

# R1K 34 /B

## Submittal



The R1K34/B is a premier premix gas-fired heating only boiler that complies with ANSI Z21.13 and CSA 4.9 GAS FIRED LOW PRESSURE STEAM AND HOT WATER BOILERS. The R1K 34 /B consists of Radiant's Combi-Tech® R1K revolutionary stainless steel exchanger, which maintains high efficiencies in all conditions. Larger coil tube with an inner diameter of 28 mm reduces the pressure drop across the heat exchanger, and prevents debris/limestone deposits and makes it much easier on maintenance. The R1K 34 /B model features a 1:9 air/gas modulation which is important for energy savings and prevents frequent cycling of the boiler. The R1K 34 /B comes with indirect hot water tank connections and control readiness for DHW option. The R1K 34 /B includes improved overall ergonomics and better access for service and maintenance. The Digitech® controls provide intelligence and simplicity in the operating of the R1K 34 /B.

### MAIN FEATURES

ANTI-FREEZE FUNCTION PROTECTION

OUTDOOR RESET

WIDE MODULATING RANGE

LOW NOX EMISSIONS

AUTOMATIC BY-PASS FITTED

PRE-WIRED ELECTRICAL LEAD

FULL GAS/AIR MODULATION

MIXED ZONE CARD (OPTIONAL)

SOLAR CARD CONTROL (OPTIONAL)

TIME AND TEMPERATURE CONTROLLERS (OPTIONAL)

WARRANTY HEAT EXCHANGER: 12 YEARS;

WARRANTY COMPONENTS: 2 YEARS.

### TECHNICAL FEATURES

MODEL		R1K 34 /B
Maximum central heating input	btu/h - (kW)	116013 - (34)
Maximum domestic hot water input	btu/h - (kW)	116013 - (34)
Minimum central heating input	btu/h - (kW)	15013 - (4.4)
Minimum domestic hot water input	btu/h - (kW)	15013 - (4.4)
Adjustable central heating range	°F - (°C)	86-176 / 77-113 (30-80 / 25-45)
Maximum operating temperature for central heating	°F - (°C)	203 - (95)
Maximum operating pressure for central heating	psi - (bar)	60 - (4.1)
Capacity of the system expansion vessel	gal(US) - (litres)	2.11 - (8)
Domestic hot water temperature range	°F - °C	95-140 (35-60)
Maximum pressure for domestic hot water	psi - (bar)	150 - (10.34)
Minimum pressure for domestic hot water	psi - (bar)	7.25 - (0.5)
Width	in - (mm)	16.1 - (410)
Depth	in - (mm)	12.9 - (330)
Height	in - (mm)	25.27 - (642)
Gross weight	lb - (Kg)	97 - (44)
Electric consumption - normal	W	78
Electric consumption - Standby	W	3.5
AFUE Rating	%	96

PROJECT NO.:

REPRESENTATIVE:

NAME:

DATE:

LOCATION:

SPECIFIER:

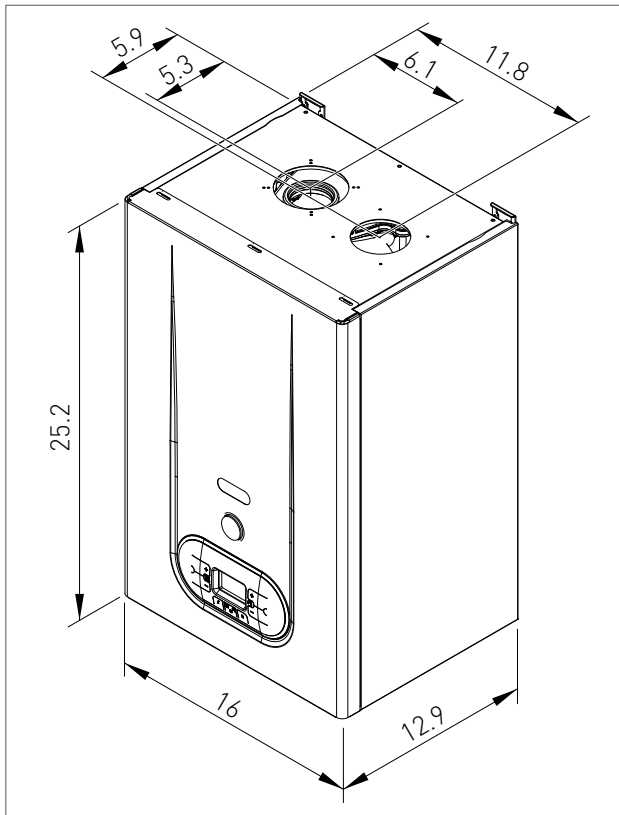
APPROVED BY:

