

# R2K 24

## Submittal



R2K 24 is a premier premix gas-fired condensing combination boiler that complies with ANSI Z21.13 and CSA 4.9 GAS FIRED LOW PRESSURE STEAM AND HOT WATER BOILERS. The R2K 24 is equipped with Radiant's Combi-Tech® stainless steel heat exchanger that consists of a single tube coil with a diameter of 28 mm. This larger coil tube reduces the pressure drop across the heat exchanger, and prevents debris/limestone deposits and makes it much easier on maintenance. The R2K 24 model features a 1:9 air/gas modulation which is important for energy savings and prevents frequent cycling of the boiler.

### 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)

### TECHNICAL FEATURES

MODEL		R2K 24
Maximum central heating input	btu/h - (kW)	88716 - (26)
Maximum domestic hot water input	btu/h - (kW)	98952 - (29)
Minimum central heating input	btu/h - (kW)	13650 - (4)
Minimum domestic hot water input	btu/h - (kW)	13650 - (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)
Continuous hot water flow rates: ΔT 54°F (30°C)	gal(US) - (litres)	3.41 - (12.9)
Continuous hot water flow rates: ΔT 77°F (43°C)	gal(US) - (litres)	2.38 - (9)
Width	in - (mm)	16.1 - (410)
Depth	in - (mm)	12 - (307)
Height	in - (mm)	25.27 - (642)
Gross weight	lb - (Kg)	81.5 - (37)
Electric consumption - normal	W	78
Electric consumption - Standby	W	3.5
AFUE Rating	%	96

WARRANTY HEAT EXCHANGER: 12 YEARS;

WARRANTY COMPONENTS: 2 YEARS.

PROJECT NO.:

REPRESENTATIVE:

NAME:

DATE:

LOCATION:

SPECIFIER:

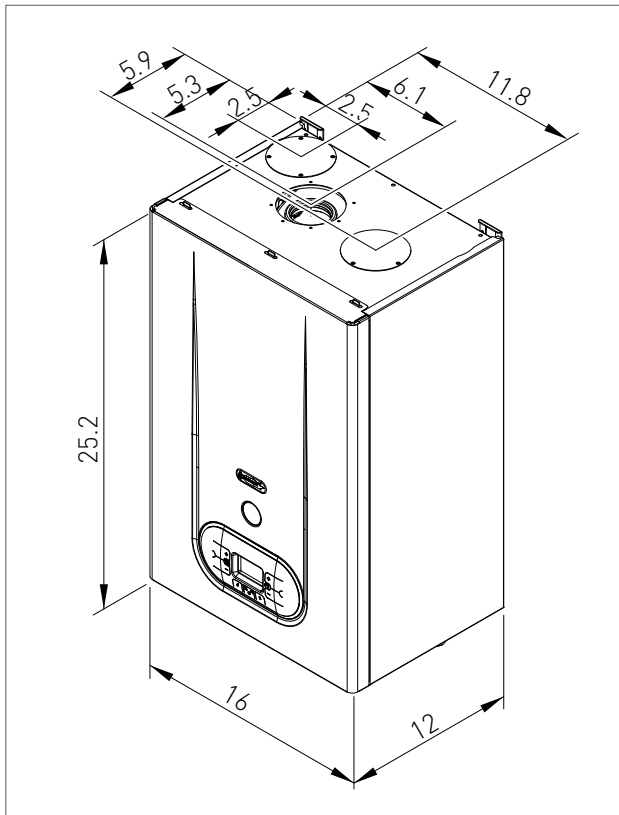
APPROVED BY:

CONTRACTOR:

DATE:



