EZ CAFS

Product Catalogue



Windsor, Australia | Xuzhou, Chengdu, Shanghai, China | Berlin Germany | Riyadh, KSA

SAFE | EFFICIENCY | ECO-FRIENDLY

EZ-CAFS Fire Fighting Technology Co., Ltd.

Company Overview

Dr. Dongdong Ji is the founder of EZCAFS Fire Fighting Technologies Co., Ltd. based in Xuzhou, China.
As an Original Design Manufacturer (ODM), the company adheres to the concept of providing the best in-house designed fire suppression solutions for fire safety and focuses. Supplying customers with high-performance compressed air foam fire suppression systems.

EZCAFS have a proven ability to extinguish **THERMAL RUNAWAY** creating a safe working environment whilst reducing toxic firefighting wastewater runoff by **85%**. The EZCAFS team are pushing the design boundaries of the industry with their expertise in innovation and excellence.



UFTC

A global alliance of leading fire protection manufacturers

UFTC is a global alliance of leading fire protection manufacturers dedicated to integrated fire protection solutions for project owners and EPC contractors worldwide. Unlike a single-brand supplier, UFTC brings together specialized manufacturers whose products meet demanding international standards, including UL, FM, VDS, LPCB, MPA, TUV, BSI and DNV. Its product scope covers fire detection, fire suppression, fire extinguishing systems, mechanical systems and electrical systems.

EZ CAFS & UFTC

Proudly as a member of UFTC's EZ CAFS bridges global manufacturing resources and localized project execution.

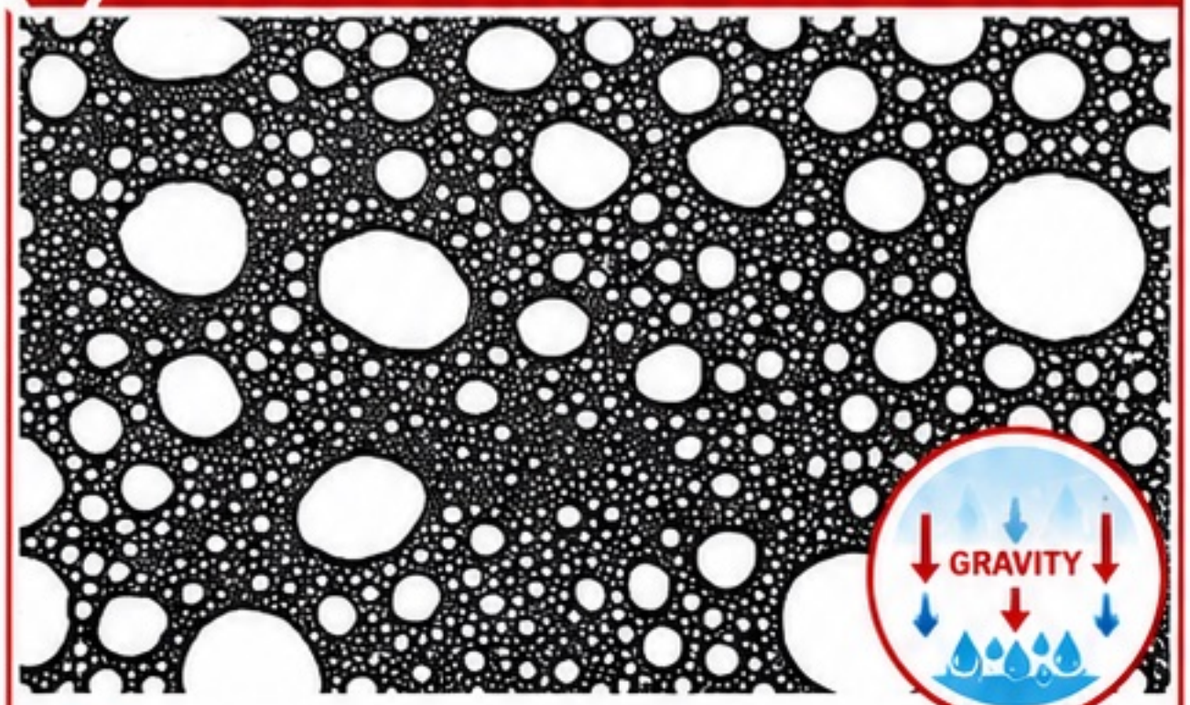
Innovation in Fire Suppression. Safety for a Sustainable Future.

