Oil Heating Technology
VITOROND® 100

VIESSMANN

Heating Systems ◄

Industrial Systems

Refrigeration Systems

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.

Carlin Burner

Multiple burner options:
Beckett, Carlin and Riello

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 diagram on next 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

For greater heating system control and additional energy savings, choose a Vitotronic system option. The Vitorond 100 boiler 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, 140) 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.

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.
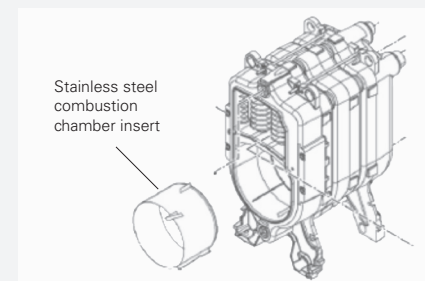
1 Vitotronic control unit (optional)

2 Triple-pass heat exchanger

3 Stainless steel combustion chamber insert

4 Highly-effective 3½″ thermal insulation

5 Boiler return injector (with Vitotronic control)

Product not exactly as illustrated.
Beckett burner option shown.

Combustion chamber improvement

The stainless steel combustion chamber insert ensures a very fast flame stabilization with each burner start. This reduces sooting and cuts the annual service time in half.
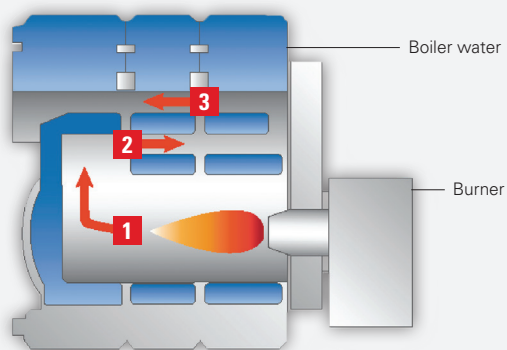
Stainless steel combustion chamber insert

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!

Boiler water

Burner

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 87.1 %.

■ Thick 3½" thermal insulation.

■ Ideal for radiator, baseboard, indirect domestic hot water heating and, in some cases, in-floor heating.

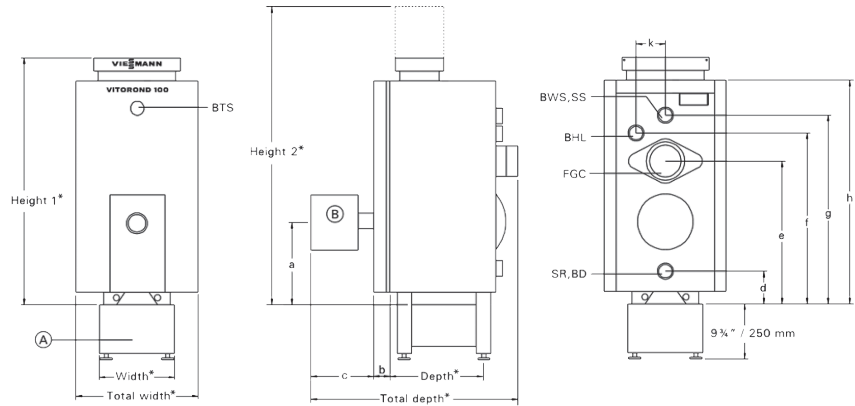■ *For further technical data, see back page.*

Benefits at a glance

■ Outdoor reset standard.

■ 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 additional heating system control and comfort, consider a Vitotronic control option.

■ 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.