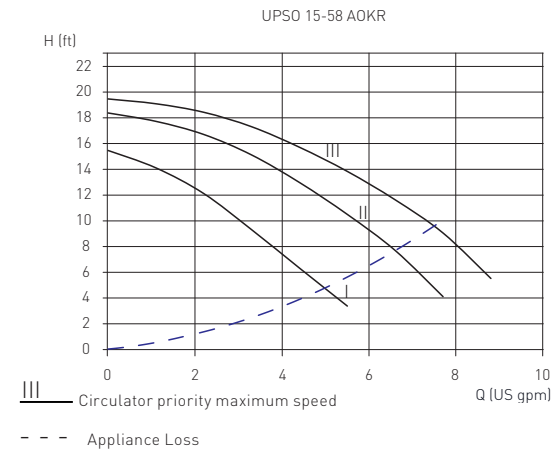
**OVERALL DIMENSIONS (INCH)**



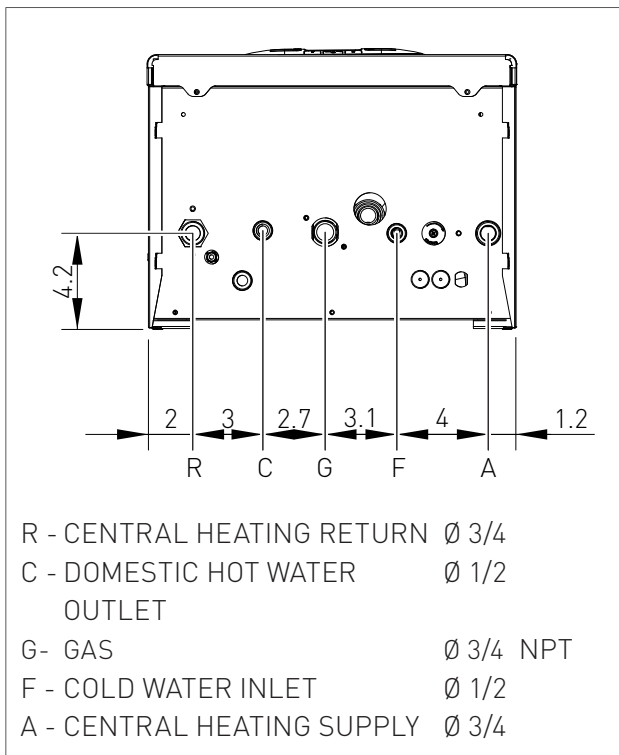
**TYPES OF EXHAUST SYSTEMS**

- > 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**

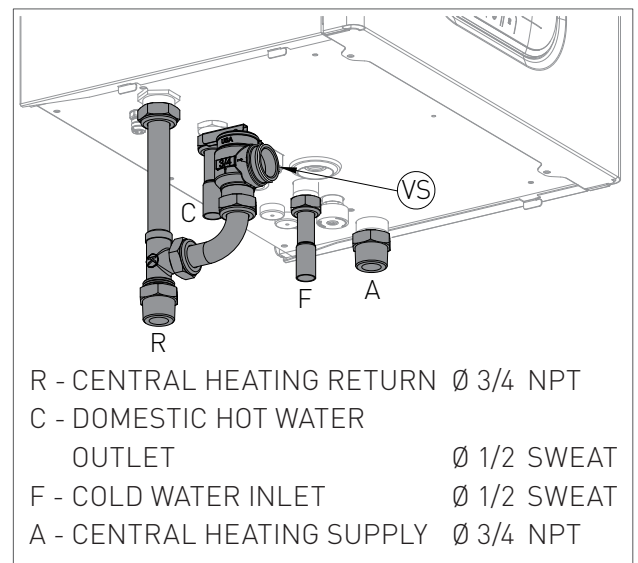


**JIG**



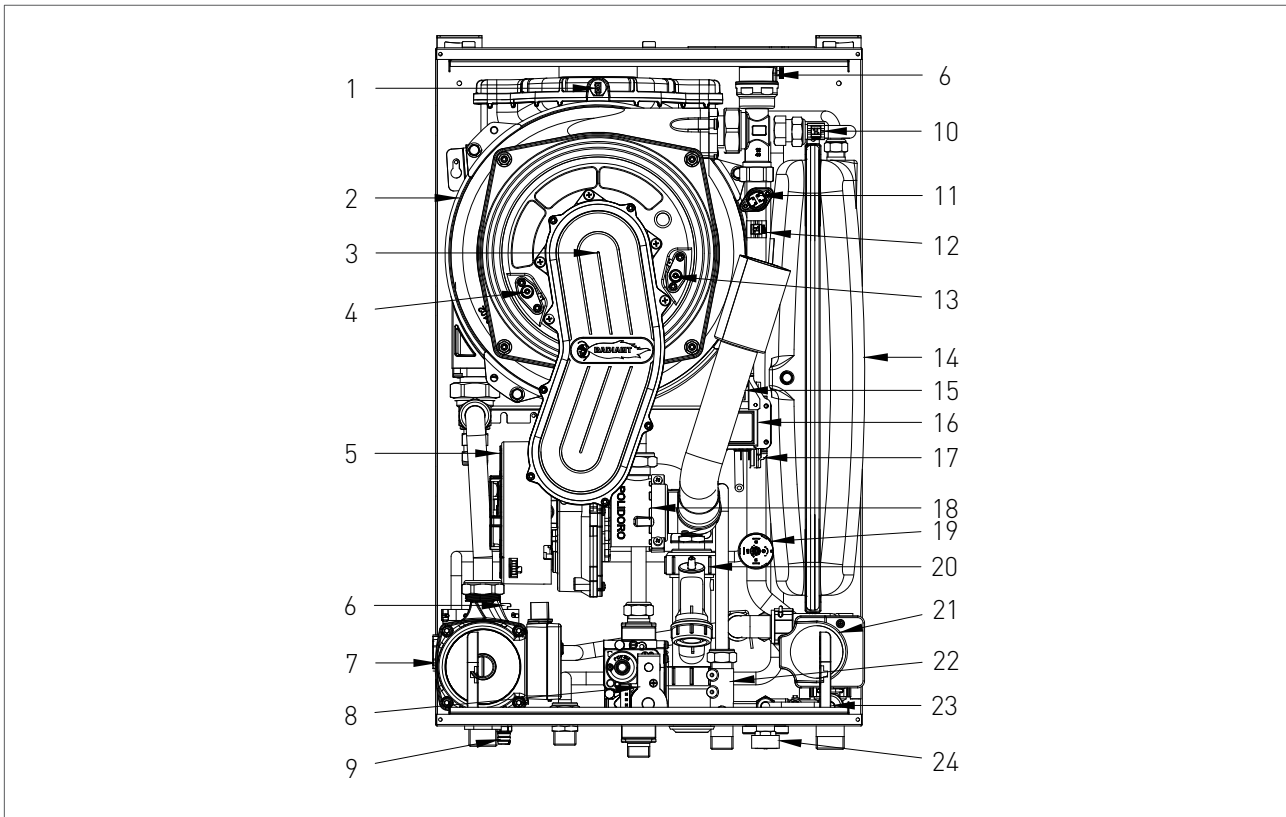
**PRESSURE RELIEF VALVE KIT**

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





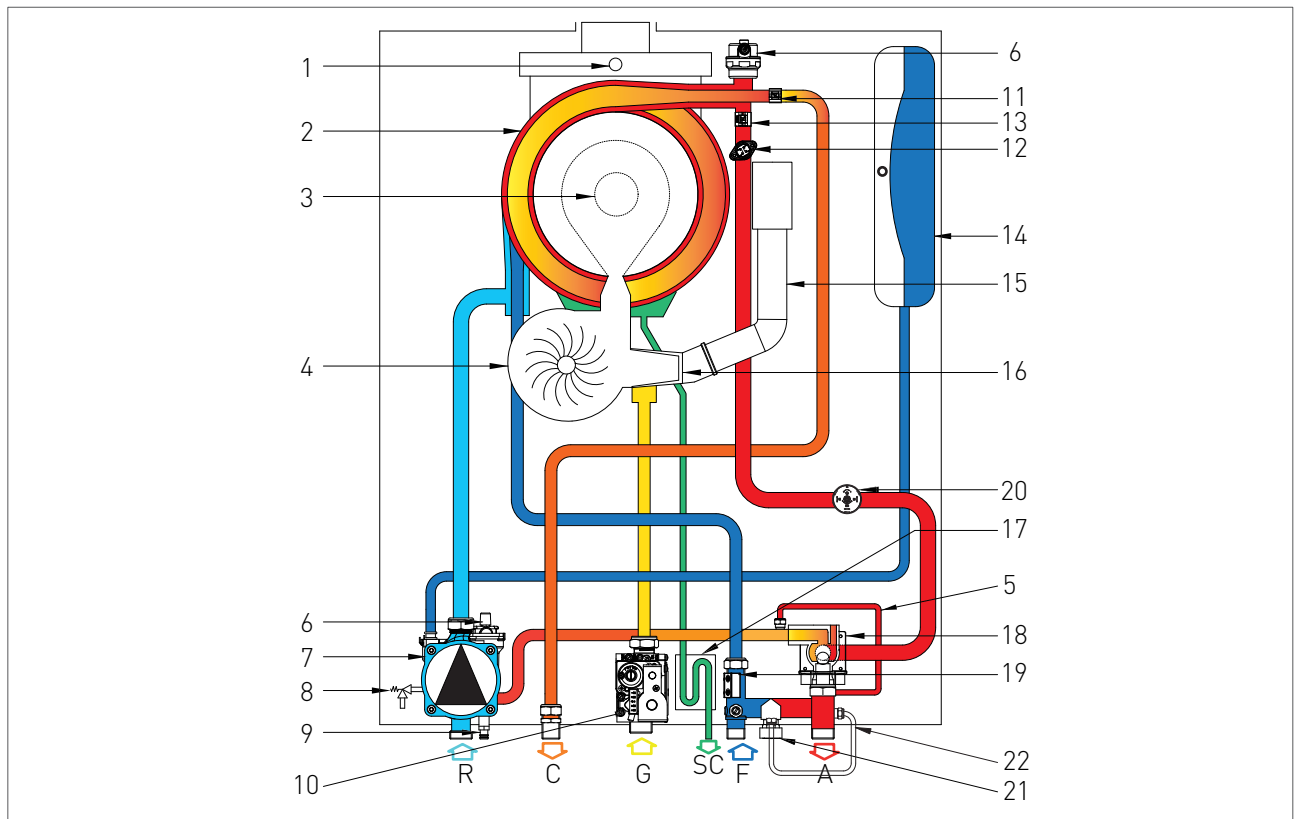
## TECHNICAL ASSEMBLY



### KEY

- |   |                        |
|---|------------------------|
| 1. EXHAUST SAFETY HIGH LIMIT SWITCH     | 23. CHECK VALVE        |
| 2. INTEGRATED HEAT EXCHANGER            | 24. SYSTEM FILLING TAP |
| 3. BURNER UNIT                          |                        |
| 4. IONIZATION ELECTRODE                 |                        |
| 5. COMBUSTION BLOWER                    |                        |
| 6. AIR ELIMINATOR                       |                        |
| 7. CIRCULATOR                           |                        |
| 8. GAS VALVE                            |                        |
| 9. SYSTEM DRAINING TAP                  |                        |
| 10. DOMESTIC TEMPERATURE PROBE          |                        |
| 11. WATER TEMPERATURE HIGH LIMIT SWITCH |                        |
| 12. CENTRAL HEATING TEMPERATURE PROBE   |                        |
| 13. SPARK ELECTRODE                     |                        |
| 14. THERMAL EXPANSION TANK              |                        |
| 15. AIR SUCTION TUBE                    |                        |
| 16. IGNITION TRANSFORMER                |                        |
| 17. AIR PRESSURE SWITCH                 |                        |
| 18. PROPORTIONAL VENTURI                |                        |
| 19. WATER PRESSURE TRANSDUCER           |                        |
| 20. CONDENSATE COLLECTION SIPHON        |                        |
| 21. DIVERTER VALVE                      |                        |
| 22. FLOW SWITCH                         |                        |

