

SFK 56 (Aqua³)

Submittal



The SFK 56, named Aqua³, is a premix gas-fired condensing hot water heater approved for space heating and complies with ANSI Z21.10.3 • CSA 4.3 Gas-fired water heaters. The Aqua³, is equipped with a Flow-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 Aqua³ features a 1:10 air/gas modulation which is important for energy savings and important in providing a wide range of desired flow rates and temperatures.

MAIN FEATURES

- ANTI-FREEZE FUNCTION PROTECTION
- OUTDOOR RESET
- WIDE MODULATING RANGE
- LOW NOX EMISSIONS
- PRE-WIRED ELECTRICAL LEAD
- FULL GAS/AIR MODULATION
- SOLAR CARD CONTROL (OPTIONAL)
- TIME AND TEMPERATURE CONTROLLERS (OPTIONAL)

TECHNICAL FEATURES

MODEL	SFK 56	
Maximum Input	btu/h - (kW)	187,667 (55)
Minimum Input	btu/h - (kW)	18,766 (5.5)
Adjustable Temperature Range	°F - C°	86-167/ 77-113 (30-75/ 25-45)
Maximum Operating Pressure	psi - (bar)	150 - (10.34)
Energy Factor	%	97
Continuous Hot Water Flow Rates: Δt 54°F (30°C)	US gpm - (litres/min)	7.08 - (26.8)
Continuous Hot Water Flow Rates: Δt 77°F (43°C)	US gpm - (litres/min)	5.1 - (19.3)
Width	in - (mm)	16.14 - (410)
Depth	in - (mm)	19.09 - (485)
Height	in - (mm)	25.19 - (640)
Gross Weight	lb - (Kg)	110 - (50)
Electric Consumption - Normal	W	180
Electric Consumption - Standby	W	3.5

WARRANTY HEAT EXCHANGER: 12 YEARS;

WARRANTY COMPONENTS: 2 YEARS.

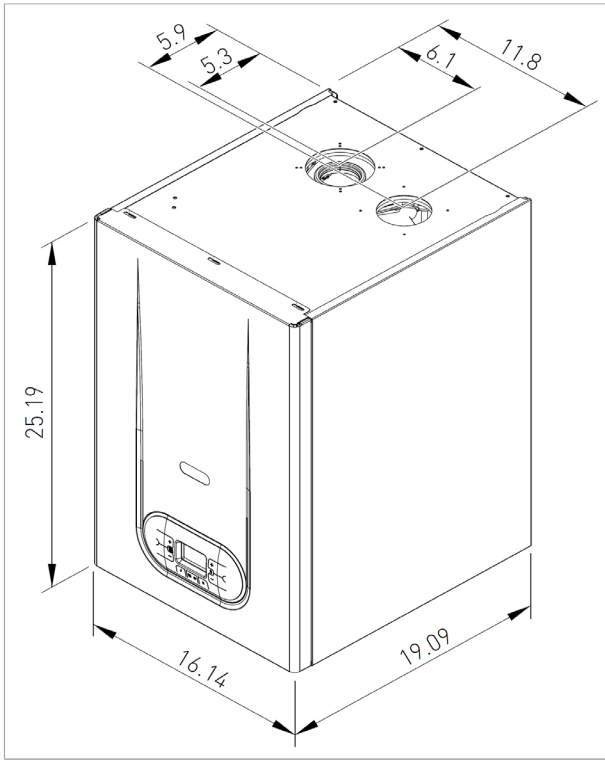
PROJECT NO.:	REPRESENTATIVE:
NAME:	DATE:
LOCATION:	
SPECIFIER:	APPROVED BY:
CONTRACTOR:	DATE:





1. SFK 56 SUBMITTAL

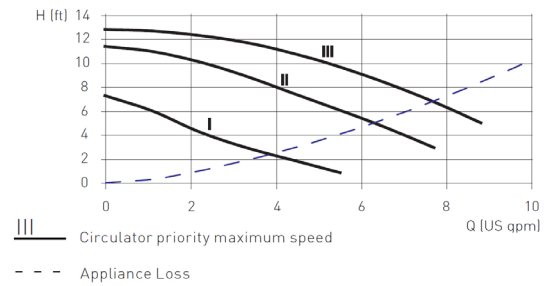
OVERALL DIMENSIONS (INCH)



