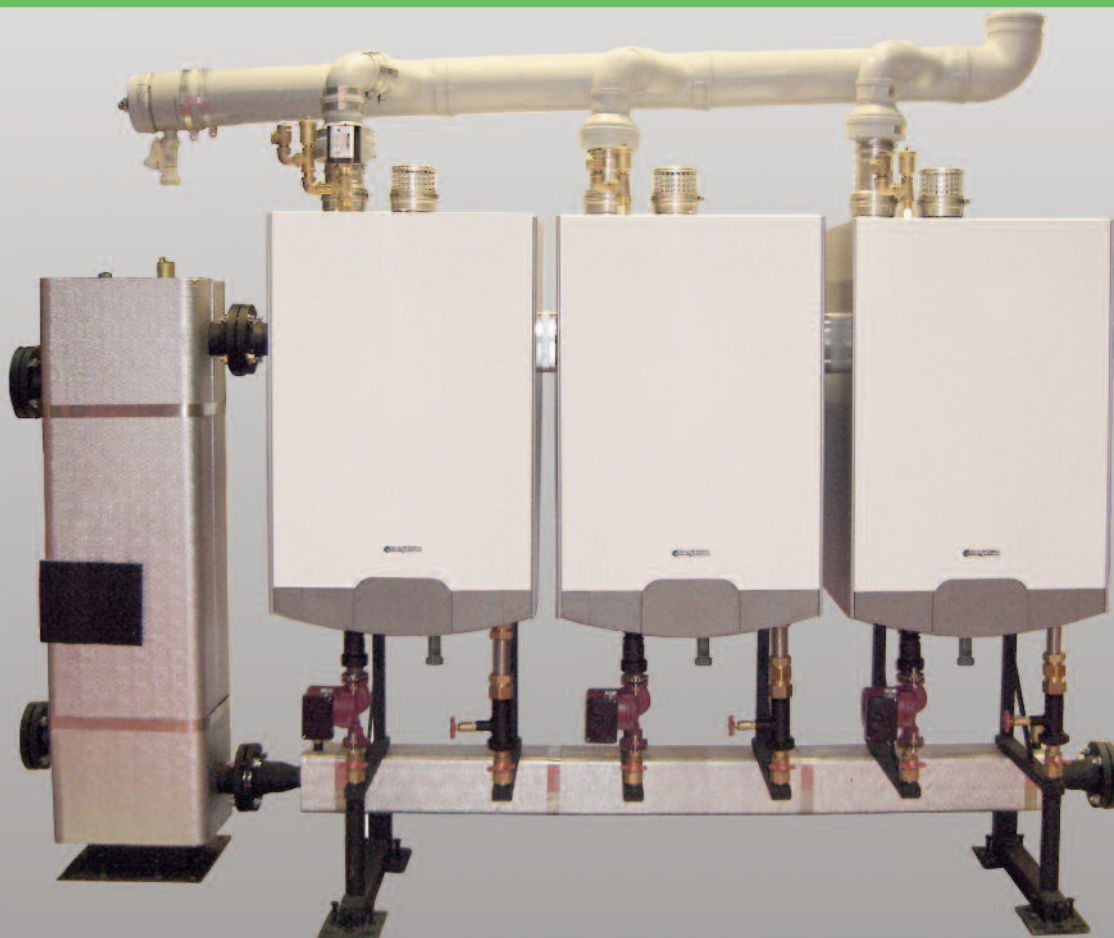


SAVES SPACE. SAVES TIME. SAVES MONEY!