What is the Magic behind the Compressed Air Foam

EZ CAFS

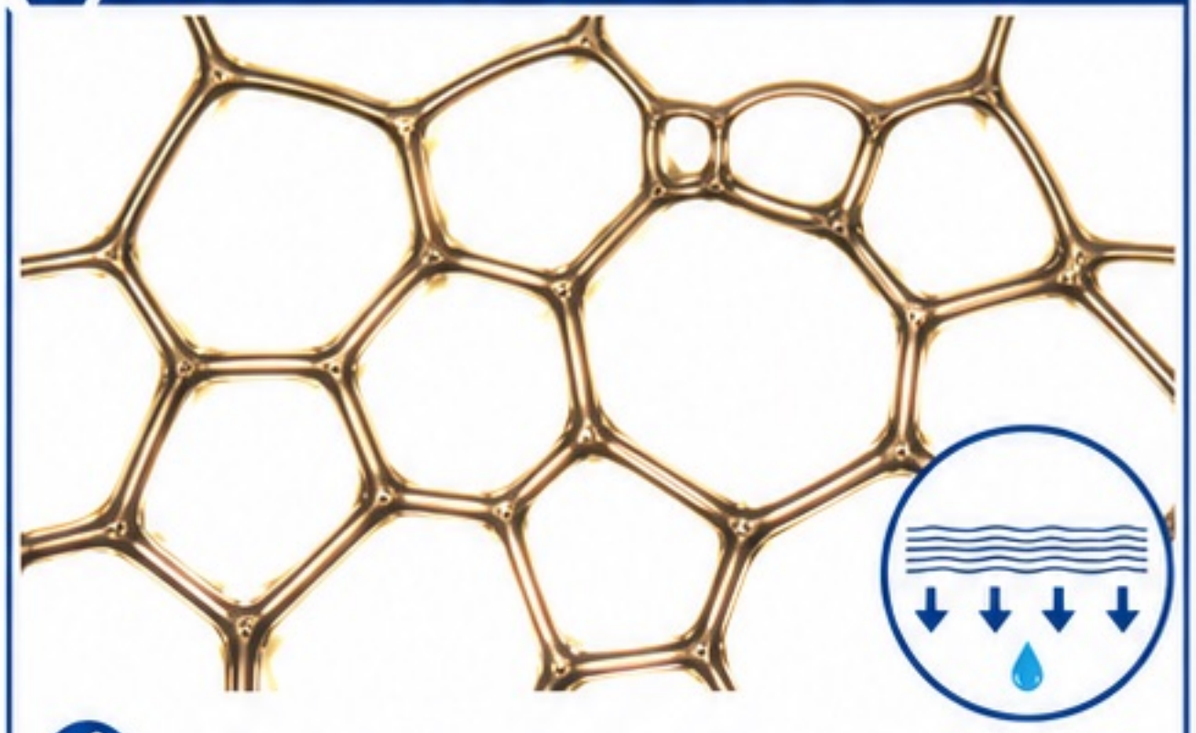
Why compressed air foam is more efficient than conventional self-aspirated foam

1 CONVENTIONAL SELF-ASPIRATED FOAM



- Bubble sizes are inconsistent.
- Water films between bubbles vary in thickness.
- Under gravity, water drains at different speeds.
- Bubbles disappear more easily.
- Drainage time is shorter.
- Sealing effect is weaker.
- Water tends to run away before absorbing heat efficiently.

2 COMPRESSED AIR FOAM



- Bubble structure is homogeneous and near-hexagonal.
- Bubble sizes are relatively uniform.
- Water films are very thin and nearly equal in thickness.
- Foam remains stable for longer.
- Drainage time is longer.
- Sealing capacity is better.
- Bubbles react with heat at a more even pace.
- Water removes more heat efficiently instead of running away.
- Better cooling performance can help reduce water damage.

COMPARISON AT A GLANCE

PERFORMANCE FACTOR	CONVENTIONAL SELF-ASPIRATED FOAM	COMPRESSED AIR FOAM
Bubble uniformity	▼ Low	▲ High
Drainage time	▼ Short	▲ Long
Sealing capacity	▼ Lower	▲ Better
Heat absorption efficiency	▼ Lower	▲ Higher
Water damage risk	▲ Higher	▼ Reduced

Compressed air foam creates a more uniform and stable bubble structure. This improves sealing, extends drainage time, enhances cooling efficiency, and helps reduce water damage.