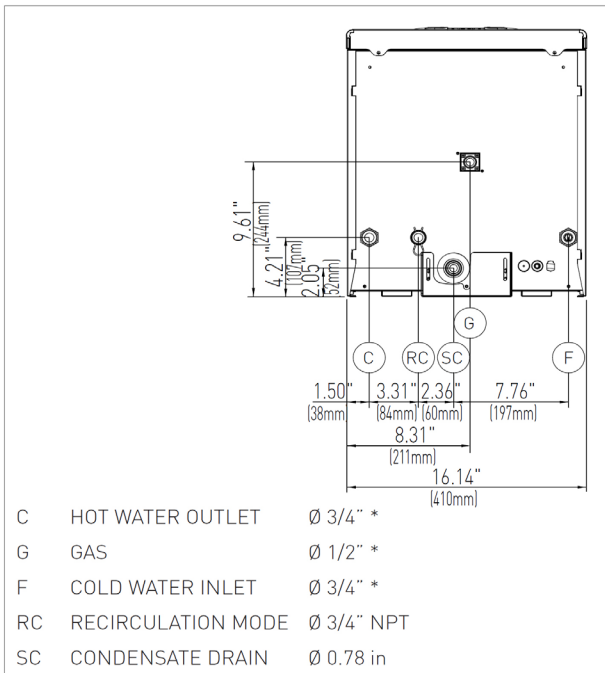
TYPES OF EXHAUST SYSTEMS

- > 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.