CONTRACTOR:

DATE:



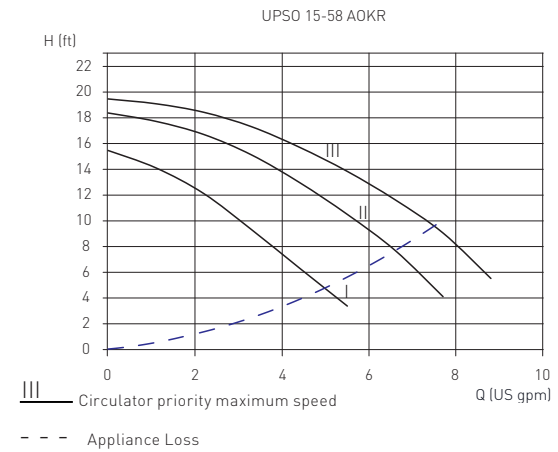
**OVERALL DIMENSIONS (INCH)**



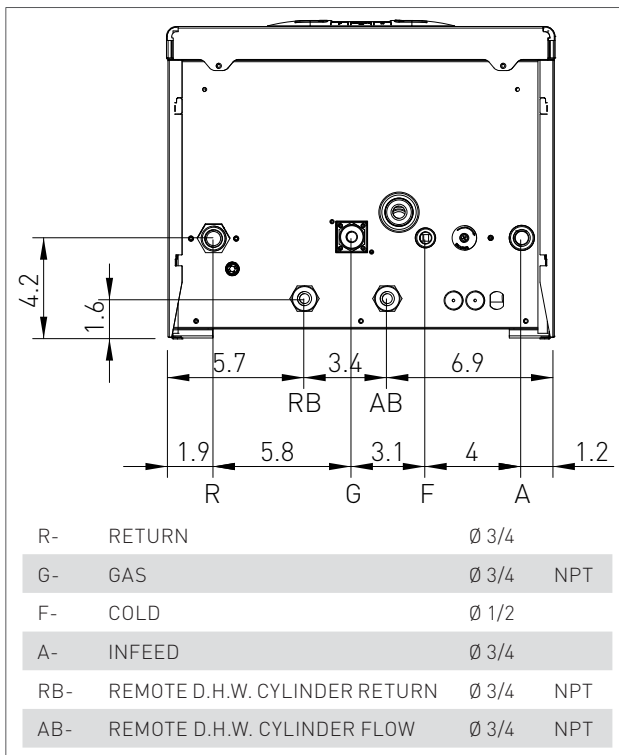
**TYPES OF EXHAUST SYSTEMS**

- > COLLINEAR VENT, CO-AXIAL VENT AND SINGLE VENT.
- > PVC, CPVC AND POLYPROPYLENE FOR SIZES 2", 3" AND 4" DIAMETERS.
- > FOR CANADA USE GAS VENTING SYSTEMS CERTIFIED TO ULC S636.