BETTER SEALING
Improves vapor suppression

LONGER DRAINAGE
Stays in place longer

SUPERIOR COOLING
More efficient heat absorption

LESS WATER DAMAGE
Better performance, less aftermath

EZ CAFS Fire-fighting Technology Co., Ltd.

INNOVATIVE TECHNOLOGY • RELIABLE PERFORMANCE • SAFER TOMORROW



Benefits of
COMPRESSED-AIR-FOAM TECHNOLOGY:

SUPERIOR EFFICIENCY
on Class A and Class B fires

FAST AND COMPLETE EXTINGUISHING
of Lithium-Ion Battery fires (EV, BESS)

AT LEAST 75% LOWER
water consumption than conventional fire suppression technologies

AT LEAST 90% LOWER
foam concentrate consumption than conventional foam technologies

AT LEAST 50% SHORTER
extinguishing time than conventional technologies

SUITABLE FOR HIGH-RISE FIREFIGHTING
of up to 400m delivery height (drones/dry risers)

EASY TO OPERATE
by simple “One-Button-Operation”

UNMATCHED GAS-COOLING CAPACITY
due to structural cooling

AVOIDANCE OF COLLATERAL WATER DAMAGE
in structural fires and contaminated run-off in industrial fires

ENVIRONMENTALLY SAFE
due to biodegradable foam concentrates and drastic reduction of environmental contamination

EZ CAFS

INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER CLEANER GREENER STRONGER TOGETHER

We know the physics. We know-down fire.



HIGH-PERFORMANCE COMPRESSED AIR FOAM SYSTEM

Vehicle-mounted EZ CAFS

Built-in PTO Series

General Information

The EZC-BIP (EZ CAFS Built-in PTO Series) is a power take-off (PTO)-driven compressed air foam system designed for integration into a wide range of mobile firefighting vehicles.

Developed with reference to DIN EN 16327 and ISO 7076-5, the EZC-BIP is an engineered, high-energy compressed air foam system that can be configured to work with various truck-mounted fire pumps.

The system supports rapid, effective fire suppression and control when used with foam concentrates and application methods appropriate to the fire hazard. In reported testing, it demonstrated at least four times the extinguishing efficiency of water alone.

Operational experience has shown that CAFS-equipped rapid intervention vehicles can play a vital role in first-response operations, particularly where traffic congestion and limited personnel present challenges. CAFS-equipped pumpers have demonstrated the ability to control service station fires without support from a second responding unit.

In one reported incident, an EZ CAFS system extinguished a fully developed electric vehicle fire using only 400 litres of water, with no reported reignition.

The system comprises four main components: a screw-type air compressor, a foam proportioning unit, a foam generator, and a control system. Its compact, highly integrated, modular design offers flexible configurations and a wide range of optional features to meet different vehicle and operational requirements.

PTO-DRIVEN INTEGRATION
Designed for a wide range of mobile firefighting vehicles.

RAPID SUPPRESSION
Effective fire control with appropriate foam and application methods.

HIGH EFFICIENCY
At least four times the extinguishing efficiency of water alone in reported testing.

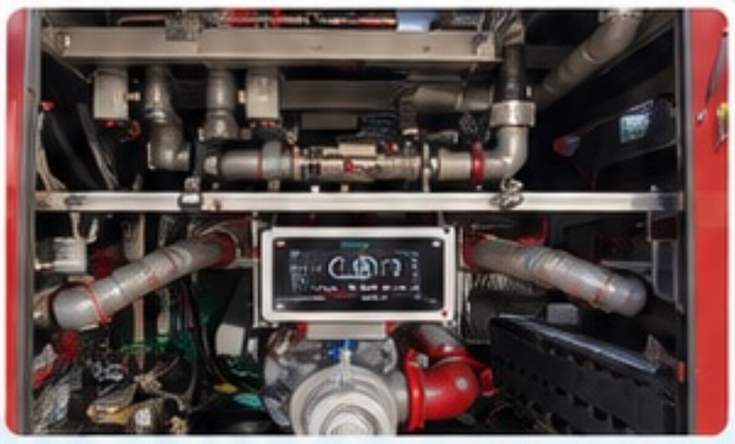
COMPACT MODULAR DESIGN
Highly integrated with flexible configurations and optional features.

