

## Technical Data Sheet

Model Nos. and pricing: see Price List



### Vitorond 100

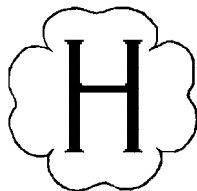
#### VR1 Series

#### Oil-Fired Boiler

of cast iron sectional construction  
for hydronic heating systems

Heating input: 91 to 245 MBH  
27 to 72 kW

- Maximum heat extraction with triple-pass design. *A.F.U.E. of up to 86.9%*
- Extremely durable heat exchanger for maximum reliability and long service life
- Quiet, ultra-clean combustion Beckett burner
- Minimum maintenance with service-friendly burner and easy-to-clean flue gas passageways
- Thick 3 1/2" insulation for extremely low standby losses and increased fuel savings
- For Canada - meets CSA requirement for a blocked vent shut-off system for oil-fired boilers
- Stainless steel combustion chamber insert for clean and efficient combustion



## Technical Data

### Technical data - boiler

Boiler Model	Model No.	VR1-22	VR1-27	VR1-33	VR1-40	VR1-50	VR1-63
<b>CSA input</b>	MBH	91	105	140	161	196	245
	kW	27	31	41	47	57	72
<b>CSA output</b>	MBH	80	92	122	140	172	215
	kW	23	27	36	41	50	63
<b>Net I = B = R rating</b>	MBH	70	80	106	122	150	187
	kW	21	23	31	36	44	55
<b>A.F.U.E.</b>	%	86.8	86.8	86.8	86.9	86.9	86.9
<b>Overall dimensions (incl. burner)</b>							
Total depth	inches	41 ¼	47	47	38	43	48
	mm	1048	1194	1194	965	1092	1219
Total width	inches	19	19	19	22	22	22
	mm	483	483	483	559	559	559
Total height	inches	33	33	33	40	40	40
	mm	838	838	838	1016	1016	1016
<b>Total weight</b> (boiler with insulation and burner)	lbs	312	385	385	447	555	668
	kg	142	175	175	203	252	303
<b>Boiler water content</b>	USG	9.2	11.6	11.6	12.7	16.1	19.3
	liters	35	44	44	48	61	73
<b>Boiler water connections</b>							
Supply and return	inches	1 ½	1 ½	1 ½	2	2	2
<b>Vent pipe diameter</b>	Ø inches	5	5	5	6	6	6
	Ø mm	130	130	130	150	150	150
<b>Maximum allowable water temperature (fixed high limit)</b>	°F	248	248	248	248	248	248
	°C	120	120	120	120	120	120
<b>Maximum operating temperature (adjustable high limit)</b>	°F	240	240	240	240	240	240
	°C	110	110	110	110	110	110
<b>Maximum allowable working pressure</b>	psig	45	45	45	45	45	45
	kPa	310	310	310	310	310	310

## Technical Data / Standard Equipment

### Technical data - Beckett burner

Boiler Model	Model No.	VR1-22	VR1-27	VR1-33	VR1-40	VR1-50	VR1-63
Burner model	Beckett	NX-VI 301	NX-VI 302	NX-VI 303	NX-VI 304	AFG-VI 401	AFG-VI 401
Fuel type	oil	No. 2 fuel oil					
Pump pressure	psig	175	175	175	175	175	175
	kPa	1207	1207	1207	1207	1207	1207
Oil nozzle	Danfoss	n.a.	0.60x60°AS	n.a.	0.85x60°AH	n.a.	n.a.
	Delavan	0.50x60°B	n.a.	0.75x60°A/W	0.85x60°A	1.10x45°W	1.35x60°W
	Hago	0.50x60°B	0.60x60°B	n.a.	n.a.	1.10x45°W	1.35x60°B
Oil nozzle flow rate	GPH@psig	0.65@175	0.75@175	1.00@175	1.15@175	1.40@175	1.75@175
Air tube length	inches	7	7	7	7	9	9
	mm	178	178	178	178	230	230
Air tube insertion	inches	3¼	3¼	3 <sup>5</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	7¼	7¼
	mm	83	83	92	124	184	184

### Technical data - Riello burner

Boiler Model	Model No.	VR1-22	VR1-27	VR1-33	VR1-40	VR1-50	VR1-63
Burner model	Riello 40 Series	F3	F3	F5	F5	F5	F10
Fuel type	oil	No. 2 fuel oil					
Pump pressure	psig	175	175	175	175	175	175
	kPa	1207	1207	1207	1207	1207	1207
Oil nozzle	Danfoss	0.5x60°xAS	0.6x60°xAS	0.75x60°xAS	0.85x60°xAH	1.10x60°xAH	1.35x60°xAH
	Delavan	0.5x60°xSS	0.6x60°xW	0.75x60°xA 0.75x60°xW	0.85x60°xA 0.85x60°xW	1.10x60°xA	1.35x60°xA 1.35x60°xW
	Hago	0.5x60°xSS	0.6x60°xES	n.a.	0.85x60°xH	1.10x60°xH 1.10x60°xSS	1.35x45°xSS
Oil nozzle flow rate	GPH@psig	0.65@175	0.75@175	1.00@175	1.15@175	1.40@175	1.75@175
Air tube length	inches	7	7	6 <sup>5</sup> / <sub>16</sub>	6 <sup>5</sup> / <sub>16</sub>	6 <sup>5</sup> / <sub>16</sub>	7
	mm	178	178	160	160	160	178
Air tube insertion	inches	4 <sup>5</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	4¼	4¼	4¼	4¼
	mm	118	118	108	108	108	121
Turbulator setting		0.0	2.0	0.8	1.0	3.0	2.0
Air gate setting		3.1	3.4	2.9	3.5	3.6	2.8

► Boiler standard working pressure: 30 psig; maximum working pressure: 45 psig.

► Wherever possible, vertically vent the boiler with a properly sized chimney which meets all local and national codes.

► Draft at the breech is typically -0.02 to -0.08 "w.c.

### Standard equipment

Note:

Boiler controls and burners are purchased separately. Please see Price List for details.

- Boiler shell (insulation preinstalled up to size VR1-33)
- 30 psig pressure relief valve
- Drain valve
- Installation fittings
- Tridicator
- Honeywell aquastat
- Beckett burner c/w Viessmann specified oil nozzle and stainless steel insert
- Riello burner c/w Viessmann specified oil nozzle and stainless steel insert

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