



# SwitchFire®

**High-Mass  
Condensing Boiler**  
6,000 to 12,000 MBH



A Cleaver-Brooks  
Sustainable Solution



# Sustainable for the Environment, Renewed Growth for Your Bottom Line

The SwitchFire® condensing boiler combines exclusive boiler and burner technologies to offer an unparalleled product in the condensing boiler market. With its unique combination of technologies, the SwitchFire provides safe, efficient, reliable, and sustainable operation for a variety of applications.

The SwitchFire is the result of decades of boiler engineering experience. It combines the Cleaver-Brooks core firetube boiler technology with key design aspects of ClearFire® condensing boilers to offer the most efficient dual-fuel condensing boiler on the market.

## The SwitchFire boiler offers:

- » **Lowest cost of ownership** – due to its large water volume, the SwitchFire is designed for use in variable-flow primary systems, which offer the lowest overall total cost of ownership from installation to operation
- » **Energy-efficient operation** with reduced electrical consumption and low waterside pressure drop
- » **Environmentally conscious burner design** that has very low emissions when firing both natural gas (standard 30 ppm NOx) and #2 oil (60 ppm NOx), with optional 7 ppm NOx available for gas-only applications
- » **Improved boiler efficiency** utilizing a state-of-the-art burner that operates with low excess air levels, increasing boiler efficiency and condensing performance. Lower flue gas dew-point temperatures equate to condensing performance at higher return-water temperatures



The SwitchFire boiler meets the strict performance and sustainability criteria required to earn the Cleaver-Brooks Sustainability Seal

# Dual-Fuel Performance Second to None

Developed for systems requiring dual-fuel capabilities as well as larger-capacity systems with gas-only fuel requirements, such as healthcare facilities and other critical operations, the SwitchFire® hydronic boiler is capable of firing natural gas or #2 fuel oil and offers a gas-only option for larger capacities.

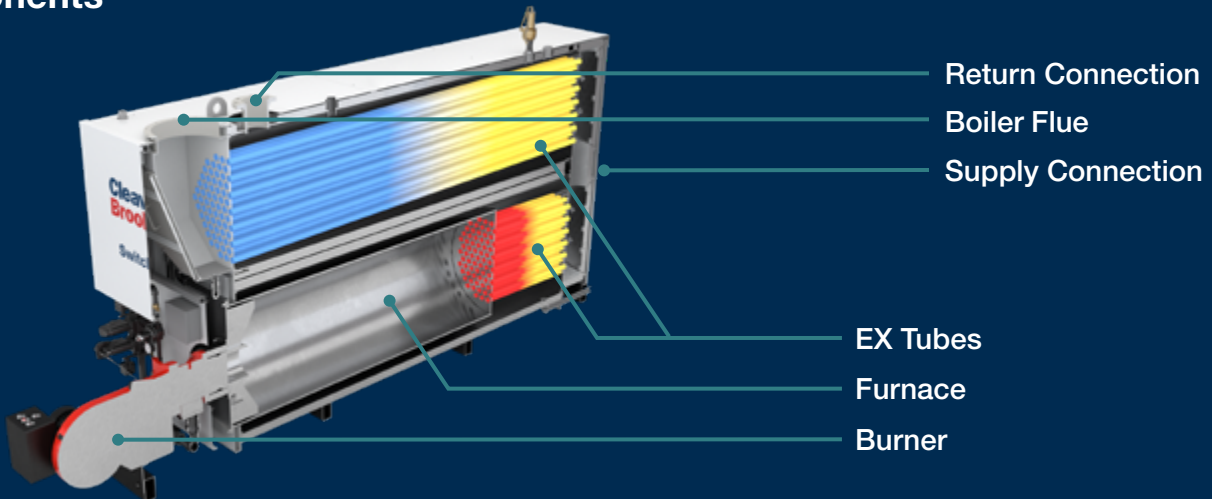


- » Designed for use in variable-flow primary systems, the SwitchFire boiler is a high-mass, fully condensing firetube boiler.
- » The unique Cleaver-Brooks “EX” firetube, constructed of 316L stainless steel, means the SwitchFire can achieve optimal heat transfer and condensing performance. The “EX” tube design is reliable, easy to clean, and simple to maintain. The tube technology has been used for more than a decade in Cleaver-Brooks firetube boilers and is now available in our condensing boilers.
- » The large furnace allows for optimized combustion and the lowest emissions possible on the market.