PRESTIGE CASCADE SYSTEM

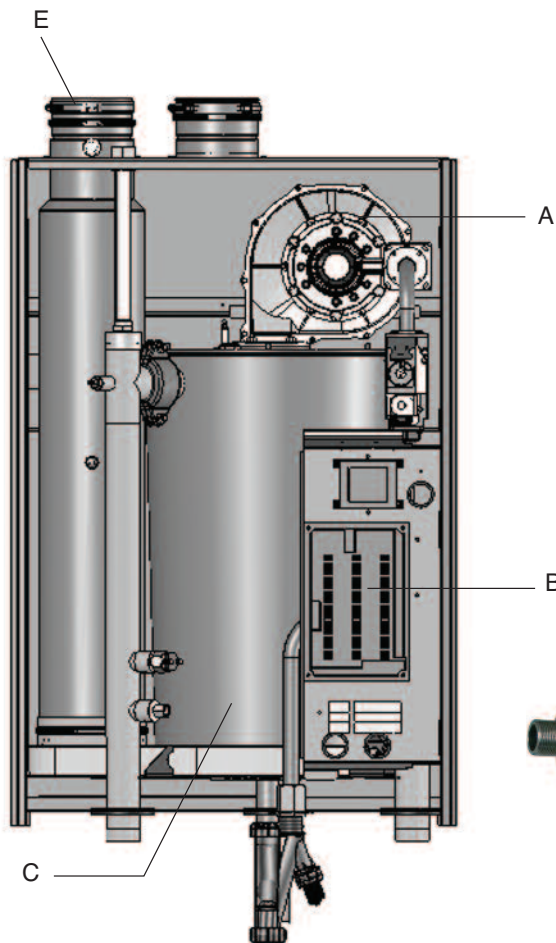


Among the most energy efficient, environmentally friendly, commercial gas fired hot water heating system available today.

Triangle Tube offers factory pre-fabricated boiler manifolds with capacities from 800,000 Btu/hr. to 2 million BTU's (two to five boilers) in two different piping arrangements: Primary Secondary or Reverse Return.

The Cascade system features individual, 95.1% efficiency, fully modulating, low water content 399 MBH boilers, where off cycle losses are substantially reduced and dissipated heat from stored water is far less than a large capacity, single input boiler.

EACH CASCADE SYSTEM FEATURES TWO TO FIVE PRESTIGE 399 SOLO 95.1% EFFICIENT BOILERS



A unique, highly efficient heat exchanger is at the heart of the PRESTIGE SOLO 399

439 GRADE STAINLESS STEEL HEAT EXCHANGER

Vertical firetube design. Impervious to chloride cracking.
Unparalleled resistance to corrosion.

UNIQUE GEOMETRY

3 Consecutive baffles direct water flow through the exchanger and around the combustion chamber for uniform heat transfer.

HIGHEST WATER CONTENT IN THE INDUSTRY (7 Gal.)

Stable temperature control
Less sensitive to water flow

SELF CLEANING /SELF DESCALING

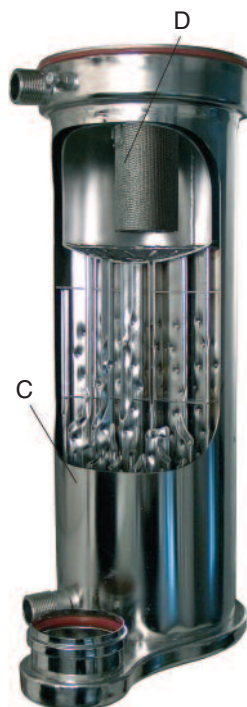
Condensate washes combustion residue away when streaming down the tubes resulting in a constant efficiency and reduced maintenance.

LESS SENSITIVE TO SLUDGE

LOW PRESSURE DROP

Legend

- A - Blower with negative pressure regulating Honeywell Gas Valve
- B - Microprocessor electronic Honeywell MCBA Control on swing door
- C - ASME stainless steel heat exchanger
- D - Stainless steel premix gas burner
- E - 4" Flue connection