HYDRAULIC BOARD

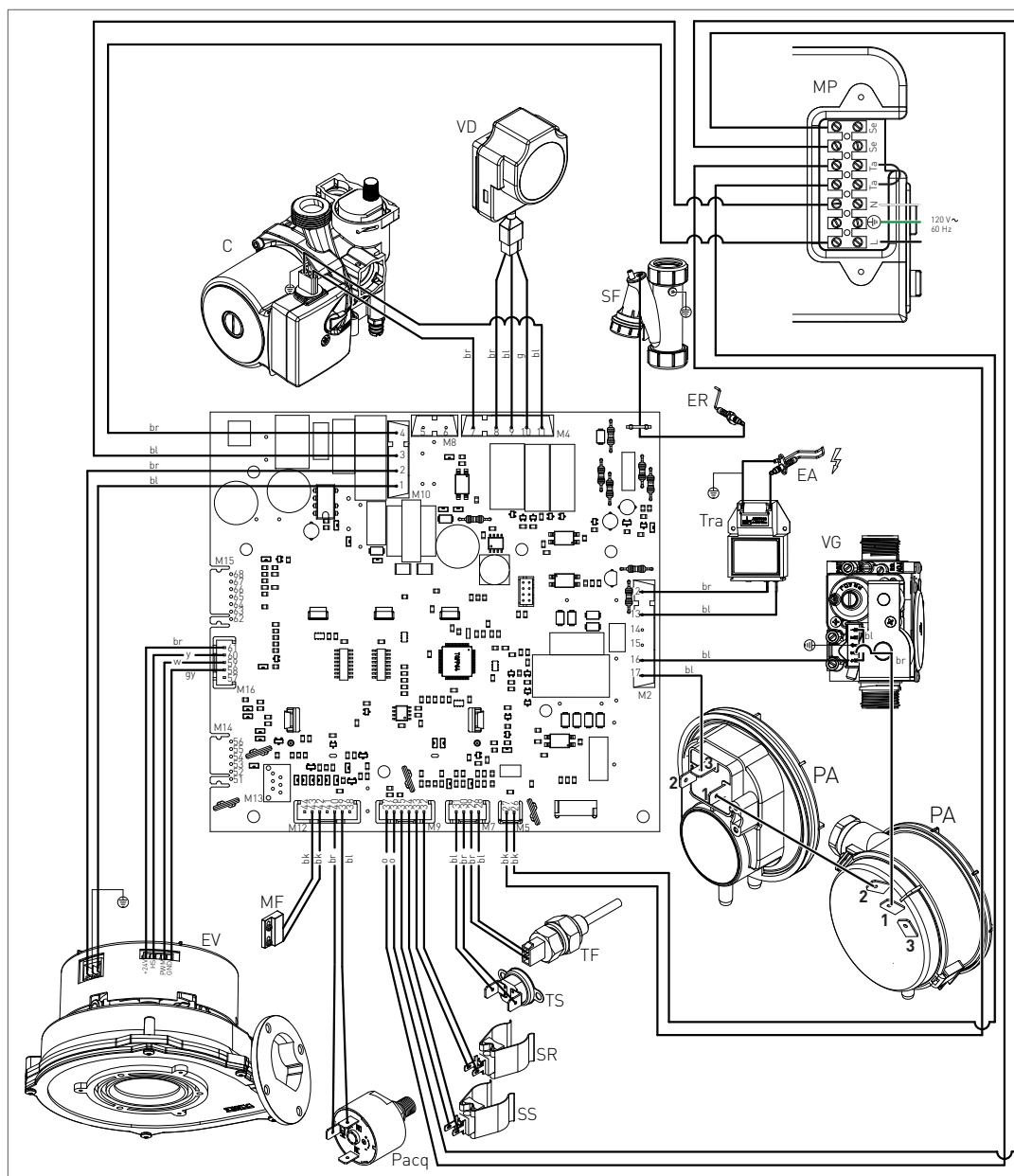


**KEY**

- |                                     |   |
|-------------------------------------|---|
| R. CENTRAL HEATING RETURN           | 8. PRESSURE RELIEF VALVE 30 psi (2 bar) |
| C. DOMESTIC HOT WATER OUTLET        | 9. SYSTEM DRAINING TAP                  |
| G. GAS INLET                        | 10. GAS VALVE                           |
| SC. CONDENSATE DRAIN                | 11. DOMESTIC TEMPERATURE PROBE          |
| F. COLD WATER INLET                 | 12. WATER TEMPERATURE HIGH LIMIT SWITCH |
| A. CENTRAL HEATING SUPPLY           | 13. CENTRAL HEATING TEMPERATURE PROBE   |
| 1. EXHAUST SAFETY HIGH LIMIT SWITCH | 14. THERMAL EXPANSION TANK              |
| 2. INTEGRATED HEAT EXCHANGER        | 15. AIR SUCTION TUBE                    |
| 3. BURNER UNIT                      | 16. PROPORTIONAL VENTURI                |
| 4. COMBUSTION BLOWER                | 17. CONDENSATE COLLECTION SIPHON        |
| 5. BY-PASS                          | 18. DIVERTER VALVE                      |
| 6. AIR ELIMINATOR                   | 19. FLOW SWITCH                         |
| 7. CIRCULATOR                       | 20. WATER PRESSURE TRANSDUCER           |
|                                     | 21. SYSTEM FILLING TAP                  |
|                                     | 22. 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: OUTDOOR TEMPERATURE	BR: BROWN
C: CIRCULATOR	MF: MICRO-FLOW SWITCH	TA: ENVIRONMENT THERMOSTAT	O: ORANGE
VG: GAS VALVE	SR: CENTRAL HEATING TEMPERATURE PROBE	L: LINE	Y: YELLOW
TRA: IGNITION TRANSFORMER	SS: DOMESTIC TEMPERATURE PROBE	N: NEUTRAL	W: WHITE
TF: EXHAUST SAFETY HIGH LIMIT SWITCH (102°C)	EV: COMBUSTION BLOWER	BK: BLACK	GY: GREY
VD: DIVERTER VALVE	PA: AIR PRESSURE SWITCH	G: GREEN	SF: CONDENSATE COLLECTION SIPHON