**CIRCULATOR PREVALENCE/FLOW DIAGRAM**

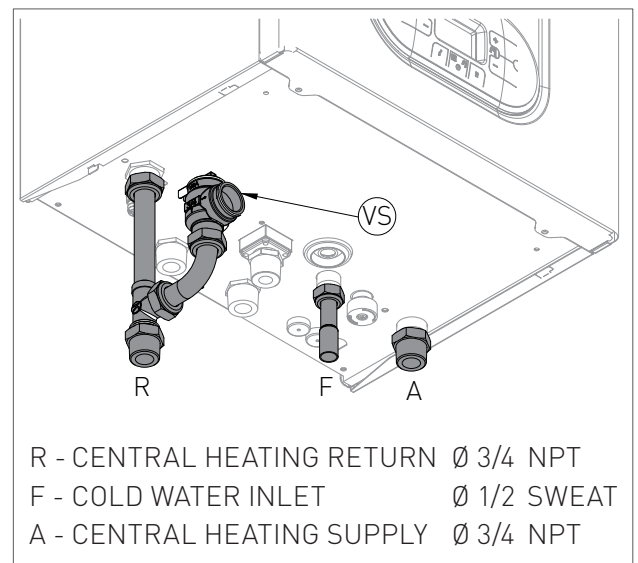


**JIG**



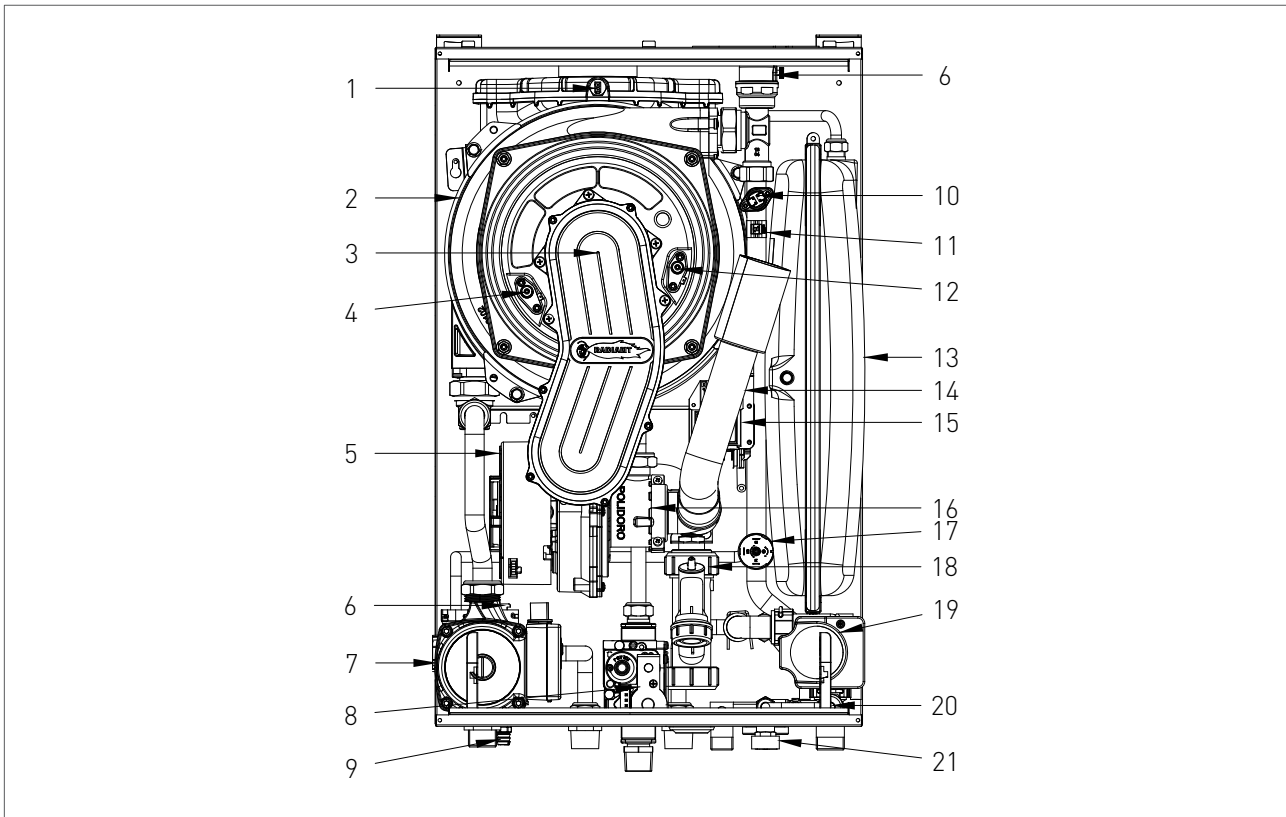
**PRESSURE RELIEF VALVE KIT**

An hydraulic kit equipped with hydraulic connections and safety valve (see 'VS') is available and supplied by RADIANT.