Stainless Steel Heat Exchanger

Solo 399 Part Kit #: PSRKIT102

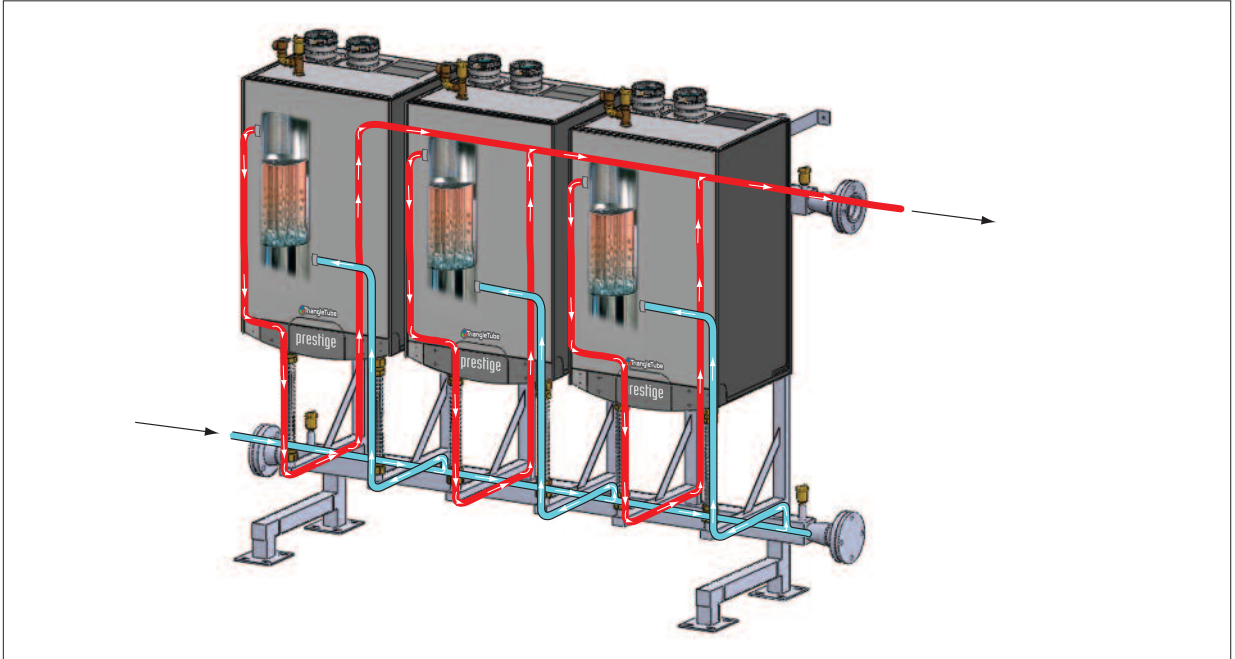
A custom designed Parts Kit, containing all the proprietary parts needed to service a PRESTIGE SOLO 399, is available from Triangle Tube.



