

EverGreen Burner

Fallout-free and smokeless liquid hydrocarbon combustion

APPLICATIONS

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

BENEFITS

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

FEATURES

- Fallout- and smoke-free
- Operates efficiently with up to 25% water cut
- Built-in shutoff valve
- Integral design of water screens
- Large operating range with optional multirate kit



EverGreen burner.

The EverGreen* 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.

The EverGreen burner performs fallout-free and smokeless combustion of liquid hydrocarbons produced during well testing. The burner 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 allows the user to select the number of operating nozzles. For onshore operations, a special skid (EBSK) is available.

It has been proved that the EverGreen burner is highly efficient with all types of oil, particularly heavy and waxy oils. The EverGreen burner can operate effectively with up to 25% water cut, which makes it ideal for cleanup operations. Because it eliminates liquid fallout, visible smoke emissions, and oil dumping at the end of a burn sequence, the EverGreen system is particularly well suited for operations in environmentally sensitive areas.

Development of the EverGreen burner was accomplished with the support of the European THERMIE program and with the combustion expertise of Institut Francais du Pétrole (I.F.P.).

All EverGreen burners are manufactured under a Type Approval and Design Verification Review and are provided with a Certificate of Conformity and a full quality file.

EverGreen Burner

Specifications

	BRNH-A	BRNH-B
Part number	P785100	P788431
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 ³ /d] at psi [kPa]	3,000 [477] at 40 [276]	250 [40] at 40 [276]
Max. oil flow rate, bbl/d [m ³ /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 ³ /d] at psi [kPa]	500 [80] at 40 [276]	na [†]
Max. oil flow rate with multirate kit, bbl/d [m ³ /d] at psi [kPa]	15,000 [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 ³ /min per bbl/d [m ³ /min per m ³ /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 ³ /d] at psi [kPa]	15,000 per 150 [2,385 per 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)		
Flame-front generator (BRFI)	100126172	100126172
Multirate kit (BMRK-A), 500–15,000 bbl/d [80–2,400 m ³ /d]	P491057	na
Onshore skid (EBSK-A)	P495790	na

Connections, Codes, and Certifications

	Oil Inlet	Air Inlet	Water Inlet	Propane Pilot Inlet	Flame Front Ignition Inlet
BRNH-A	3-in Fig 206 Female	4-in Fig 206 Female	3-in NPT	½-in NPT	1-in NPT
BRNH-B	2-in Fig 206 Female	2-in Fig 206 Female	na	½-in NPT	1-in NPT

Applied Codes

BRNH	ANSI [†] /ASME [§] B31.3, H ₂ S (NACE ^{††} MR 0175)
BRFI	Third-party certifications, ATEX ^{††} (Explosion proof: EExd ^{§§} IIB T4), CE ^{†††} marked

[†] Not applicable

[‡] American National Standards Institute

[§] American Society of Mechanical Engineers

^{††} National Association of Corrosion Engineers International

^{‡‡} Complies with ATmospheres EXplosives directive

^{§§} Induction motors certified for explosive areas

^{†††} Conformité Européenne

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