

XP High Efficiency Condensing
Boilers and Water Heaters



High Efficiency, High Input Commercial XP Models

With their combination of innovative control features and modulating capabilities, XP Boiler and Water Heater models are the latest in high efficiency fully condensing products from A. O. Smith, offering high outputs for demanding, large-volume commercial applications. Thanks to state-of-the-art stainless steel heat exchanger technology, the XP models can achieve thermal efficiencies up to 99% when used in low-temperature applications such as heat pump or potable hot water heating systems.

Designed For A Great Range Of Applications

XP models are designed to be used in both hydronic and potable hot water applications, including many different applications from large-volume, full-service hotels and high-rise apartment complexes to casinos, resorts, government buildings, schools, hospitals and more.



XP At A Glance

- *Top-of-the-line control with touchscreen*
- *Thermal efficiencies up to 99% in low temperature applications*
- *High output models ranging from 920,000 to 3.4 Million Btu/Hr*
- *All models available for both hydronic and potable hot water applications*
- *Vents in inexpensive PVC/CPVC pipe (can also be vented in AL29-4C® when specified or required by local codes)*
- *Direct-vent flexibility up to 100 feet*
- *Fully modulating with turndown rates up to 20:1 (See spec sheet for further details)*
- *Ready for immediate connection to existing building management using MODBUS protocol*
- *Built-in redundancy helps to improve overall performance*
- *The XWH Water Heater models are CSA certified to the ANSI Z21.10.3-CSA 4.3 water heater standard and are AHRI listed with thermal efficiency ratings of up to 96% @ 100% fire and 140°F outlet temperature*
- *The XB Boiler models are CSA certified to the ANSI Z21.13-CSA 4.9 boiler standard and are AHRI listed with thermal efficiency ratings of up to 93% @ 100% fire and 180°F outlet temperature*



The Heat Exchanger

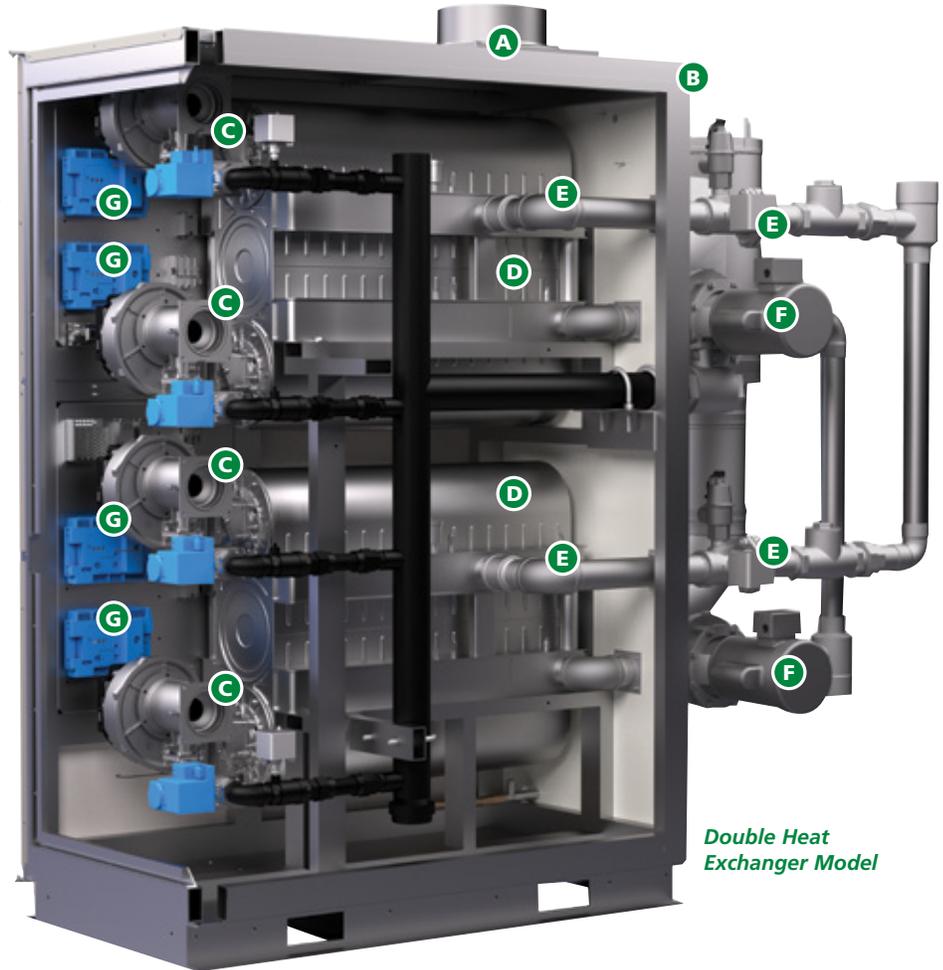
Thanks to its leading-edge technology, the XP features a multi-pass/multi-burner stainless steel heat exchanger designed to optimize efficiency while delivering long and trouble-free service. Simply put, the XP is both fuel efficient and capable of minimizing operating costs with every heating cycle.