A Piping for Any Application

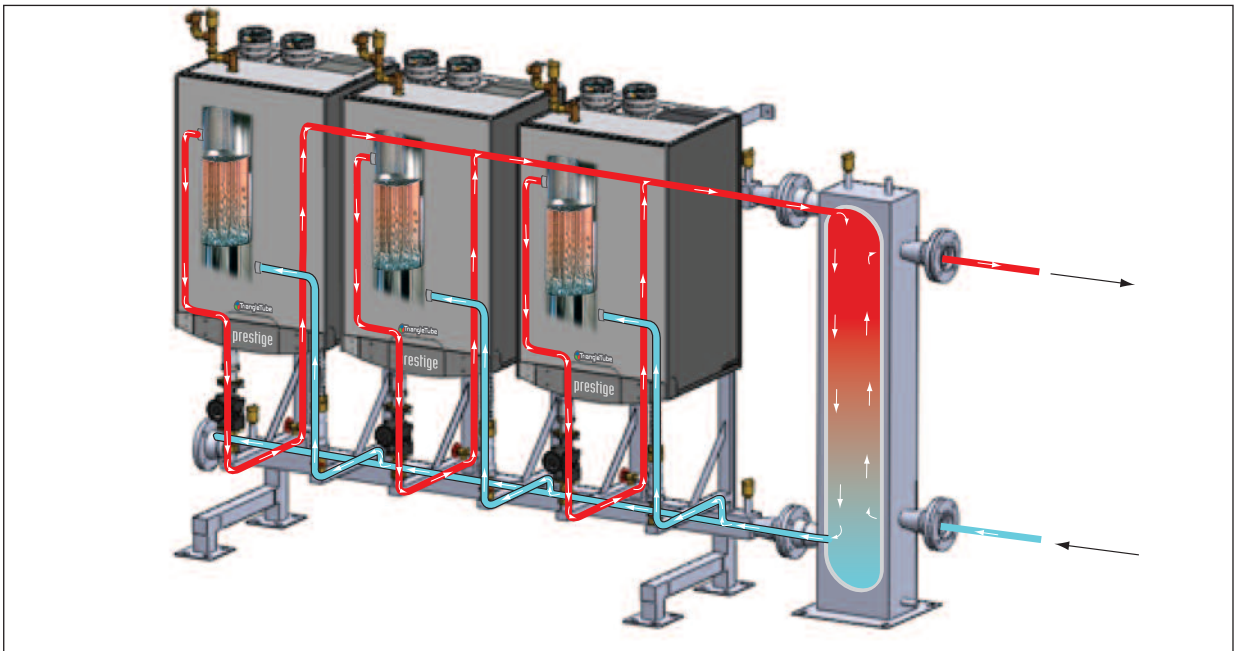
Reverse Return Piping Arrangement

Ideal for upgrading old, low efficiency, ON/OFF boiler systems to a state of the art, fully modulating, condensing modular system.



The unique fire-tube design of the PRESTIGE heat exchanger allows pumping through the boiler without the high pressure drop associated with high flow rates. This exclusive feature allows the Cascade Manifold to be configured in a Reverse Return Arrangement utilizing a single system pump.

Primary Secondary Piping Arrangement



Triangle Tube primary secondary piping arrangement features individual 3-speed Grundfos circulators and a hydronic junction. The hydronic junction acts as a hydraulic break, decoupling boiler and system circuits from each other. It also provides air elimination and has a built in drain which eliminates debris from the heating system and protects the boilers.

Product Specifications

Cascade Kit P/N	# of Manifolds	# of Solo 399 Boilers	Total Input MBH Note 1	Total Output MBH Note 1 & 2	Total Net IBR Rating Note 3	Total EDR Water Ft 2 Note 4	Total Boiler Horse-Power	Minimum Recommended System Pipe Size Note 5	Minimum Recommended Natural Gas Header Size Note 6
C(PS or RR) 800	1	2	112 - 798	758	659	4,396	22.6	3	2"
C(PS or RR)1200	1	3	112 - 1,197	1,138	990	6,603	34.0	4	2.5"
C(PS or RR)1600	2	4	112 - 1,596	1,518	1,320	8,804	45.3	4	3"
C(PS or RR)2000	2	5	112 - 1,995	1,897	1,650	11,006	56.7	4	3"

Note 1: Input and output ratings are shown for sea level applications. The PRESTIGE Solo 399 automatically derates the input at approximately 2% for every 1,000 feet of altitude. No alteration to the boiler or burner system is required.

Note 2: PRESTIGE Solo 399 output ratings are based off a thermal efficiency of 95.1%. PRESTIGE Solo 399 combustion efficiency is 94.1%.

Note 3: The IBR rating is based on piping and pick up allowance of 1.15. This allowance should be sufficient for the standard radiation requirements for a building load.

System	Cascade Kit P/N	Total Water Content (Gal.)	Total Shipping Weight (Lbs)	Length (Inches)	Height (inches)	Depth (Inches)
Primary Secondary (Including hydronic junction)	CPS 800	43	1070	93	71	33.5
	CPS 1200	53	1354	121	71	33.5
	CPS 1600	64	1787	162	71	33.5
	CPS 2000	76	2130	190	71	33.5
Reverse Return	CRR 800	21	717	69	71	33.5
	CRR 1200	30	1001	97	71	33.5
	CRR1600	41	1434	138	71	33.5
	CRR 2000	54	1777	166	71	33.5

Note 4: Equivalent Direct Radiation (EDR) is based on 150 Btu/h per square foot EDR at 170°F average supply temperature.

