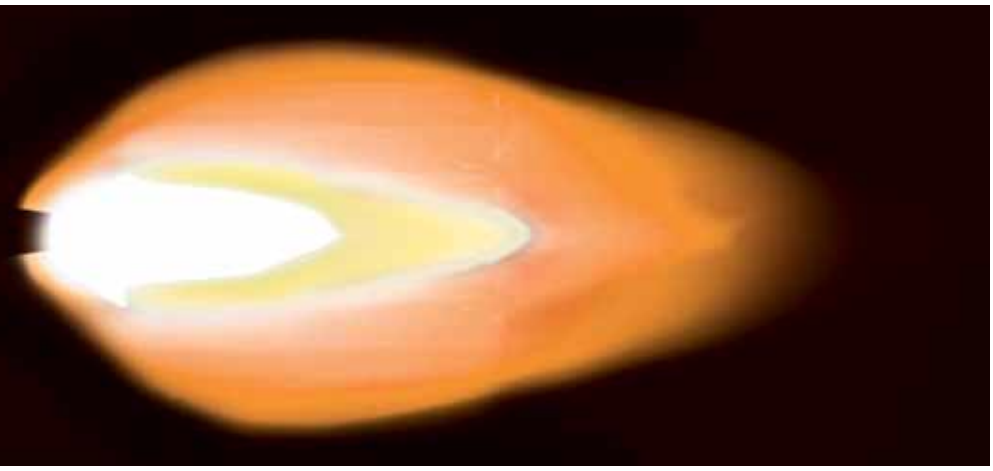
In many cases, a boiler 15 years or older can mean a higher-than-necessary heating bill. By investing in a high-tech, low-temperature boiler from Viessmann, you can lower your heating bill significantly and reduce your impact on the environment. Plus, you will benefit from increased reliability and the peace-of-mind that comes with owning a new heating system.

**A modern solution**

With the Vitorond 100 and Vitola 200 Series, we offer a complete line of low-temperature oil heating boilers. Compared to traditional boilers that operate at a high water temperature all the time, our boilers modulate the boiler water to the outdoor temperature. For you, this means a significant reduction in heating costs and a smaller environmental footprint. Our boilers are equipped with a unique, stainless steel combustion chamber for clean, efficient combustion and long-term, worry-free operation.

**It doesn't stop there**

Our extensive product portfolio lets you take efficiency and energy savings a step further. Reduce your energy costs by integrating hot water production with your heating boiler, and manage the entire system with one of our control solutions. Or put the sun to work for you by adding a solar thermal package. With the entire system from one source, you don't have to compromise: total system performance and additional energy savings go hand-in-hand.



# An Investment That Pays Off

**With fluctuating energy prices and a growing concern for the environment, it pays to modernize your outdated oil-fired boiler. You will save money, and the environment too.**

**Reduce unnecessary waste**
In the United States alone, there are an estimated 20 million homes with heating systems 20 years of age or older†. For most of them, a significant share of energy and money go to waste unnecessarily every year due to outdated technology and an improperly sized system. Along with wasting energy, these boilers contribute to climate change by needlessly releasing harmful $CO_2$ emissions.

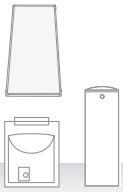
**Replace and save**
With a new heating system, this waste is eliminated. For example, by selecting a low-temperature heating boiler and an outdoor reset control based on a proper heat loss calculation, you can expect to save as much as 30% on your annual heating cost. This not only results in significant cost savings, but also environmental savings with reduced $CO_2$ emissions.

**Free solar energy**
Imagine heating 60% of your home's hot water for free all year long. It's possible with a solar system from Viessmann. Designed for seamless integration with your new oil-fired boiler or existing direct-fired hot water tank, a solar system can generate hot water using free solar energy. Look forward to lower monthly energy bills and reduced $CO_2$ emissions as well (find out more on page 8).