95.9%  
combustion  
efficiency

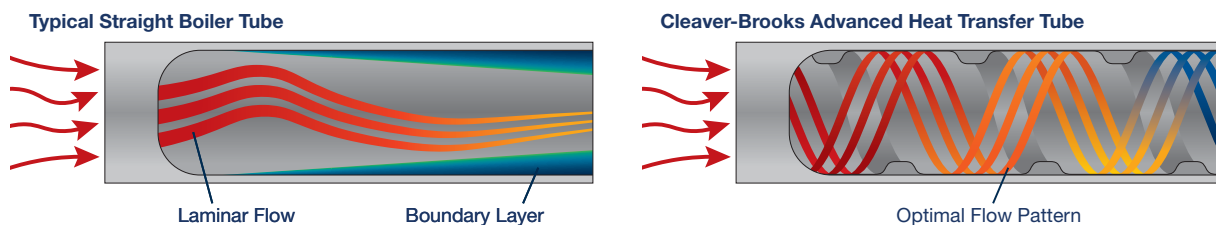
98.5%  
thermal  
efficiency

## Components



## Advanced Heat Transfer Tube

Using advanced engineering methods, Cleaver-Brooks developed EX tube technology to increase heat transfer up to 85% over traditional boiler tubes. This allows for optimal furnace design and helps provide the lowest possible emissions. The EX tube also achieves excellent condensing performance at all firing rates when compared to plain tubes.



# High Performance Features

By combining a state-of-the-art burner and controls technology with the Cleaver-Brooks designed high-mass firetube boiler, the SwitchFire offers the overall lowest cost of ownership.



## Condensing Performance

- » Reliable performance
- » Long lifespan
- » Fuel flexibility
- » Easy maintenance
- » Up to 6:1 turndown
- » Low emissions

The combination of the Cleaver-Brooks boiler development paired with the Weishaupt burner means industry-leading, dual-fuel condensing boiler performance when firing gas or oil.



## Ease of Maintenance

The SwitchFire's floor-mounted burner allows for easy access and maintenance. The powder-coated steel casing panels are designed and constructed to be easily removed for service.