Note 5: Minimum recommended system iron pipe size is based on temperature differential of 20°F and velocity of less than 4 feet/second.

Product Data

CPS Standard Equipment

- Prestige Solo 399 boilers
- Cascade manifold
- Hydronic junction
- Grundfos 3 speed UPS26-99 circulator (1 per boiler)
- ANSI flange kit
- Air vents
- Pipe sealant
- Installation hardware

CRR Standard Equipment

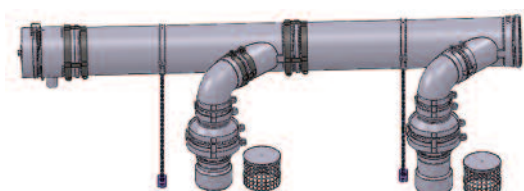
- Prestige Solo 399 boilers
- Cascade manifold
- ANSI flange kit
- Air vents
- Pipe sealant
- Installation hardware

Optional Equipment

- Common venting manifold kit
- Manifold insulation kit
- SCC4 Modulating boiler control to link up to 4 boilers
- SCCX6 Modulating boiler control expansion for up to 6 additional boilers
- CSD-1 Kits complete with low water cut-off, manual reset high limit, dry-wells, fittings
- WYE strainer (reverse return only)
- Parts kit for Prestige 399 boiler

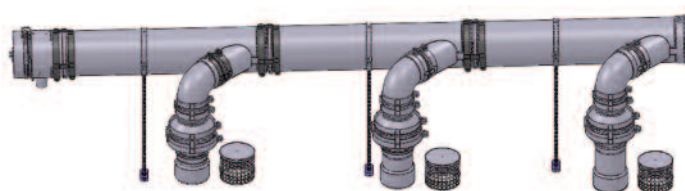
Optional Common Vent System

2 Boiler Common Vent



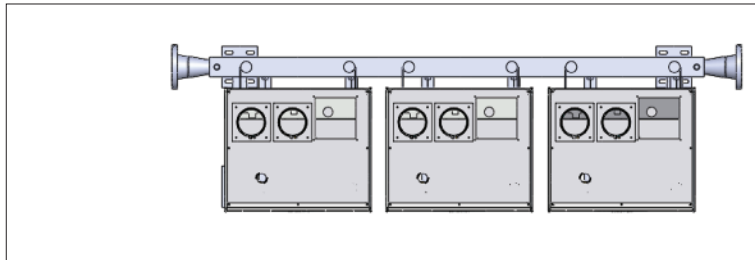
- UL S636 approved vent system
- Single penetration
- Prefit piping to reduce installation time

3 Boiler Common Vent

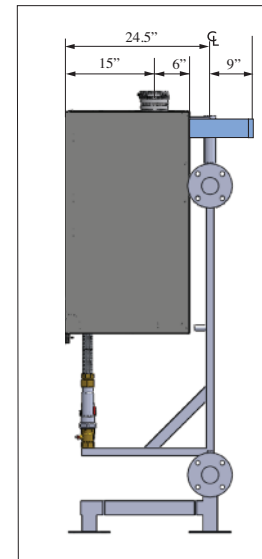
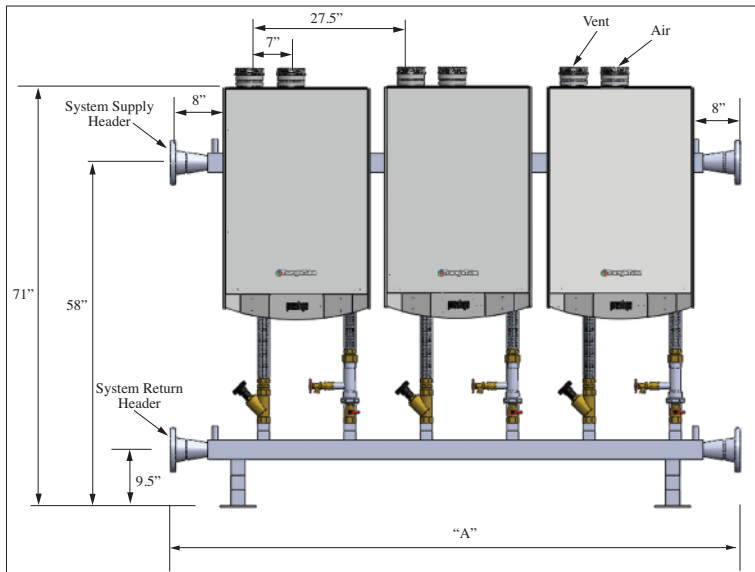