FLEXIBLE VEHICLE INTEGRATION
Compatible with various truck-mounted fire pumps.

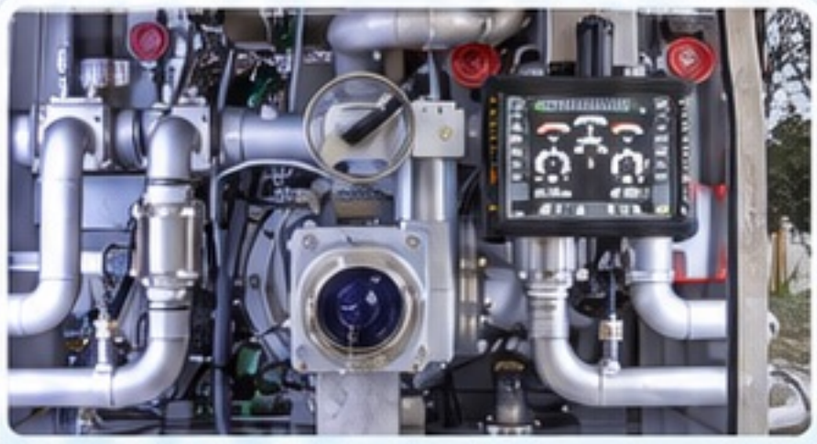
LOW WATER CONSUMPTION
Example: fully developed EV fire extinguished with only 400 litres of water, with no reported reignition.



SYSTEM INTERFACE
Control panel and connections



INTEGRATED SYSTEM
PTO-driven compressor and foam system



CONTROL SYSTEM
PLC and monitoring interface



REAL-WORLD APPLICATION
Rapid and effective control of vehicle fires

EZ CAFS

We know the physics. We know-down fire.

SAFER
CLEANER
GREENER
STRONGER
TOGETHER

Technical Parameters

Vehicle-mounted EZ CAFS – Built-in PTO Series






MAIN PARAMETERS OF EZ CAFS

Model	EZC-200-BIP	EZC-400-BIP	EZC-600-BIP	EZC-1200-BIP	EZC-2400-BIP	EZC-4000-BIP
Max. Flow (Foam Solution)	3.3L/s 200L/min	6.6L/s 400L/min	10L/s 600L/min	20L/s 1200L/min	40L/s 2400L/min	66.7L/s 4000L/min
Air Compressor	R2	R3	R6	R9	B9	B17
Max. Flow of Air Compressor	20L/s 1200L/min	40L/s 2400L/min	70L/s 4200L/min	120L/s 7200L/min	240L/s 14400L/min	400L/s 24000L/min
Max. Power of Air Compressor	11kW	18.5kW	37kW	55kW	90kW	175kW
Weight of Air Compressor	42kg	53kg	105kg	202kg	-	-
Max. Output	20L/s 1200L/min	40L/s 2400L/min	70L/s 4200L/min	120L/s 7200L/min	240L/s 14400L/min	400L/s 24000L/min
Working Pressure	0.8MPa					
Wet Foam	Water-air Ratio (Standard) ⩾6:1					
Wet Foam	Water-air Ratio (Optional) DIN 3:1					
Dry Foam	Water-air Ratio (Standard) ⩾15:1					
Proportioner (Standard)	0.1～3% Standard Build-in foam tank x1, External Suction x1, Flush x1					
Proportioner Max Flow Rate (Standard / Optional)	6L/min 12L/min	12L/min 24L/min	18L/min 36L/min	36L/min 72L/min	72L/min 144L/min	120L/min 240L/min
Proportioner	0.1～6% Build-in foam tank x1, External Suction x1, Flush x1					
Control System	Electromagnetic water flowmeter, electromagnetic foam flowmeter, pressure sensor, PLC, Touch-screen HMI					
Foam Generator	Stainless steel and corrosion-resistant material piping					
Suitable for	Pickup truck, Van, Trailer	Small and medium vehicle e.g. Iveco Daily	Medium vehicles e.g. MAN 18.290	Mid- and large vehicle e.g. Volvo FM460	Large vehicles e.g. Arocs 3345	Heavy Duty Vehicles e.g. MAN TGS








EZ CAFS

INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER
CLEANER
GREENER
STRONGER
TOGETHER



We know the physics.
We know-down fire.