Ease of access for both the burner and the panels

# Industrial Burner and Controls

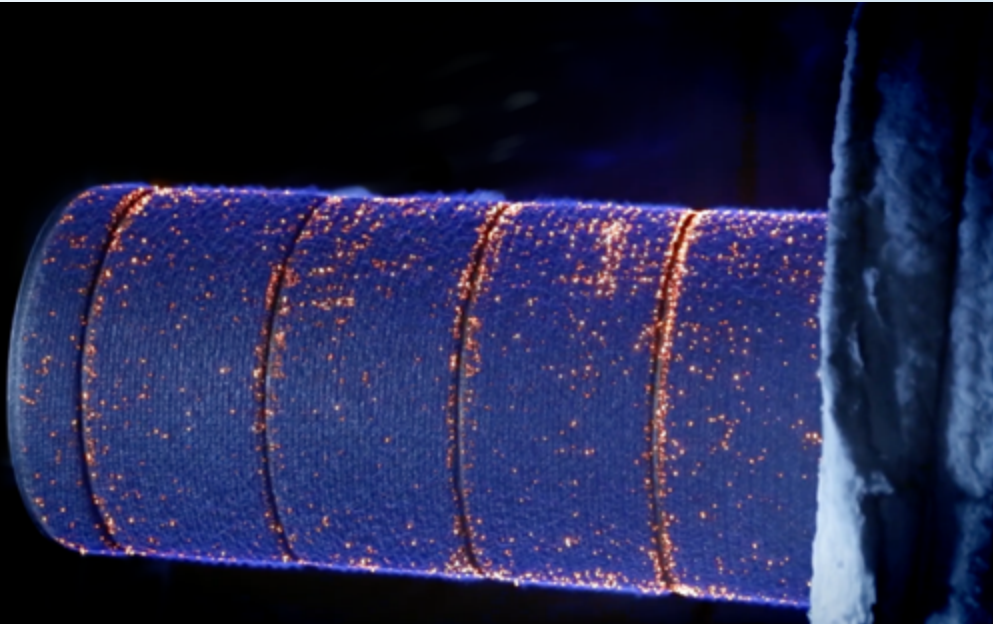


## Weishaupt Burner

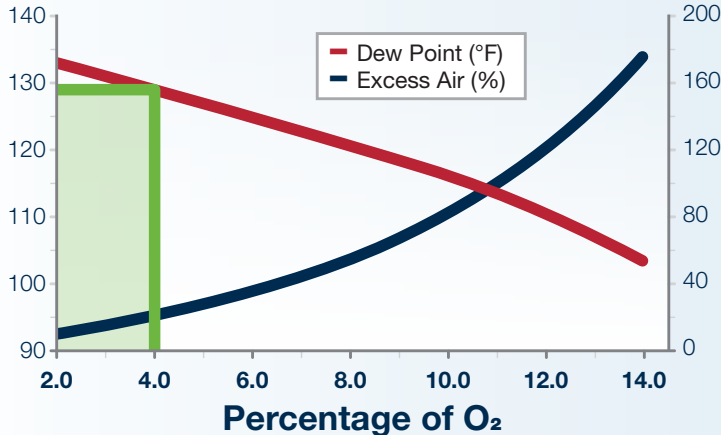
- » Optimized for use with the SwitchFire boiler
- » Up to 6:1 turndown on both gas and #2 oil
- » Gas-only available for 8,000, 10,000 and 12,000 MBH capacities
- » Combination of gas and light-oil fuels
- » Pressure atomization for light oil uses integral oil pump
- » Utilizes Siemens LMV controls

## Premix Burner

- » Natural gas, propane or dual-fuel (natural gas/propane) operation
- » 15:1 fully modulating turndown
- » 20 ppm NOx standard
- » Optional 7 ppm NOx
- » Reliable design ideal for larger systems and industrial applications
- » Utilizes parallel positioning controls for precise combustion control throughout the firing rate range
- » Maintains consistent excess air levels ensuring optimal condensing performance



### Flue Gas Dew Point (°F)



## Operating Efficiency

To achieve the best operating efficiency, the SwitchFire boiler maintains consistent excess air throughout the firing range. Maintaining low excess air translates into higher efficiency.

The SwitchFire boiler offers low and consistent excess air levels from low-to-high fire, optimizing both the combustion efficiency and condensing performance by keeping the flue gas dewpoint as high as possible.



# Reliability for Critical Systems

## Healthcare

Healthcare facilities are a key market for the SwitchFire® boiler. Based on hospital code requirements, many facilities require a redundant fuel, often #2 oil. Historically, many healthcare facilities used steam boilers, and as this market shifts toward condensing hydronic boilers, the SwitchFire is the perfect solution for a reliable and safe heating hot water boiler.



