

ARMOR Suppression System

Rapid Response Compressed Air Foam System (CAFS)

Protecting Operations, Assets, and Lives in the Oil & Gas Industry
 knightfirespecialists.com

In oil and gas, the difference between an incipient fire and catastrophic loss is measured in seconds — not minutes. The ARMOR CAFS is purpose-built to put maximum suppression power in the hands of your team, on-site, on-demand.

1,200 gal

Finished Foam

200 ft

Hose Reach

6.5 min

Spray Time

-40°F

Freeze Protection



1

Nitrogen ON (always)
 Open Master Valve → 150 PSI

2

Pull Hose to Position
 Apply Foam

3

Refill Immediately

4

Class A: Wood, paper, rubber, plastics
 Class B: Oil, gasoline, diesel, natural gas

5

Smothers & Cools simultaneously
 Clings to surfaces, prevents re-ignition

Core System Specs

60-gal stainless steel vessel, 3% foam

Two 90 cu ft N₂ cylinders → 150 PSI

100% PFAS-free, fluorine-free, biodegradable

20+ year shelf life, rated to -40°F

ARMOR vs. Standard Options

Feature	ARMOR CAFS	Dry Chemical	Water Tank	Notes
Foam Output	1,200 gal	—	—	Continuous foam discharge
Spray Time	6.5 min	10–30 sec	1–2 min	Built for sustained response
Freeze Protection	-40°F	Limited	None	Field-ready in harsh climates
PFAS-Free	Yes	Varies	N/A	100% fluorine-free foam
Corrosive	No	Yes	Possible	Protects equipment
Shelf Life	20+ years	5–12 years	N/A	Long-term readiness
Recharge	Simple refill	Professional req.	Manual refill	Fast return to service

Why It Matters

- **Equipment Destruction:** Uncontrolled fires destroy multimillion-dollar equipment in minutes
- **Personnel Risk:** Every second of delay increases danger to workers on location
- **Environmental Liability:** Hydrocarbon fires create massive regulatory exposure
- **Operational Downtime:** Even a contained fire can shut down operations for days

Acquisition Options

01

Purchase: Own outright. Best for permanent installations.

02

Rent: Short-term for temporary operations. Get protected immediately.

03

Lease: Flexible leasing with full Knight Fire Specialists support.

The ARMOR system puts suppression capability in the hands of trained personnel — on-site, on-demand, in seconds. This is the minimum standard every oil and gas location should have.

ARMOR System: Operations, Maintenance & Specifications

Setup · Refill · Gauge Reference · Inspection · Deployment · Specs · Acquisition

First-Time Setup & Charging

<p>01</p> <p>Verify Zero Both gauges must read 0 before starting</p>	<p>02</p> <p>Fill Vessel 60-gal premix, -40°F rated, no mixing needed</p>
<p>03</p> <p>Attach N₂ Cylinders Both 90 cu ft (-2,200 PSI full)</p>	<p>04</p> <p>Open Cylinders Settles to -1,700 PSI standby</p>
<p>05</p> <p>Energize Open master switch; operating gauge → 150 PSI</p>	

CRITICAL: Do NOT open master switch until both gauges verified and cylinders fully pressurized.

Refill Protocol (After Any Discharge)

<p>Shut Down Close master valve & N₂ cylinders</p>	<p>Bleed Pressure Rear bleed valve; both gauges → ZERO</p>
<p>Remove Cylinders Cap & remove for refilling</p>	<p>Refill Vessel Top off to full 60 gallons</p>
<p>Repressurize Reinstall, verify -2,200 PSI, open master switch</p>	

Standing Rule: Any discharge = immediate refill. Never return below 100%.

The 10-Gallon Rule



Nitrogen Cylinders

Leave both bottles ON at all times for zero-delay response	Full pressure: 2,200 PSI Standby: -1,700 PSI
Remove from service if below 800–1,000 PSI	Always operate with both cylinders — never just one

Inspection Schedule

Daily/Each Shift

Gauge check; unit unobstructed; N₂ bottles ON

Monthly

Log readings; inspect hose/kinks; drag brake; fittings

Every 6 Months

Full inspection; test master valve; verify foam concentration

Annually

Complete service; replace worn parts; certify; contact Knight Fire Specialists

Keep a written inspection log on or near the unit.

Hardware & Placement

Hose: 200 ft, 1-inch rigid jacketed, 300 PSI rated, 60 ft spray, hand-crank, drag brake
Propellant: 2 × 90 cu ft N ₂ ; 2,200 PSI full, regulated to 150 PSI, tamper-isolated regulator
Engineering Edge: 3-inch dome sump (100% use), circulating line agitates foam — reliable after years
Placement: Near ignition sources, always accessible, visible, away from traffic, scale for large sites

Acquisition Options

Purchase: Own outright. Best for permanent installations and long-term operations.
Rent: Short-term rental for temporary operations. Get protected immediately.
Lease: Flexible leasing with full Knight Fire Specialists support.

Protecting your people and investments is our #1 priority. Whatever acquisition model works best for your operation, we will make it work.

Two-Gauge Quick Reference

Scenario	High-Pressure	Operating	Status
System ready	-1,700 PSI	150 PSI	✔ Ready
Master valve OFF	-1,700 PSI	0 PSI	✔ Normal standby
Master valve ON	-1,700 PSI	150 PSI	✔ System live
High pressure dropping	Below 1,700 PSI	150 PSI	⚠ Investigate
Operating gauge bleeding	-1,700 PSI	Below 150 PSI	⚠ Possible leak
Both gauges at zero	0 PSI	0 PSI	✔ Safe to service
Service threshold	800–1,000 PSI	Any	🔴 Remove from service

Quick Rule: High -1,700 PSI + Operating 150 PSI = ARMOR ready.

Thermal Event Response



Complete Specifications

Specification	Value	Specification	Value
Tank Capacity	60 gal	Finished Foam	1,200 gal
Expansion Ratio	20:1	Foam Concentration	3%
Spray Time	~6.5 min	Hose Length	200 ft
Hose Type	1-in rigid jacketed	Hose Rating	300 PSI
Spray Distance	60 ft	Propellant	2 × 90 cu ft N ₂
Full Cylinder PSI	2,200 PSI	Standby PSI	-1,700 PSI
Operating PSI	150 PSI	Freeze Protection	-40°F
Foam Shelf Life	20+ years	PFAS/Fluorine	None — 100% free
Biodegradable	Yes	Corrosive	No
Fire Classes	Class A & B	Tank Material	Stainless Steel
Inspection Interval	6 mo / 12 mo min	Service Threshold	800–1,000 PSI

Visual Inspection Checklist

High-Pressure Gauge: -1,700 PSI standby — if lower, investigate immediately
Operating Gauge: Steady 150 PSI — if bleeding off, possible leak
Both at Zero: Only safe condition for service or refill

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