RECIRCULATION MODE CIRCULATOR PREVALENCE/FLOW DIAGRAM

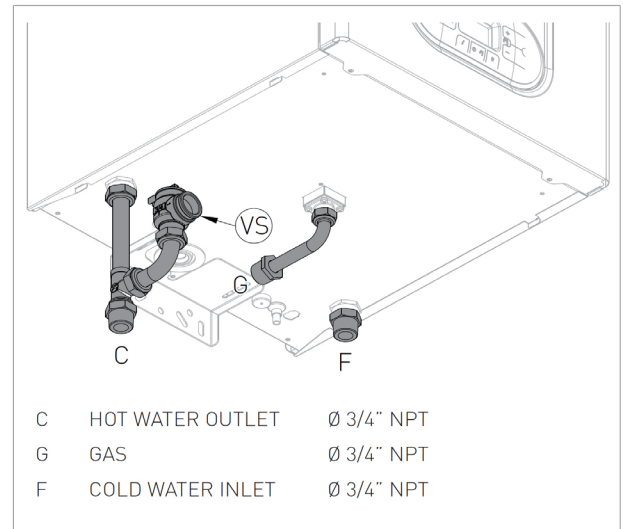


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HYDRAULIC CONNECTION KIT

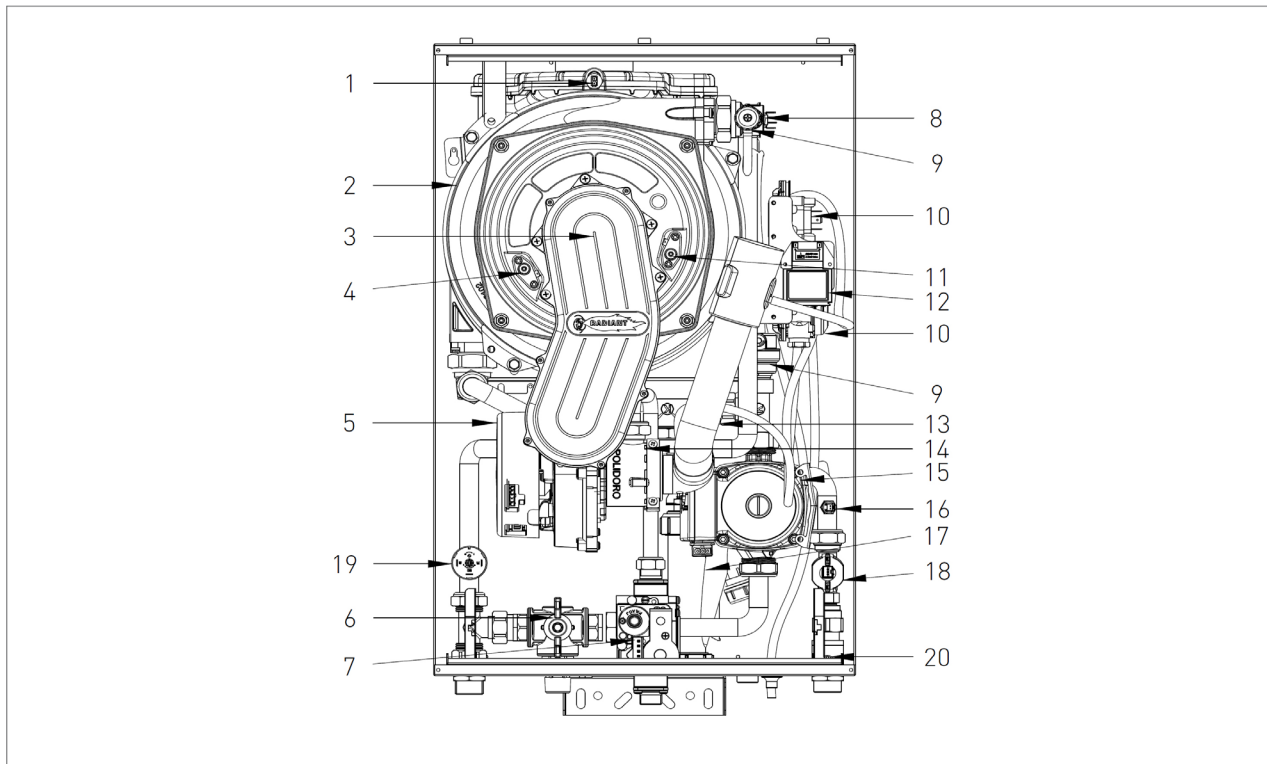
An hydraulic kit equipped with hydraulic connections and safety valve (see 'VS') is supplied by RADIANT.



(*) NOTE: THESE ARE CONNECTION SIZES BEFORE VALVE KIT/CONNECTION CONVERSION KIT IS INSTALLED.