## TECHNICAL ASSEMBLY



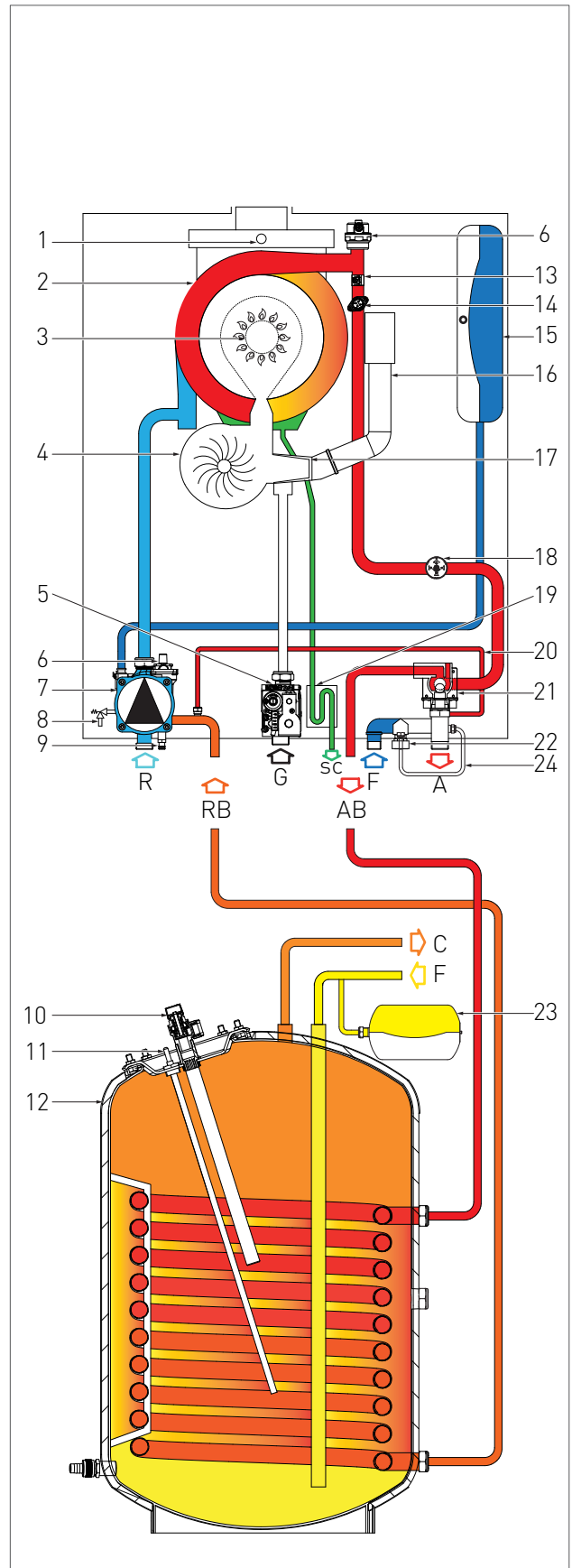
### KEY

1. EXHAUST SAFETY THERMOFUSE
2. INTEGRATED HEAT EXCHANGER
3. BURNER UNIT
4. IONIZATION ELECTRODE
5. COMBUSTION BLOWER
6. AIR ELIMINATOR
7. CIRCULATOR
8. GAS VALVE
9. SYSTEM DRAINING TAP
10. WATER TEMPERATURE HIGH LIMIT SWITCH
11. CENTRAL HEATING TEMPERATURE PROBE
12. SPARK ELECTRODE
13. THERMAL EXPANSION TANK
14. AIR SUCTION TUBE
15. IGNITION TRANSFORMER
16. PROPORTIONAL VENTURI
17. WATER PRESSURE TRANSDUCER
18. CONDENSATE COLLECTION SIPHON
19. DIVERTER VALVE
20. CHECK VALVE
21. SYSTEM FILLING TAP