Technical Data

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Vitorond 100 (with Vitotronic control)

Legend

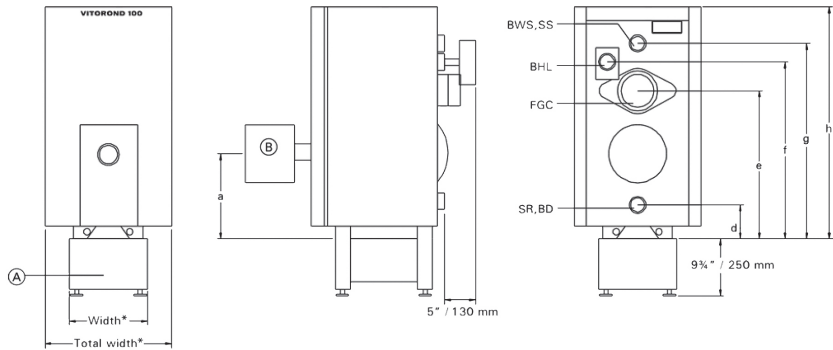|	
BD	Boiler Drain
BTS	Boiler Temperature Sensor
BWR	Boiler Water Return
BWS	Boiler Water Supply
FGC	Flue Gas Collar
SS	Safety Supply
BHL	Boiler High Limit (with outdoor reset module)
Ⓐ	Boiler Stand
Ⓑ	Beckett, Carlin, or Riello Burner

Vitorond 100 (dimensions)

Boiler Model	VR1	22, 91	27, 105	33, 140	40, 161	50, 96	63, 245
a	in. (mm)	13 ¼ (338)	13 ¼ (338)	13 ¼ (338)	13 ¾ (347)	13 ¾ (347)	13 ¾ (347)
b	in. (mm)	3 (75)	3 (75)	3 (75)	3 (75)	3 (75)	3 (75)
c	in. (mm)	12 ½ (312)	12 ½ (312)	12 ½ (312)	12 ½ (312)	9 ¾ (247)	9 ¾ (247)
d	in. (mm)	5 ½ (137)	5 ½ (137)	5 ½ (137)	4 ¼ (107)	4 ¼ (107)	4 ¼ (107)
e	in. (mm)	23 (585)	23 (585)	23 (585)	27 ¾ (702)	27 ¾ (702)	27 ¾ (702)
f	in. (mm)	26 ¼ (667)	26 ¼ (667)	26 ¼ (667)	32 ¼ (822)	32 ¼ (822)	32 ¼ (822)
g	in. (mm)	28 ½ (726)	28 ½ (726)	28 ½ (726)	34 ¾ (882)	34 ¾ (882)	34 ¾ (882)
h	in. (mm)	33 (840)	33 (840)	33 (840)	39 ¾ (1010)	39 ¾ (1010)	39 ¾ (1010)
k	in. (mm)	5 ½ (138)	5 ½ (138)	5 ½ (138)	6 ½ (166)	6 ½ (166)	6 ½ (166)

Vitorond 100 (with aquistat or hydrostat)

Vitorond 100 (oil-fired cast iron boiler)

Model	VR1	22, 91	27, 105	33, 140	40, 161	50, 196	63, 245
Maximum input	MBH	91	105	140	161	196	245
Net AHRI Rating	MBH	70	80	106	122	150	187
AFUE	%	87	87	87	87	87.1	87.1
Overall Dimensions							
Depth (without burner)	inches	25 ½	31	31	24 ½	29 ½	34 ½
Width	inches	19 ¾	19 ¾	19 ¾	22 ½	22 ½	22 ½
Height 1 (Height 2)	inches	43 ⅞ (52 ¾)	43 ⅞ (52 ¾)	43 ⅞ (52 ¾)	50 ½ (59 ½)	50 ½ (59 ½)	50 ½ (59 ½)
Height of boiler stand	inches	9 ¾	9 ¾	9 ¾	9 ¾	9 ¾	9 ¾
Weight (without burner)	lbs	265	335	337	410	522	635
Boiler water content	USG	9.2	11.6	11.6	12.7	16.1	19.3
Maximum operating pressure	psig	45	45	45	45	45	45
Boiler water temperature maximum	*F	230	230	230	230	230	230
Adjustable high limit (AHL) renge space heating (steady state)	*F	167 - 230	167 - 230	167 - 230	167 - 230	167 - 230	167 - 230
Boiler connections							
Boiler heating supply and return	NPTM	1 ½	1 ½	1 ½	2	2	2
Vent conncetions							
Boiler vent connection	Ø inches	5	5	5	6	6	6