TECHNICAL ASSEMBLY

**KEY**

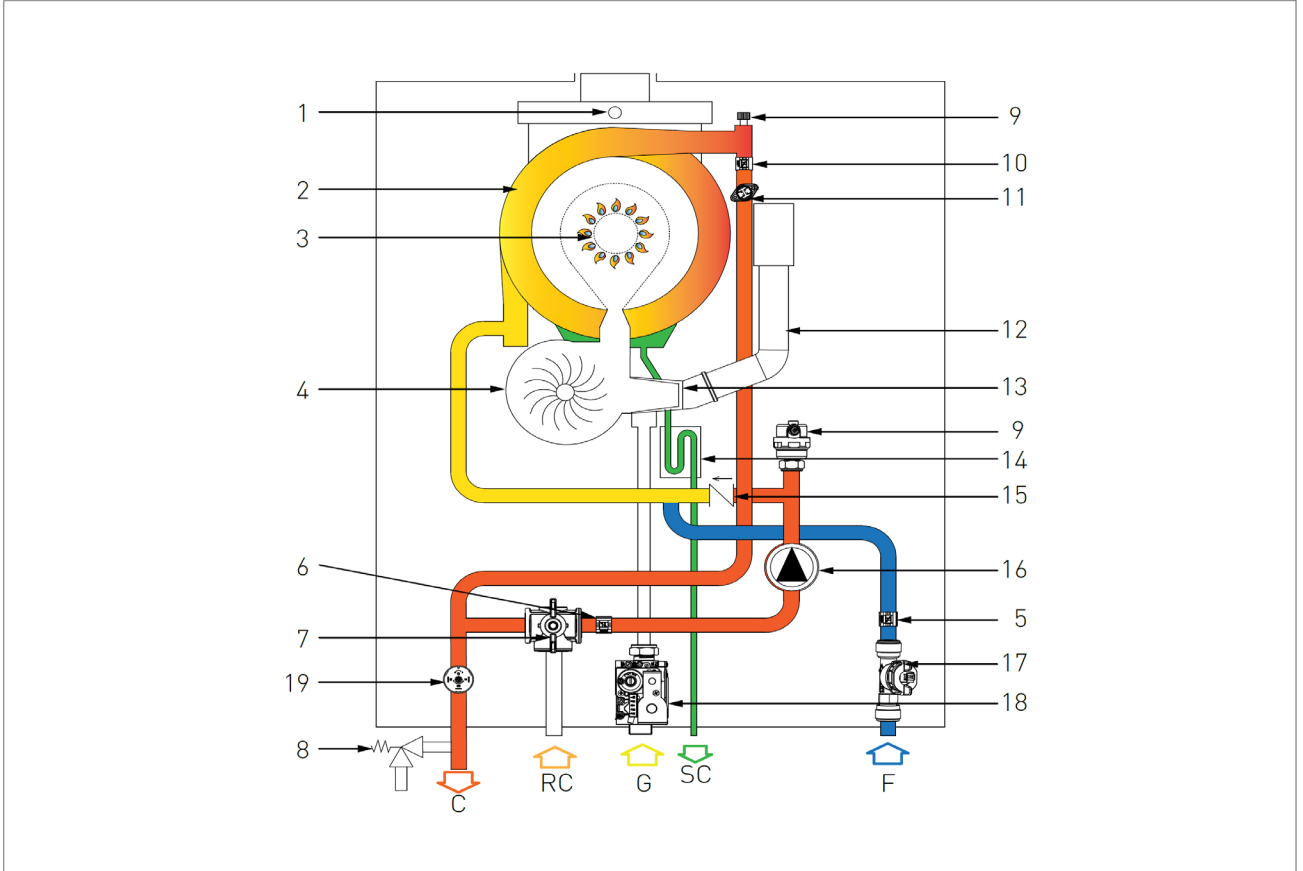
1. EXHAUST SAFETY HIGH LIMIT SWITCH
2. HEAT EXCHANGER
3. BURNER UNIT
4. IONIZATION ELECTRODE
5. COMBUSTION BLOWER
6. 3-WAY VALVE - RECIRCULATION MODE
7. GAS VALVE
8. WATER TEMPERATURE HIGH LIMIT SWITCH
9. AIR ELIMINATOR
10. AIR PRESSURE SWITCH
11. SPARK ELECTRODE
12. IGNITION TRANSFORMER
13. AIR SUCTION TUBE
14. PROPORTIONAL VENTURI
15. CIRCULATOR
16. DOMESTIC TEMPERATURE PROBE INLET
17. CONDENSATE COLLECTION SIPHON
18. FLOW METER
19. WATER PRESSURE SWITCH
20. FLOW LIMITER