## Additional Applications



Building Heat



Manufacturing Processes

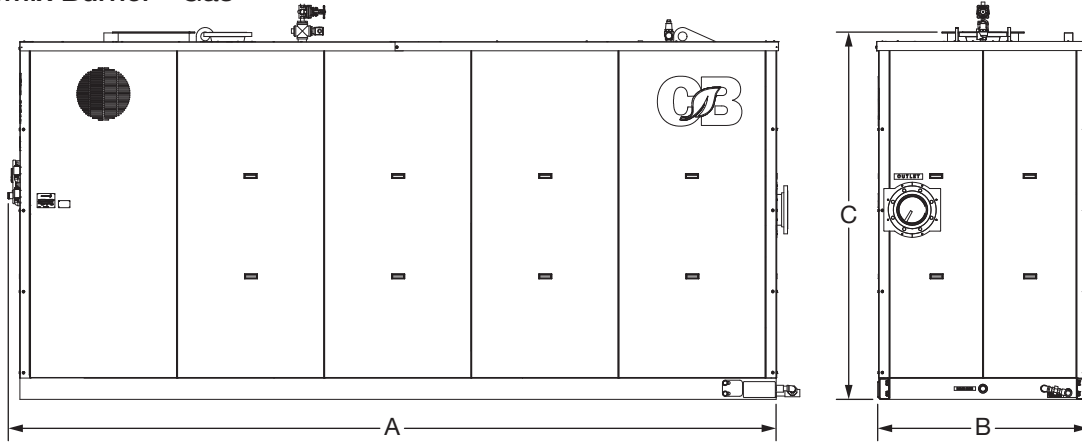


Campus Systems

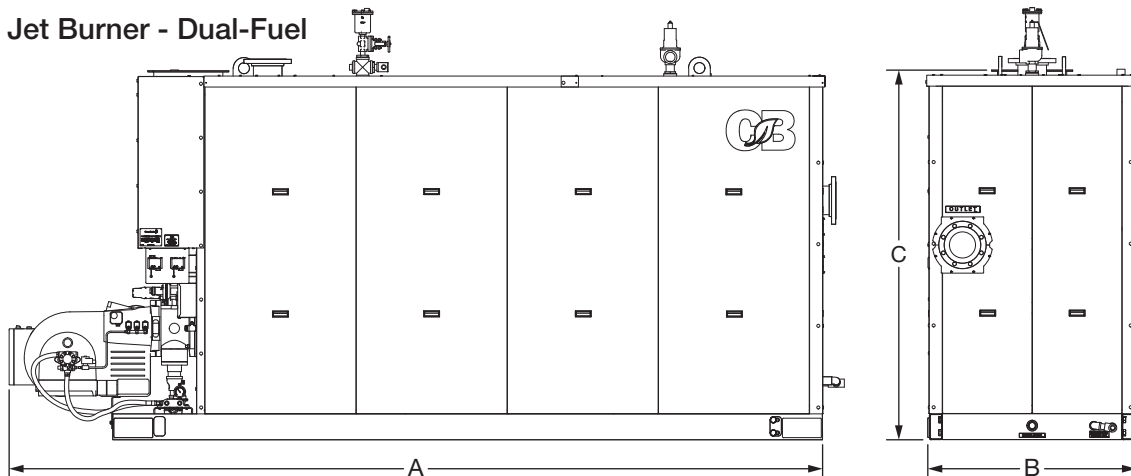
# Dimensions and Ratings

	6000	8000	10000	12000
Input Maximum (Btu/hr)	6,000,000	8,000,000	10,000,000	12,000,000
Output at 120/80 °F 100% Firing Rate (Btu/hr)	5,652,000	7,536,000	9,420,000	11,304,000
Output at 180/140 °F 100% Firing Rate (Btu/hr)	5,236,800	6,982,400	8,728,000	10,473,600
<b>PREMIX BURNER - Natural Gas or Propane</b>				
Overall Length (Dimension "A")	-	220"	213"	213"
Overall Width (Dimension "B")	-	48"	60"	60"
Overall Height (Dimension "C")	-	85.5"	103.5"	103.5"
Shipping Weight (lbs)	-	12,228	16,972	17,545
Operating Weight (lbs)	-	18,308	24,891	25,061
<b>JET BURNER - Combination Gas/#2 Oil</b>				
Overall Length (Dimension "A")	191.5"	227.5"	228.2"	228.2"
Overall Width (Dimension "B")	47.5"	48"	60"	60"
Overall Height (Dimension "C")	85.5"	85.5"	103.5"	103.5"
Shipping Weight (lbs)	11,050	12,290	17,041	17,614
Operating Weight (lbs)	15,734	18,370	24,960	25,130

Premix Burner - Gas



Jet Burner - Dual-Fuel





## The power of total integration.

The **Power of Total Integration** is how Cleaver-Brooks delivers the world's broadest range of integrated, sustainable boiler plant solutions. In addition to our products, this includes our global representative and service network, training resources, and trusted expertise that add significant value to your Cleaver-Brooks investment.



Click or scan the QR code to access SwitchFire® resources.