## Save money with a modern, low-temperature oil-fired boiler

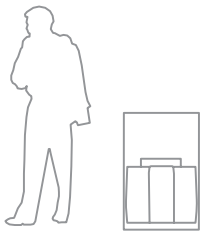
| Energy savings | Cost savings (over 15 years)* | $CO_2$ savings (over 15 years) |
|---|---|---|
| **17% ($322 p.a.)** of space heating oil | **$ 7,600** | **15 t** |

## Increase your savings with a solar domestic hot water system



| Additional energy savings | Additional cost savings (15 years)** | Additional $CO_2$ savings (over 15 years) |
|---|---|---|
| **60% ($228 p.a.)** of DHW oil | **$ 5,400** | **16 t** |

Savings shown in USD.
† 2005 Residential Energy Consumption Survey by the Energy Information Administration.
* Based on 690 USG average annual household oil consumption at an average oil price of $2.75 / USG, (estimated for 2010). From the 2005 Residential Energy Consumption Survey by the Energy Information Administration. Calculations include a 5% rise in energy prices per year.
** Based on 207 USG average annual household oil consumption for direct-fired hot water tank, 20 years of age at average oil price of $2.75 / USG, (estimated for 2010). Calculations include a 5% rise in energy prices per year.



# VITOROND 100

An affordable heating solution with proven Viessmann quality and performance.
Compact, triple-pass boiler in a sectional cast iron design, 91 to 245 MBH

**Efficient by design**
The Vitorond 100, with its triple-pass heat exchanger, is designed to achieve a high level of efficiency while providing exceptional comfort. Unlike single-pass boilers, the Vitorond 100 guides flue gasses through the heat exchanger three times (see opposite page), allowing the greatest amount of heat extraction to be achieved. This design significantly increases the efficiency of the boiler and results in excellent fuel utilization, reducing emissions and your heating cost.

**Control your comfort**
Select an easy-to-use room thermostat or, for greater control and additional energy savings, choose a Vitotronic system control. Unlike conventional boilers, which operate at a consistently high boiler water temperature, the Vitorond 100 with Vitotronic control adjusts the boiler water to outdoor temperatures, boosting efficiency while keeping your home comfortable at all times.

The Vitotronic control even allows for safe, low-temperature operation by protecting the heat exchanger against condensation and potential damage. This means your boiler uses less fuel, reducing your energy consumption and heating bill.

**Convenience all around**
The Vitorond 100 is your ideal choice for an economical retrofit of your heating system. Thanks to its compact, space-saving design, the Vitorond 100 is easy to install even in older buildings with narrow entrances and small mechanical rooms. And with the direct vent option, the Vitorond 100 (up to VR1-33) does not require a chimney or combustion air supply opening for even greater installation flexibility. The full-swing left- or right-hinged combustion chamber door and easy-to-clean flue gas passageways make service and maintenance fast and trouble-free.

The Vitorond 100 is ENERGY STAR® qualified. By choosing an ENERGY STAR® appliance, you are helping to promote cleaner air and a healthier environment.

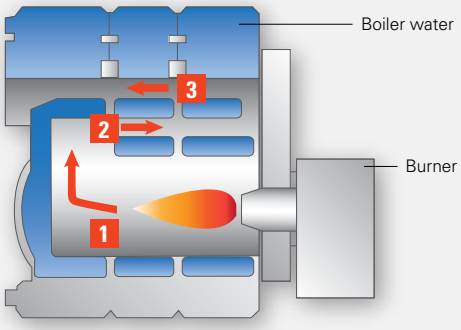

Product may not look exactly as illustrated. Beckett burner option shown.

1. Vitotronic control unit (optional)
2. Triple-pass heat exchanger
3. Stainless steel combustion chamber insert
4. Highly-effective 3½" thermal insulation
5. Boiler return injector (with Vitotronic control)

Triple-pass cast iron heat exchanger.

### Designed for efficiency

The triple-pass design extracts the maximum amount of heat, getting the most from your fuel dollar!




1. Pass 1: The burner fires into the stainless steel combustion chamber, sending flue gas to the back of the heat exchanger.
2. Pass 2: The flue gasses pass again through the heat exchanger towards the front of the boiler.
3. Pass 3: Finally, flue gasses pass through the heat exchanger to the vent at the back of the boiler.