- Approved for common air, individual air, or room air
- Vertical (only) terminations and flashing available
- Polypropylene construction

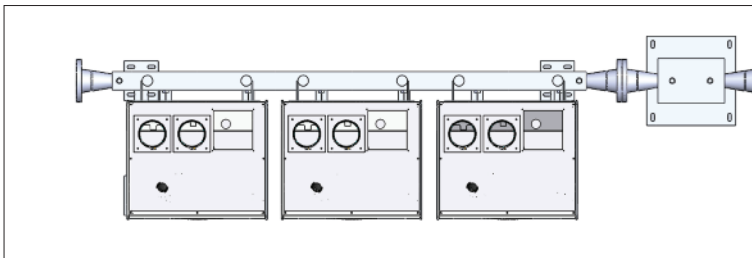
Reverse Return (Boilers shown with optional shut off valve kit with flow control and drain)



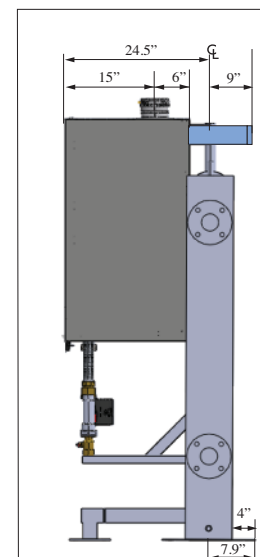
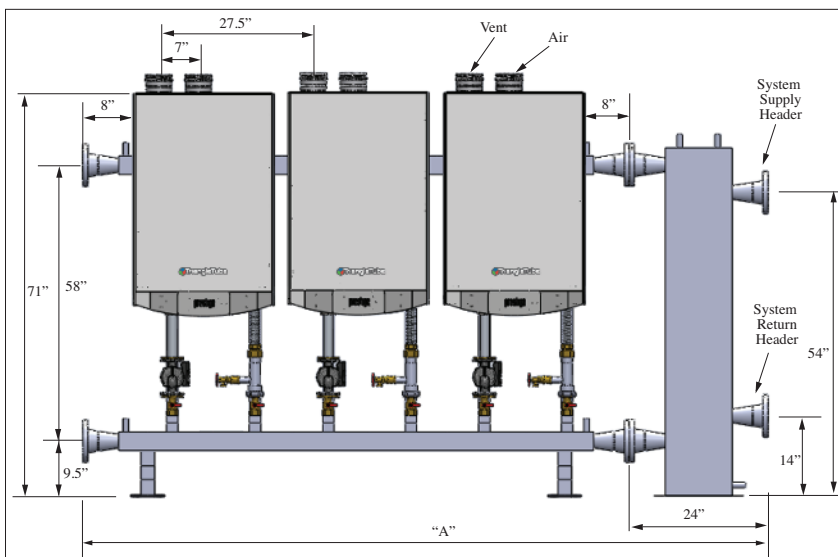
Part N°	"A"
CRR 800	69"
CRR 1200	97"
CRR 1600	138"
CRR 2000	166"