Modularization Self-contained Compressed Air Foam System

EZC-130-SCP

COMPACT | RELIABLE | VERSATILE



FOR RAPID RESPONSE

EZC-200-SCT

SMART | EFFICIENT | MULTI-TASK



HIGHER PERFORMANCE

EZC-270-SCT

POWERFUL | EXTENDED CAPABILITY



BUILT FOR TOUGHER CHALLENGES

Description

The EZ CAFS Self-contained Compressed Air Foam System is a sophisticated, powerful engine-driven fire extinguishing system. It comprises the petrol motor, fire pump, compressor, foam proportioner and foam generator. Due to its compact dimensions and low weight, it is ideal for installation on pick-up trucks, vans, utes and containers.

The SCP series utilizes Push-button/Toggle Switch control with fixed flow foam generator for simpler maintenance.

The SCT series is equipped with PLC + Touchscreen control with CANBus variable flow foam generator for multitask and easier operation. It offers exact metering of water and airflow in combination with the EZ-CAFS mixing pressure and dynamic flow control technology.

The EZ CAFS Self-contained CAFS is usable for any kind of firefighting operations including interior structural firefighting, and can even feed a high-rise hose / firefighting drone up to more than 200 meters. Fuel and electrical supply can be supplied directly from the vehicle chassis or battery packs, and fuel tanks can be supplied as options.

Operation

EZC-130-SCP



Control
Push Button / Toggle Switch

EZC-200-SCT | EZC-270-SCT



Control
PLC + Touchscreen HMI

Advantages

- Self-contained system can be operated independently from the chassis
- Powerful, full size fire suppression system for all kind of incidents
- Universally applicable for all fire classes, highly efficient on lithium-ion battery fires and EV fires
- Dynamic-flow-control system allows safe and easy operation of discharge manifold, e.g. for forestry fires, with simultaneous operation of (3) 1" handlines or (3) impact sprinklers
- Easy to operate by a simple "One Button Operation"
- System design allows installation of one master or several slave operation panels
- Foam can be supplied distances (with a 2.5" hose) of up to 1000 m on the ground and heights more than 200 m

Successful Mounting



Rapid Intervention Vehicle Semi Enclosed



Rapid Intervention Vehicle Enclosed Bodywork



Rapid Intervention Vehicle Van



CAFS Trailer



Push-around CAFS

Capable of Supply



Drone



Handline Nozzle x 2



Monitor x 1

EZ CAFS
INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER
CLEANER
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TOGETHER

We know the physics.
We know-down fire.

Technical Parameters

Modularization Self-contained Compressed Air Foam System

	EZC-130-SCP	EZC-200-SCT	EZC-270-SCT
	 COMPACT | RELIABLE | VERSATILE	 SMART | EFFICIENT | MULTI-TASK	 POWERFUL | EXTENDED CAPABILITY
Operation	**Control** Push Button / Toggle Switch	**Control** PLC + Touchscreen HMI	**Control** PLC + Touchscreen HMI
Max. output	System Max. Output **930** L/min	System Max. Output **1400** L/min	System Max. Output **1860** L/min
Water-foam solution flow	System Flow **130** L/min	System Flow **200** L/min	System Flow **260** L/min
Working Pressure	Compressor Pressure **8 bar** for Handline Operation	Compressor Pressure **8 bar** for Handline Operation	Compressor Pressure **13 bar** for Drone/Highrise Function
Weight	Weight Approx. **220**kg	Weight Approx. **335**kg	Weight Approx. **455**kg
Interface	System Outlet **DN50**; Water Inlet **DN50**	Water Inlet **DN65**; System Outlet **DN65**; Foam Inlet **DN20**	Water Inlet **DN65**; System Outlet **DN65**; Foam Inlet **DN20**
Dimensions (L*W*H)	Dimension 1450*600*750mm	Dimension 1450*750*860mm	Dimension 1800*800*900mm

System Components

Pump Capacity **500** L/min @ 6.8bar
Pump Capacity
with Primer and heat release valve

	EZC-130-SCP	EZC-200-SCT	EZC-270-SCT
Compressor Capacity	**800** L/min @ 8 bar	**1200** L/min @ 8 bar	**1600** L/min @ 8 bar
Engine	Gasoline Engine **23**HP (17.2kW)	Gasoline Engine **27**HP (20.5kW) EFI	Gasoline Engine **36**HP (24.9kW) EFI
Proportioner	Proportioning Rate **0.2%~2%**	Proportioning Rate **0.1%~3%**	Proportioning Rate Optional **0.2%~6%**; Proportioner Pressure **15** Bar Max.