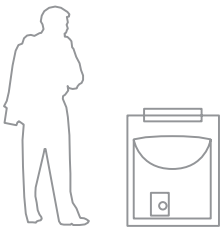
### Specifications

- Triple-pass, sectional cast iron boiler
- Stainless steel combustion chamber insert
- 6 models from 91 to 245 MBH
- A.F.U.E. rating up to 86.9%
- Thick 3½" thermal insulation
- Ideal for radiator, baseboard, indirect domestic hot water heating and, in some cases, in-floor heating

*For technical data, see page 10.*

### Benefits at a glance

- Maximum heat extraction and efficiency thanks to the triple-pass heat exchanger.
- Long service life and maximum reliability with extremely durable cast iron heat exchanger.
- Clean and efficient combustion thanks to the stainless steel combustion chamber insert.
- Quiet combustion with Beckett or Riello burner.
- For greater efficiency and comfort, modulate the boiler water temperature with a Vitotronic control.
- Eliminate the need for a chimney and combustion air supply opening with the direct vent option (up to VR1-33).
- Low maintenance cost with service-friendly burner and easy-to-clean flue gas passageways.



# VITOLA 200

A milestone in modern oil heating technology.
Ultra-low-temperature, cast iron/steel heating boiler, 83 to 300 MBH

The oil-fired Vitola 200 is ENERGY STAR® qualified. By choosing an ENERGY STAR® appliance, you are helping to promote cleaner air and a healthier environment.

**Heating over 2 million homes**
A milestone in modern oil heating, the Vitola 200 has set standards for reliable and economical performance with its unique, Viessmann-patented heat exchanger. Since its development in the 1970s, the Vitola has been the choice for over 2 million homeowners worldwide and remains one of the most reliable and technologically advanced boilers available.

**Designed for efficiency and comfort**
The unique heat exchanger design sets the Vitola 200 apart from all other oil-fired boilers. With a double-wall construction of steel and cast iron, the heat exchanger operates much like a double-pane window, preventing the condensation of flue gases at low boiler water temperatures - a process that would lead to heat exchanger corrosion in conventional oil boilers. This makes the Vitola 200 the best choice for radiant floor heating systems. With low boiler water temperatures, the Vitola 200 provides efficient operation without compromising warmth, comfort and reliability.

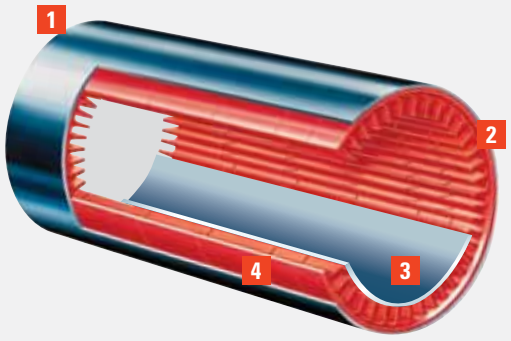
**Helps you save**
The Vitotronic control provides user-friendly, intelligent management of the entire heating system and ensures economical performance and maximum comfort at all times. The outdoor reset function automatically adapts the boiler operating temperature to the changing outdoor temperature. Unlike regular boilers, the Vitola 200 is able to operate at temperatures as low as 80°F without damaging the heat exchanger. This allows the boiler to shut off completely when no heat is required, reducing fuel consumption and operating costs.

**Your environmental choice**
The Vitola 200 is your efficient and environmentally-friendly choice for all applications. The low-emission, oil-fired burner and stainless steel combustion chamber guarantee clean, low-NOx combustion, while the thick 3½" thermal insulation ensures the heat stays where it belongs. Thanks to its large water content, the Vitola 200 can retain heat for long periods of time, reducing burner cycling and fuel consumption. With proven Viessmann quality, you can be sure your investment delivers long-lasting, efficient performance year after year.


1. Vitotronic 200 digital control unit
2. Wide water walls and large water content
3. Cast iron and steel composite heat exchanger
4. Viessmann Vitoflame 200 oil burner
5. Highly effective thermal insulation


**Intelligent heat exchanger design**

The Vitola 200 heat exchanger sets it apart from all other oil-fired boilers, making it efficient and suitable for all applications!