Primary Secondary

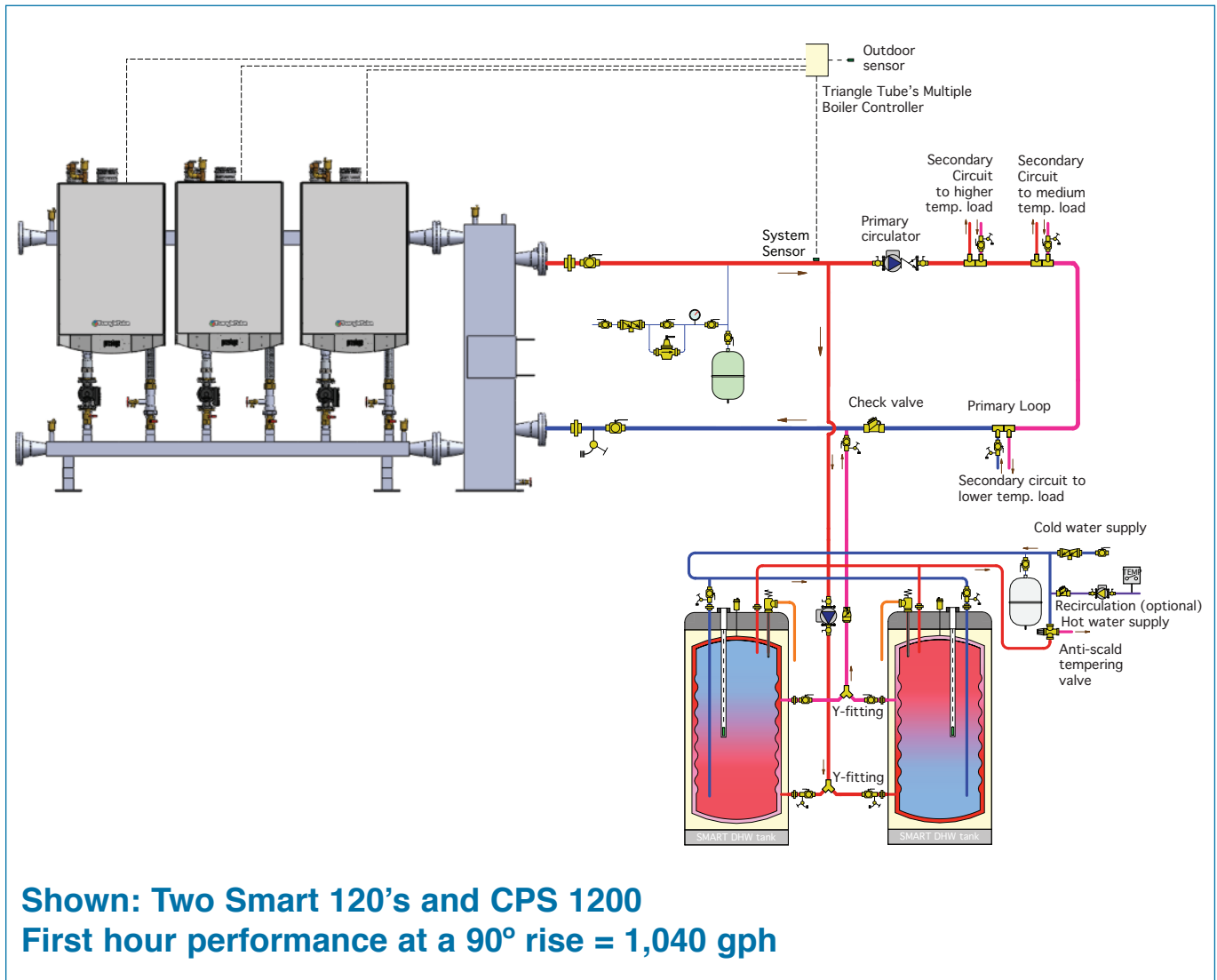


Part N°	"A"
CPS 800	93"
CPS 1200	121"
CPS 1600	162"
CPS 2000	190"



Volume Domestic Hot Water

The Cascade System can be piped to a single SMART or Multiple SMART Indirect Fired Water Heaters to provide the most efficient system available for volume water heating or combination space and volume water heating applications. A combination heat and hot water system can usually meet the capacity requirements for domestic hot water with only a small increase (if any) in the number of boilers required for space heating.



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