EZ CAFS Fire-fighting Technology Co. Ltd.

EZ CAFS

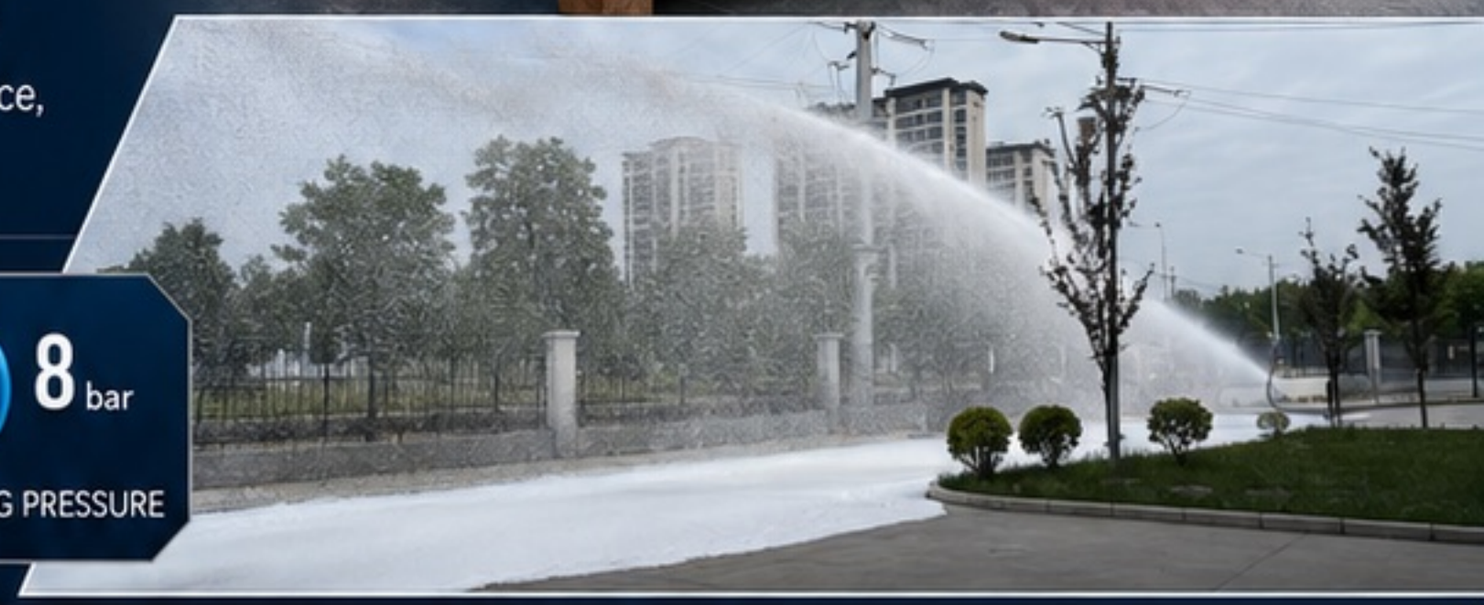
EZC-600-SCT

Engine-driven Self-contained Compressed Air Foam System

We know the physics. We knock-down fires.



A compact, stand-alone compressed air foam solution driven by diesel engine for rapid intervention firefighting vehicles, new fire truck builds, and retrofits of existing vehicles. Designed for strong extinguishing performance, rapid deployment, and reduced water damage.



4200 L/min — AGENT OUTPUT

600 L/min — SOLUTION FLOW

8 bar — WORKING PRESSURE

BENEFITS OF EZ CAFS

1. Stand-alone diesel-driven CAFS system for rapid deployment
2. Knocks down fire faster than water and traditional foam
3. Reduces water damage by using less water
4. Provides more safety features to firefighters
5. Eco-friendly fire extinguishing solution