1. External steel wall of the heat exchanger
2. Internal cast iron wall of the heat exchanger
3. Stainless steel combustion chamber
4. Intermittent grooves in cast iron create air pockets to insulate like a double-pane window

**Specifications**

- Cast iron and steel construction
- Unique, Viessmann-patented heat exchanger design
- Full boiler water temperature modulation without low limit
- Stainless steel combustion chamber
- 6 models from 83 to 300 MBH
- A.F.U.E. rating for oil up to 87.4%
- Premium boiler suitable for all applications

*For technical data, see page 10.*

**Benefits at a glance**

- High operational reliability and a long service life with double-wall heat exchanger construction.
- Suitable for all temperature applications: radiator, base-board, indirect domestic hot water heating and in-floor heating.
- Efficient and clean combustion thanks to the stainless steel combustion chamber.
- Clean, whisper-quiet operation with low-emission burner and optimized combustion chamber geometry.
- Increased performance and reduced standby losses with thick, 3½" thermal insulation.
- Easy installation and start due to factory tested burners that are adjusted to the rated output.

# Solar Heating – Hot water. Naturally.

Solar thermal systems are ideal for integration with your new oil-fired boiler and can lower your energy costs even further.

Vitosol 200-F flat plate solar collectors.

By integrating a high-performance solar thermal system, solar energy is used to heat or preheat your home's domestic hot water (DHW), and in some cases, supplement your space heating. Depending on the size of the solar system, you can offset your DHW heating costs by as much as 60% and reduce your $CO_2$ emissions by up to 1 ton/year.

**How it works**

The transfer fluid inside the high-performance solar collectors is heated by solar radiation. The fluid is pumped to a heat exchanger immersed in the storage tank where the heat is transferred to the drinking water or heating circuit by a heat exchanger. The cooled transfer fluid is then routed back to the solar collectors and the cycle is repeated.

**High performance solar systems**

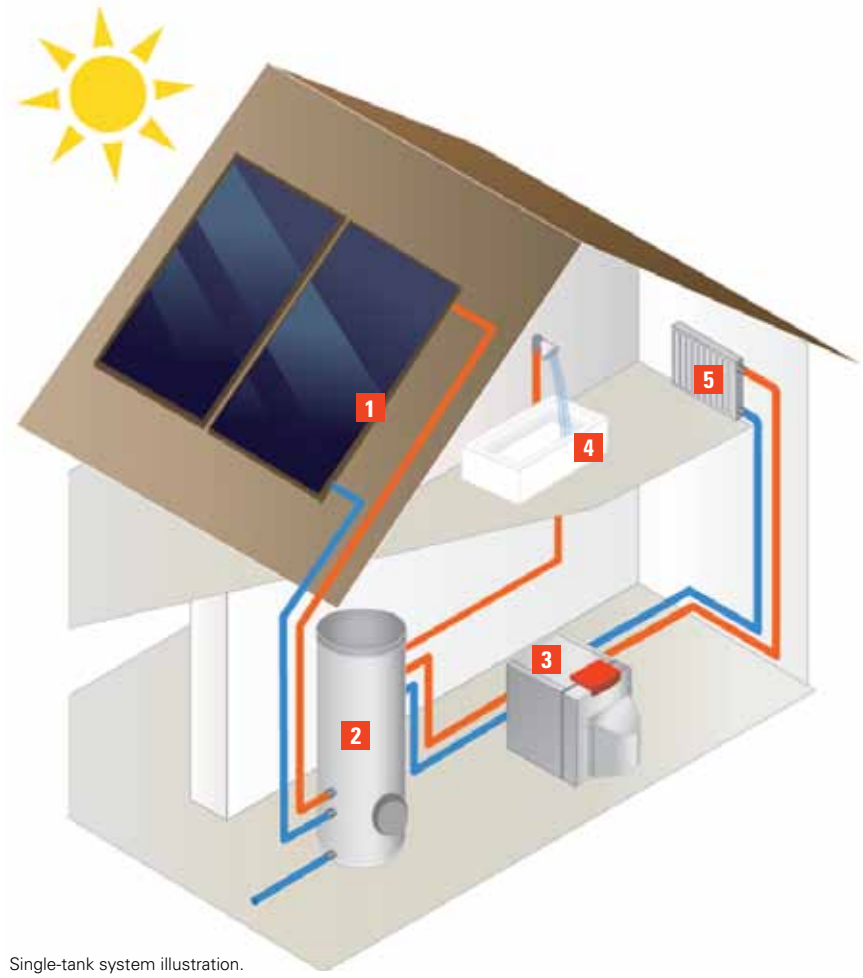
Built on more than 30 years of experience, our high-performance flat plate and vacuum tube solar collectors and system components deliver superior year-round performance in a variety of applications. Plus, for residential installations, we offer complete solar system packages that simplify ordering and installation.

