

# EverGreen minimal environmental impact well effluent burner

Aligned with United Nations Sustainable Development Goals:  
13—Climate action



Enable more sustainable disposal of well effluent, both onshore and offshore



## Flaring-Related Emissions Reduction:

Reduces CO<sub>2e</sub> by 6–10% and unburned hydrocarbons (including CH<sub>4</sub>) by 71% compared with conventional burners



**Peak Combustion Efficiency:**  
99.84%



**Peak Destruction Efficiency:**  
99.93%



**Peak Fallout Efficiency, One-Day Cycle:**  
99.999995%

## Applications

- Exploration and development well testing and cleanup operations
- Operations in environmentally sensitive areas offshore and onshore
- Heavy and waxy oil production

## Benefits

- Reduces environmental impact during well testing
- Provides an efficient and cost-effective alternative to oil storage for midsize flow rates
- Accommodates both high and low oil flow rates and adverse wind conditions

## Features

- DNV certification of environmental performance
- Fallout-free and smokeless combustion
- Operational efficiency with up to 25% water cut
- Built-in shutoff valve for fallout prevention
- Integral design of water screens
- Large operating range with optional multirate kit



*Simulated EverGreen\* minimal environmental impact well effluent burner efficiently disposing of well effluent in an environmentally sensitive area.*

## How it minimizes environmental impact

The EverGreen minimal environmental impact well effluent burner is a single-head, 12-nozzle well test oil burner for onshore and offshore exploration and development well testing and cleanup. It provides an efficient and cost-effective alternative to oil storage for midsize flow rates and where there is a lack of existing infrastructure. Typical flow rates are up to 15,000 bbl/d, but cases have exceeded 17,000 bbl/d, reaching record surges of 20,000 bbl/d.

The EverGreen burner has undergone extensive characterization tests witnessed and validated by DNV, the globally recognized third-party certification agency. With the industry's only third-party certification of performance, the EverGreen burner achieves fallout-free and smokeless combustion of liquid hydrocarbons produced during well testing and cleanup, as stated in the EverGreen burner's verification statement with DNV.

The burner's geometry makes extensive use of pneumatic atomization and enhanced air induction. The burner is equipped with twin pilots, a flame-front ignition system (BRFI), and a built-in water screen to reduce heat radiation. The EverGreen burner is also fitted with an automatic shutoff valve that prevents oil spillage at the beginning and end of a burning run. A high turn-down (1:5) feature can be further extended to 1:30 using the multirate kit (BMRK) option, which enables you to flow a large range of flow rates. A special version of the EverGreen burner is also available for low flow rates (BRNH-B). For onshore operations, a special skid (EBSK) is available.

# EverGreen

The EverGreen burner is highly efficient with all types of oil, including heavy and waxy oils. The EverGreen burner can operate effectively with up to 25% water cut, which makes it ideal for cleanup operations. With the highest combustion and destruction efficiencies in the industry, the

burner reduces overall emissions and also eliminates liquid fallout at the beginning and end of a burn sequence—making it well suited for operations in environmentally sensitive areas.

## EverGreen Burner Specifications

	BRNH-A (Standard)	BRNH-B (Low Flow Rates)
Number of nozzles	12	1
Nozzles size, in [mm]	0.75 [19]	0.75 [19]
Working pressure, psi [kPa]	960 [6,619]	960 [6,619]
Test pressure, psi [kPa]	1,440 [9,929]	1,440 [9,929]
Min. operating temperature, degF [degC]	-4 [-20]	-4 [-20]
Min. oil flow rate, bbl/d [m <sup>3</sup> /d] at psi [kPa]	3,000 [477] at 40 [276]	250 [40] at 40 [276]
Max. oil flow rate, bbl/d [m <sup>3</sup> /d] at psi [kPa]	15,000 [2,385] at 240 [1,655]	1,250 [199] at 240 [1,655]
Min. oil flow rate with multirate kit, bbl/d [m <sup>3</sup> /d] at psi [kPa]	500 [80] at 40 [276]	na
Max. oil flow rate with multirate kit, bbl/d [m <sup>3</sup> /d] at psi [kPa]	15,000 <sup>†</sup> [2,385] at 240 [1,655]	na
Max. water cut, %	25	25
Min. air pressure, psi [kPa]	120 [827]	120 [827]
Air flow rate requirement, ft <sup>3</sup> /min per bbl/d [m <sup>3</sup> /min per m <sup>3</sup> /d]	1,000 per 1,500 [28.3 per 239]	85 per 125 [2.4 per 19.9]
Water shield flow rate requirement, bbl/d [m <sup>3</sup> /d] at psi [kPa]	15,000 at 150 [2,385 at 1,034]	na
Heat radiation	To be simulated with ArchiTest* well test design and methodology software	na
Noise	To be simulated with ArchiTest software	na
Overall dimensions (L × W × H), ft [m]	14.8 × 4.1 × 8.2 [4.50 × 1.25 × 2.50]	11.5 × 3.1 × 4.9 [3.50 × 1.00 × 1.50]
Weight, lbm [kg]	2,072 [940]	331 [150]
Water screen, lbm [kg]	110 [50]	na
Transportation package, lbm [kg]	353 [160]	na
Accessories (optional)		
BRFI	Available	Available
BMRK, 500–15,000 bbl/d [80–2,400 m <sup>3</sup> /d]	Available	na
EBSK	Available	na

All specifications are subject to change without notice.

<sup>†</sup>Cases have exceeded 17,000 bbl/d, reaching record surges of 20,000 bbl.

## Connections, Codes, and Certifications

Connection	Oil Inlet	Air Inlet	Water Inlet	Propane Pilot Inlet	Flame-Front Ignition Inlet
BRNH-A	3-in figure 206 female	4-in figure 206 female	3-in NPT <sup>†</sup>	½-in NPT	1-in NPT
BRNH-B	2-in figure 206 female	2-in figure 206 female	na	½-in NPT	1-in NPT
<b>Applied Code</b>			<b>Certification</b>		
Working pressure, psi [kPa]			ANSI/ASME B31.3, H <sub>2</sub> S (NACE MR0175)		
Test pressure, psi [kPa]			Third-party certifications, ATEX (Explosion proof: EExd <sup>‡</sup> IIB T4), CE marked		

All specifications are subject to change without notice.

<sup>†</sup>National pipe tapered threads

<sup>‡</sup>Induction motors certified for explosive areas

[slb.com/EverGreen](http://slb.com/EverGreen)