- Utilizes leading-edge, multi-pass water tube heat exchanger to maximize heat transfer
- Designed for fully condensing operation throughout the heating range
- All heating surfaces are 316L stainless steel to provide a long and trouble-free service life
- Saves both fuel and operating costs with every cycle
- Impervious to thermal shock

A Washable intake air filter.

B Rugged welded and extruded aluminum alloy frame with removable heavy gauge steel jacket panels that allow easy access and service.

C Multiple modulating burners capable of modulating between 20% and 100% fire while providing smooth starts and clean combustion. Each burner is a premix design, constructed of high temperature stainless steel and utilizing a woven metal fiber mesh covering. Each burner is also warranted for 5 years and fires in a radial 360-degree flame pattern. Burner ignition is direct spark with flame monitoring via a flame sensor.



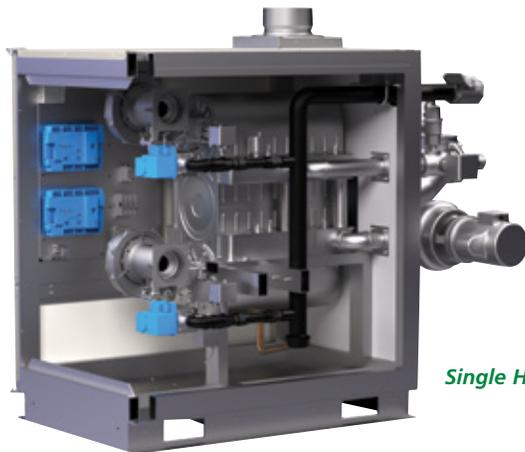
Double Heat Exchanger Model

D The stainless steel construction of the XP's water tube heat exchangers allows it to operate in a continuous condensing mode while maximizing longevity and delivering exceptional energy-saving performance. Low temperature applications such as heat pump and snow melting systems can see thermal efficiencies as high as 99%—a major savings over non-condensing competitive systems.

E All XP models have factory-installed flow switches and low water cutoffs as standard features, providing redundant flow and low water protection.

F Factory-sized and-mounted all-bronze pump(s) (optional on XB models; standard on XWH models) are integrally mounted, wired, and managed by the heater's control.

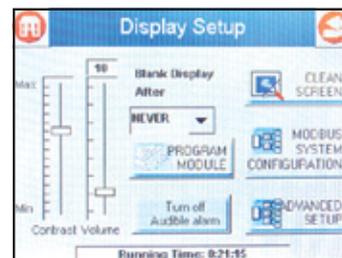
G Redundant ignition controls (one per burner) allow individual burner operation.



Single Heat Exchanger Model

Superior Control

Talk about having total control at your fingertips! The XP's intuitive touch-control features the industry's most current technology, touchscreen user interface, and the latest in energy savings algorithms. The control operates each of the burners as a separate boiler, which means that it is able to send error messages about problems with one burner while activating another—thus preventing system shutdowns. And since building management communications are a standard feature on every unit, the XP is ready for immediate connection to existing building management systems.



Additional screen images shown above.