1. SFK 56 SUBMITTAL

HYDRAULIC BOARD

DRAW DEMAND WITH CIRCULATOR ACTIVE AND WITHOUT RECIRCULATION LINE



KEY

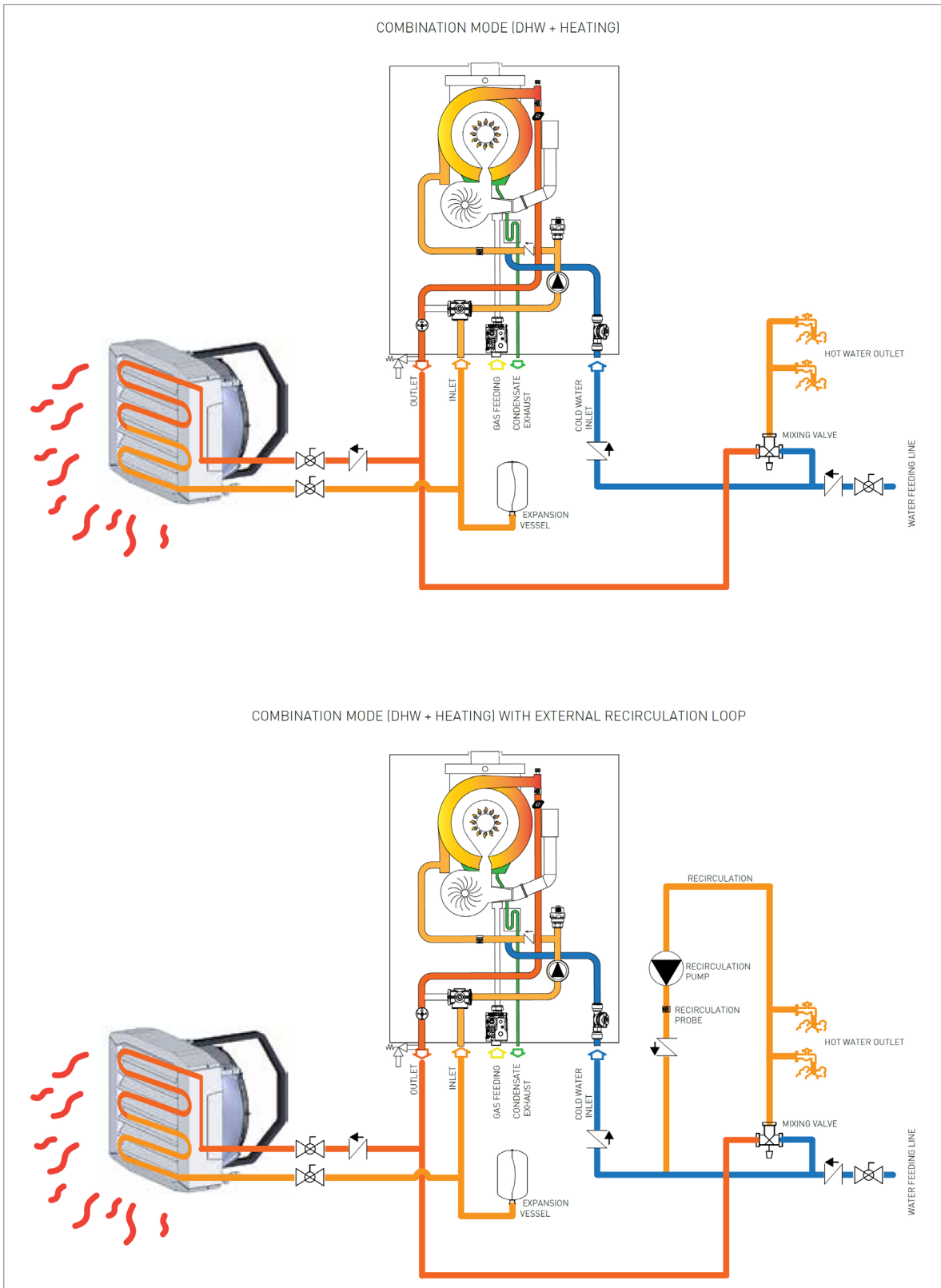
- C. DOMESTIC HOT WATER OUTLET
- F. COLD WATER INLET
- RC. RECIRCULATION MODE
- G. GAS INLET
- SC. CONDENSATE DRAIN

- 11. WATER TEMPERATURE HIGH LIMIT SWITCH
- 12. AIR SUCTION TUBE
- 13. PROPORTIONAL VENTURI
- 14. CONDENSATE COLLECTION SIPHON
- 15. CHECK VALVE
- 16. CIRCULATOR
- 17. FLOW METER
- 18. GAS VALVE
- 19. WATER PRESSURE SWITCH

- 1. EXHAUST SAFETY HIGH LIMIT SWITCH
- 2. HEAT EXCHANGER
- 3. BURNER UNIT
- 4. COMBUSTION BLOWER
- 5. DOMESTIC TEMPERATURE PROBE INLET
- 6. RECIRCULATION PROBE
- 7. 3-WAY VALVE - RECIRCULATION MODE
- 8. PRESSURE RELIEF VALVE
- 9. AIR ELIMINATOR
- 10. DOMESTIC TEMPERATURE PROBE OUTLET