**Integration with an indirect-fired hot-water tank**

If your home uses a hot water based heating system, you have the option of an integrated single-tank system (see illustration on page 8 and description on page 9). Using a dual-coil storage tank, both the solar collectors and oil-fired boiler contribute to DHW production.

**Integration with a direct-fired hot water tank**

If your home does not use a hot water based heating system, you can still easily integrate solar into your existing DHW heating system. The solar collectors heat water in a dedicated, single-coil storage tank, which feeds into your home's existing DHW tank or instantaneous hot water heater. By preheating, your system will require less energy, saving you money and reducing your environmental footprint.




Single-tank system illustration.

1. High-performance solar thermal collectors
2. Dual-coil storage tank
3. High-efficiency oil-fired boiler
4. Reliable supply of domestic hot water
5. Hot water space heating system

# Hot Water for Less

Let your new oil-fired boiler heat your home's domestic hot water and save up to 50%.*

Integrating indirect-fired DHW heating with your oil-fired boiler can save as much as 50% in operating costs when compared to conventional direct-fired hot water production. Our complete line of DHW storage tanks offers high-quality construction and fast recovery rates for an abundant supply of DHW at all times. Plus, with thick thermal insulation, your DHW is guaranteed to stay hot. In addition to vertical and horizontal DHW storage tanks, choose from economical enamel-lined or premium stainless steel construction for a variety of applications.

**Your economical choice**

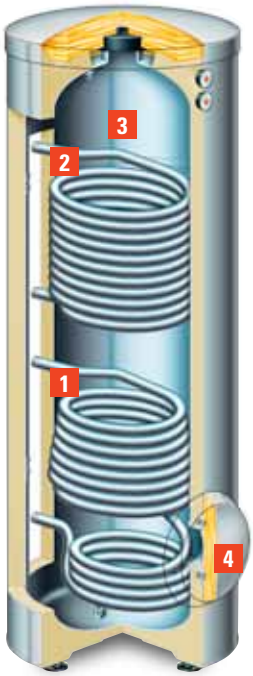
The Vitocell 100 Series meets all demands for comfortable and economical DHW heating. With steel construction, Ceraprotect enamel coating and a magnesium anode, the Vitocell 100 ensures operational reliability and a long service life. Single-coil tanks are available in 4 sizes from 42 to 120 USG. Dual-coil tanks for use in solar thermal applications are available in 2 sizes, 79 and 120 USG.

**Your premium choice**

Vitocell 300 tanks are made from corrosion-resistant, high-alloy stainless steel to satisfy the most stringent hygiene standards. With its premium-quality construction, the Vitocell 300 offers long-term, reliable operation and comes with a lifetime warranty. Vitocell 300 tanks meet the stringent standards required to carry the Environmental Choice logo. Single-coil tanks are available in 7 sizes from 42 to 120 USG. Dual-coil tanks are available in 2 sizes, 79 and 120 USG.

**Solar hot water heating**

Our dual-coil solar tank allows both the solar collectors and oil-fired boiler to produce your home's DHW. Solar heat is transferred using the lower coil, while back-up heat is supplied by the heating boiler, as required, via the upper coil (see illustration). By using solar energy to help generate your home's DHW, you can further lower your heating bill without compromising your hot water supply (see page 3).




**Dual-coil solar tank**

1. Lower-coil: Heat is transferred from the solar collectors to the tank water
2. Upper-coil: Additional heat supplied by the high-efficiency boiler
3. Stainless steel construction (Vitocell 300)
4. Clean-out opening

*When compared to a conventional direct-fired domestic hot water storage tank.