**HYDRAULIC BOARD**

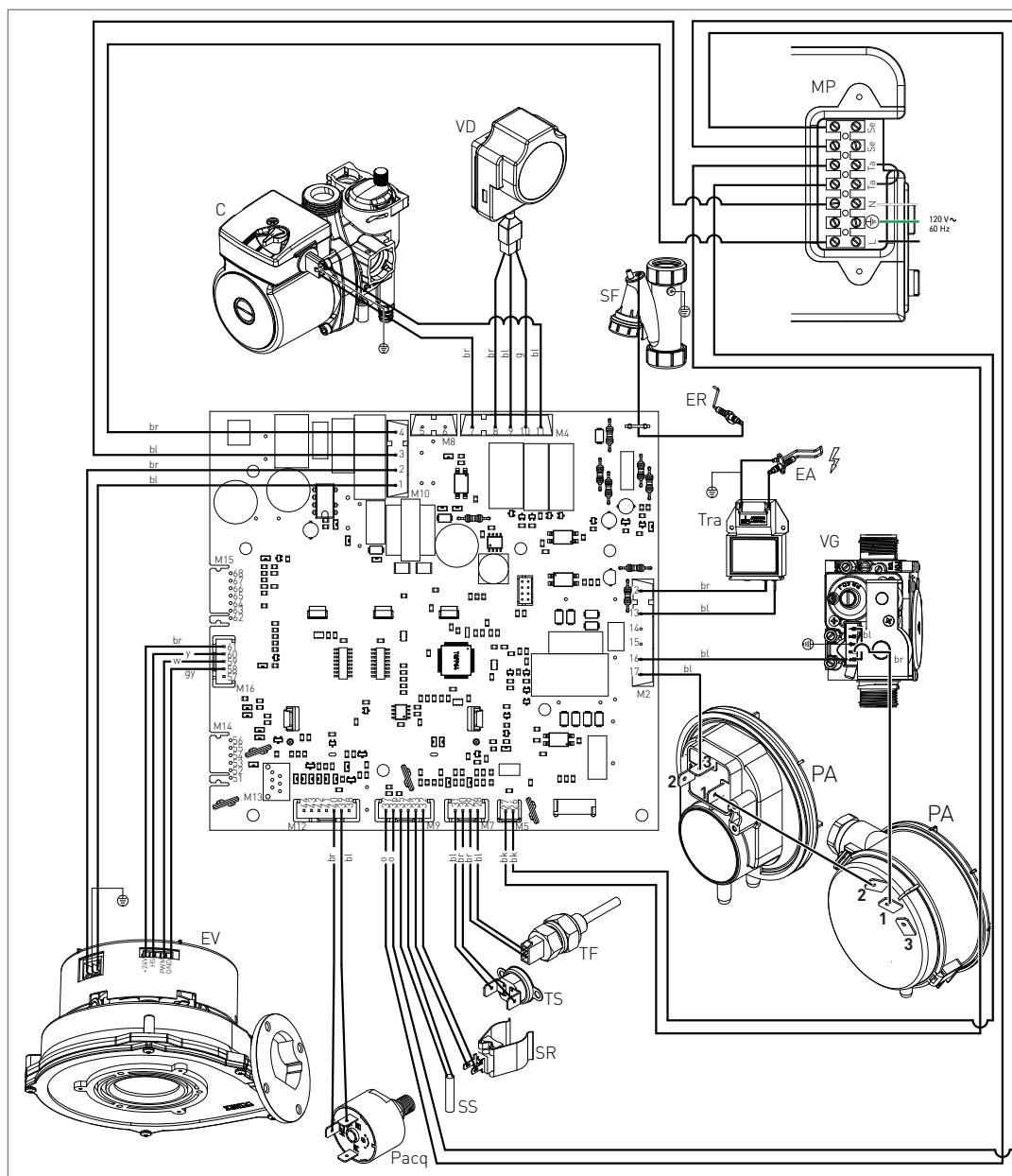
**KEY**

- R. CENTRAL HEATING RETURN
- C. DOMESTIC HOT WATER OUTLET
- G. GAS INLET
- SC. CONDENSATE DRAIN
- F. COLD WATER INLET
- A. CENTRAL HEATING SUPPLY
  
- 1. EXHAUST SAFETY THERMOFUSE
- 2. INTEGRATED HEAT EXCHANGER
- 3. BURNER UNIT
- 4. COMBUSTION BLOWER
- 5. GAS VALVE
- 6. AIR ELIMINATOR
- 7. CIRCULATOR
- 8. PRESSURE RELIEF VALVE 30 psi (2 bar)
- 9. SYSTEM DRAINING TAP
- 10. PRESSURE RELIEF VALVE 150 psi (10.3 bar)
- 11. DOMESTIC TEMPERATURE PROBE
- 12. INDIRECT TANK
- 13. CENTRAL HEATING TEMPERATURE PROBE
- 14. WATER TEMPERATURE HIGH LIMIT SWITCH
- 15. THERMAL EXPANSION TANK
- 16. AIR SUCTION TUBE
- 17. PROPORTIONAL VENTURI
- 18. WATER PRESSURE TRANSDUCER
- 19. CONDENSATE COLLECTION SIPHON
- 20. BY-PASS
- 21. DIVERTER VALVE
- 22. SYSTEM FILLING TAP
- 23. THERMAL EXPANSION TANK D.H.W.
- 24. CHECK VALVE





WIRING DIAGRAM



ER: IONIZATION ELECTRODE	TS: WATER TEMPERATURE HIGH LIMIT SWITCH	MP: PANEL TERMINAL	BL: BLUE
EA: SPARK ELECTRODE	PACQ: WATER PRESSURE TRANSDUCER	SE: EXTERNAL PROBE	BR: BROWN
C: CIRCULATOR	SR: CENTRAL HEATING TEMPERATURE PROBE	TA: ENVIRONMENT THERMOSTAT	O: ORANGE
VG: GAS VALVE	SS: DOMESTIC TEMPERATURE PROBE	L: LINE	Y: YELLOW
TRA: IGNITION TRANSFORMER	EV: COMBUSTION BLOWER	N: NEUTRAL	W: WHITE
TF: EXHAUST SAFETY THERMOFUSE (102°C)	PA: AIR PRESSURE SWITCH	BK: BLACK	GY: GREY
VD: DIVERTER VALVE		G: GREEN	SF: CONDENSATE COLLECTION SIPHON