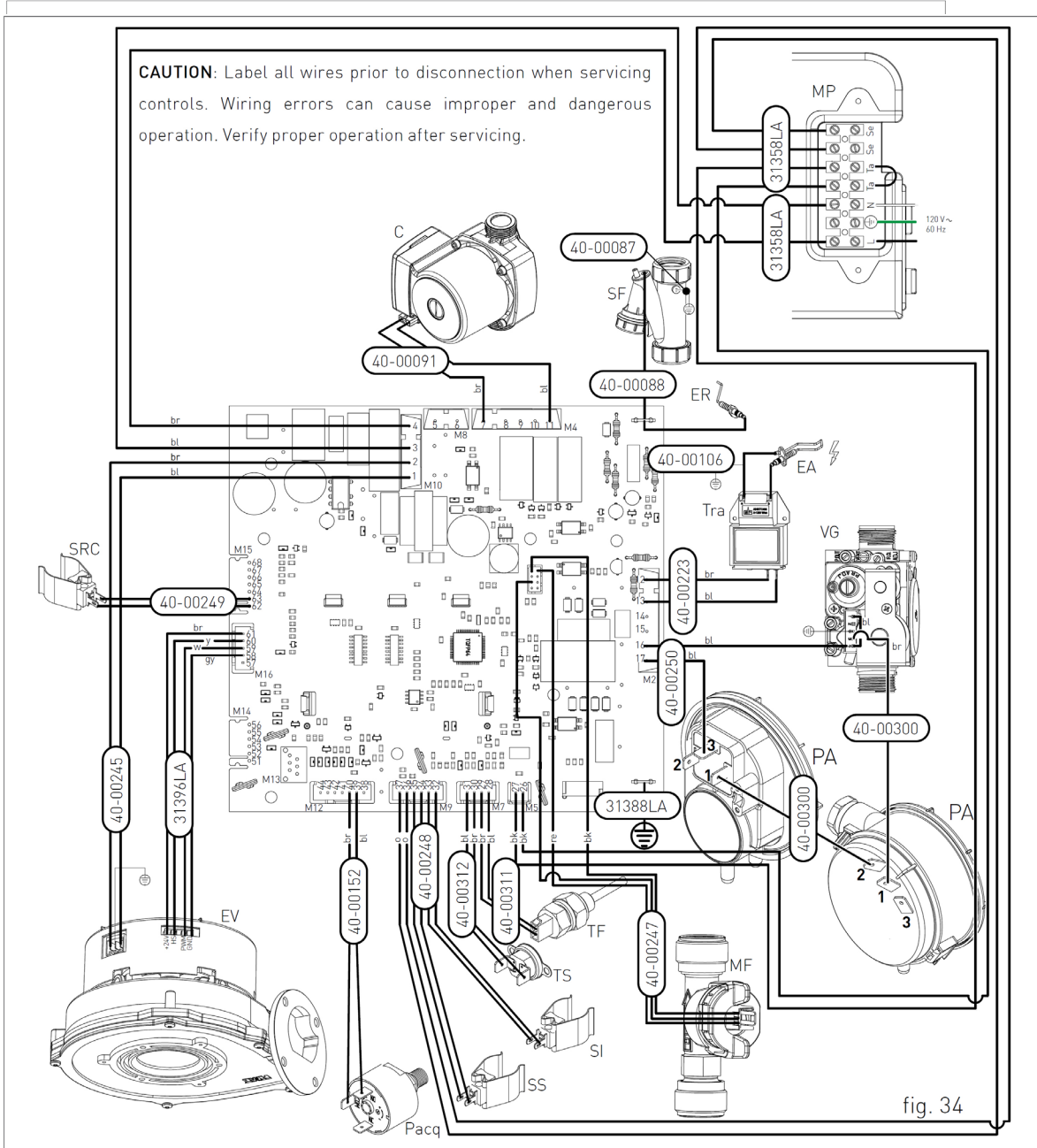


TYPICAL PIPING LAYOUT





WIRING DIAGRAM



- | | | | |
|---|---|----------------------------|-----------|
| ER: IONIZATION ELECTRODE | TS: WATER TEMPERATURE HIGH LIMIT SWITCH | MP: PANEL TERMINAL | BL: BLUE |
| EA: SPARK ELECTRODE | MF: FLOW SWITCH | L: LINE | BR: BROWN |
| C: CIRCULATOR | SI: DOMESTIC TEMPERATURE PROBE INLET | N: NEUTRAL | O: ORANGE |
| VG: GAS VALVE | SS: DOMESTIC TEMPERATURE PROBE | G: GREEN | Y: YELLOW |
| TRA: IGNITION TRANSFORMER | EV: COMBUSTION BLOWER | RE: RED | W: WHITE |
| TF: EXHAUST SAFETY HIGH LIMIT SWITCH_(102°C) | PA: AIR PRESSURE SWITCH | BK: BLACK | GY: GREY |
| SRC: RECIRCULATION TEMPERATURE PROBE | SF: CONDENSATE COLLECTION SIPHON | SE: OUTDOOR TEMPERATURE | |
| RC: DOMESTIC HOT WATER PRE-HEATING DEACTIVATION TIMER | PACQ: WATER PRESSURE SWITCH | TA: ENVIRONMENT THERMOSTAT | |