# Technical Specifications

## Vitorond 100 Comfort Series cast iron boiler

| Model | | 22 | 27 | 33 | 40 | 50 | 63 |
|---|---|---|---|---|---|---|---|
| **Rated input** | MBH | 91 | 105 | 140 | 161 | 196 | 245 |
| **Rated output** | MBH | 80 | 92 | 122 | 140 | 172 | 215 |
| **Efficiency** | % A.F.U.E. | 86.8 | 86.8 | 86.8 | 86.9 | 86.9 | 86.9 |
| **Dimensions** (inches) | Length | 41¼ | 47 | 47 | 38 | 43 | 48 |
| | Width | 19¾ | 19¾ | 19¾ | 22¼ | 22¼ | 22¼ |
| | Height | 33 | 33 | 33 | 39¾ | 39¾ | 39¾ |
| | Height (incl. control) | 44 | 44 | 44 | 50½ | 50½ | 50½ |
| **Weight*** | Boiler | 400 | 477 | 485 | 533 | 654 | 775 |
| | Beckett burner | 37 | 37 | 37 | 37 | 24 | 24 |
| | Riello burner | 31 | 31 | 33 | 33 | 33 | 37 |

*Shipping weight.

## Vitola 200 Premium Series cast iron/steel boiler

oil-fired

| Model | | 18 | 22 | 33 | 40 | 50 | 63 |
|---|---|---|---|---|---|---|---|
| **Rated input** | MBH | 83 | 107 | 135 | 170 | 219 | 300 |
| **Rated output** | MBH | 72 | 92 | 116 | 146 | 189 | 258 |
| **Efficiency*** | % A.F.U.E. | 87.1 | 87.2 | 87.2 | 87.3 | 87.4 | 87.1 |
| **Dimensions** (inches) | Length | 43¾ | 46¼ | 52¾ | 53¼ | 58½ | 63 |
| | Width | 25¼ | 26¼ | 27½ | 30½ | 31¾ | 31¾ |
| | Height | 32¾ | 33½ | 34 | 37 | 38½ | 38½ |
| **Weight** | lbs | 381 | 434 | 542 | 697 | 866 | 941 |
| **Water content** | USG | 18.5 | 23.2 | 31.2 | 37 | 52.6 | 59 |

*Efficiencies for oil-fired Vitola 200

# The Viessmann Group

Since 1917 Viessmann has been committed to providing heating solutions that are convenient, economical and environmentally responsible.

**The Viessmann Group**
For three generations Viessmann has provided efficient and environmentally-responsible heating solutions, tailored to the needs of our customers. Through ongoing research and product development, Viessmann has pioneered technologies that set standards and made the company a technological innovator and industry pacesetter.

**Viessmann International**
With 13 manufacturing facilities in Europe, Canada and China, sales organizations in 36 countries, and 120 sales offices worldwide, Viessmann provides a strong global presence and customer proximity. In North America, Viessmann has delivered state-of-the-art heating solutions for over 25 years. With three locations across North America, an outstanding support network, and Academy training, Viessmann provides top-quality service and support that is second to none.

**Our Values**
Environmental and social responsibility, fair business practices, and striving for perfection and maximum efficiency in all company operations are core values for Viessmann. Together with our products and services, this allows us to offer our customers and partners the benefit and added value of a strong brand.

**Oil-fired boilers,** 83 to 4387 MBH
Viessmann offers a comprehensive range of oil-fired boilers, including highly efficient low temperature boilers for residential and commercial applications.

**Gas-fired boilers,** 37 to 1480 MBH
Our complete range of condensing and non-condensing gas-fired boilers offers highly efficient and advanced heating solutions for all applications.

**Solar heating**
Built on more than 30 years of experience, our flat plate and vacuum tube solar collectors and system components deliver superior year-round performance.

**Wood-fired boilers,** 512 to 4268 MBH
Computer controlled and fully-automated, large-scale biomass systems from Viessmann feature industry-leading wood heating technology.

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KOB Wärme aus Holz

MAWERA ...aus Holz wird Energie

BIOFERM ENERGY SYSTEMS

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**North American and Canadian Head Office**
Viessmann Manufacturing Company Inc.
Waterloo, ON Canada
Tel. (519) 885-6300
Fax (519) 885-0887
www.viessmann.ca

**U.S. Head Office**
Viessmann Manufacturing Company (U.S.) Inc.
Warwick, RI U.S.A.
Tel. (401) 732-0667
Fax (401) 732-0590
www.viessmann-us.com

**Sales Center**
Viessmann Manufacturing Company Inc.
Langley, BC Canada
Tel. (604) 533-9445
Fax (604) 533-9439
www.viessmann.ca


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5414 387 v1.2 10/10 Printed in Canada