Modulating Fire up to 20:1 Turndown

The secret to the stunning performance of the XP is its flexibility, thanks in part to the fully modulating burners featuring up to 20:1 turndown ratio. Because of the unique multi-burner design that allows infinite, load-equalizing firing rates, the XP takes temperature management to new levels of comfort and fuel efficiency by matching exact output to the building needs or requirements.



XWH Recovery Capacities Table

Models	Input Rating (Btu/hr)	AHRI Thermal %	Water Flow	Temperature Rise °F (°C)		
				40 (22)	100 (56)	140 (78)
XWH-1000	920,000	95.5	GPH	2,662	1,065	761
			LPH	10,078	4,031	2,880
XWH-1300	1,300,000	95	GPH	3,742	1,497	1,069
			LPH	14,167	5,667	4,048
XWH-1700	1,700,000	95.2	GPH	4,904	1,962	1,401
			LPH	18,565	7,426	5,304
XWH-2000	1,999,900	95.6	GPH	5,794	2,317	1,655
			LPH	21,931	8,773	6,266
XWH-2600	2,600,000	95.2	GPH	7,501	3,000	2,143
			LPH	28,393	11,357	8,112
XWH-3400	3,400,000	96	GPH	9,891	3,956	2,826
			LPH	37,441	14,976	10,697

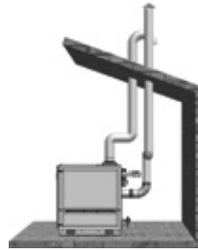
XB Recovery Capacities Table

Models	Input (Btu/hr) Min	Input (Btu/hr) Max	AHRI Thermal %	Output (Btu/hr) Max	Max Turndown Rate
XB-1000	92,000	920,000	93	855,600	10:1
XB-1300	130,000	1,300,000	93	1,209,000	10:1
XB-1700	170,000	1,700,000	93	1,581,000	10:1
XB-2000	99,995	1,999,900	93	1,859,907	20:1
XB-2600	130,000	2,600,000	93	2,418,000	20:1
XB-3400	170,000	3,400,000	93	3,162,000	20:1

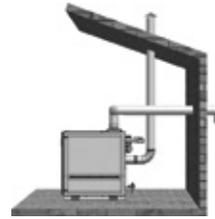


Direct-Venting up to 100 Equivalent Feet of Piping (CPVC/PVC venting material)

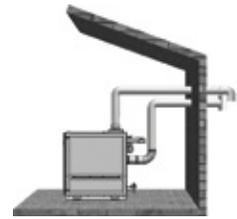
The new XP Boiler and Water Heater models provide flexible and lower cost installation because they permit direct-vent air intake and exhaust runs up to 100 equivalent feet using CPVC/PVC venting material. Vent runs use CPVC for the first 10 feet and PVC thereafter. The XP's (Category IV) venting system's intake and exhaust runs can terminate horizontally through a sidewall or vertically through the roof. Please consult the latest edition of the Installation Manual for detailed venting information and maximum/minimum venting distances.



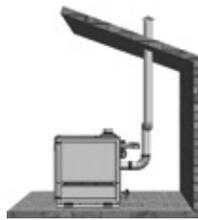
DIRECT VENT
VERTICAL



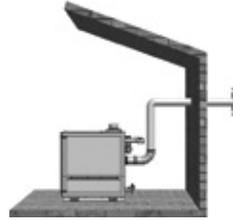
DIRECT VENT, VERTICAL VENT
HORIZONTAL INTAKE



DIRECT VENT
HORIZONTAL



VERTICAL VENTING



HORIZONTAL VENTING



Contact your A. O. Smith representative for more information on the wide range of available combinations using the Ac-U-Temp system.

Ac-U-Temp—A total hot water supply system

With Ac-U-Temp, A. O. Smith makes it as easy as possible to install a complete packaged system. A. O. Smith Ac-U-Temp systems are custom designed and built to fit your space and hot water heating needs with tank sizes available from 80 gallons up to 10,000 gallons to meet your specifications and application requirements. Ac-U-Temp systems are shipped as complete systems, pre-piped and pre-wired. All the installer has to do is make the flue, gas, electrical, and water connections, so field errors are minimized.

For complete specifications on the XP, consult the specification sheets at www.hotwater.com or contact your local A. O. Smith sales representative.



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www.hotwater.com