SYSTEM SPECIFICATIONS

Max. Solution Flow	600 L/min
Extinguishing Agent Output	4200 L/min
Working Pressure	8 bar
Flow (water only)	> 800 L/min
Pump Nominal Pressure	10 bar
Foam Tank	40 L, PP material
Water Tank	Supplied by customer
Water Inlet	DN80 (3 in connector)
Foam Agent Inlet	DN25 (1 in connector)
Foam Outlet	DN80 (3 in connector)
Pump Return Line	DN25 (1 in connector)
Weight	932 kg
Dimensions	L1200 × H850 × W950 mm

KEY MODULES

EVO-6NK



- 5.5 m³/min / 200 cfm
- up to 15 barg
- approx. 99 kg

ISF2.8



- 2.8 L
- 55 kW / 75 HP
- 2600 rpm

CB10/20



- 1200 L/min
- 10 bar
- Single-stage

EZC-PPPS-18



- 18 L/min
- 8 bar
- 0.1% – 6%
- 2 kW

APPLICATIONS

- Fire truck builders
- Service contractors
- Rapid intervention vehicles
- Retrofit projects

STRONGER PERFORMANCE • RAPID DEPLOYMENT • LESS WATER DAMAGE • SAFER FOR FIREFIGHTERS

EZ CAFS
—INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER
CLEANER
GREENER
STRONGER
TOGETHER



Sparky

Fire-fighting Robot

Remote Operation | Safe Approach | Powerful Fire Suppression

- Remote operation keep firefighters safe
- Powerful water/foam fire suppression
- Self-protection system for high survivability
- All-terrain track chassis for rough environment
- Hose detaching device for quick deployment
- Compact, robust and reliable design

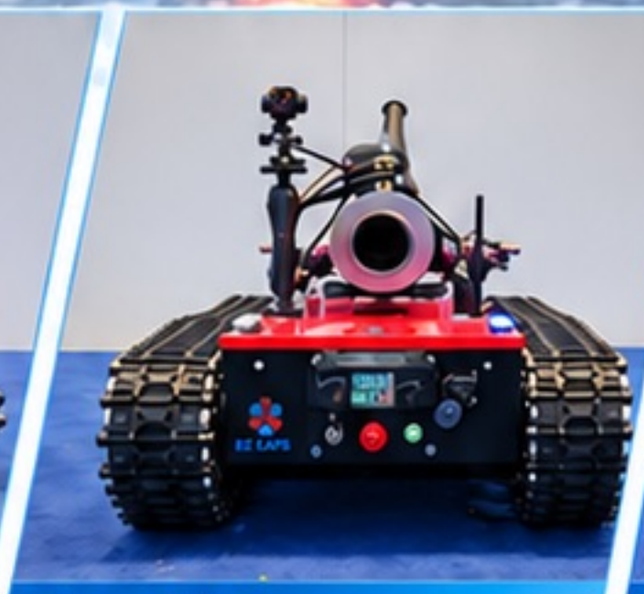




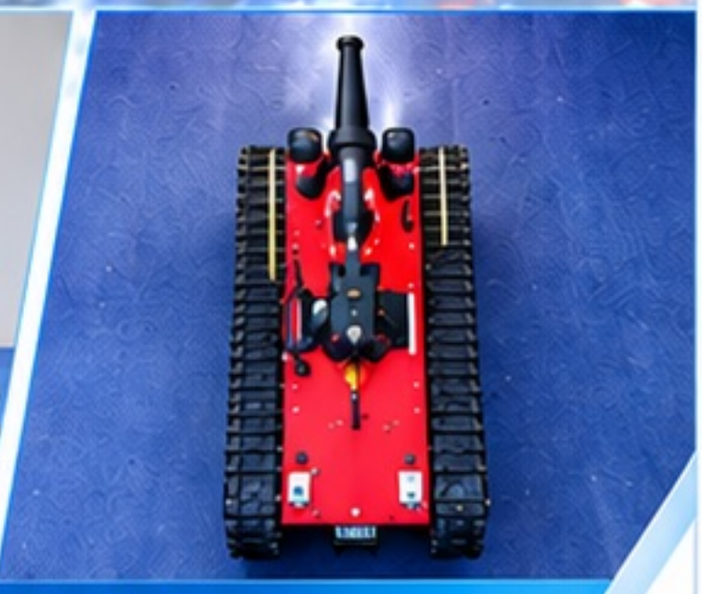
Front View
LED headlights & warning lights



Side View
Robust track chassis



Rear View
Control interface



Top View
Compact arrangement

EZ CAFS
INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER
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STRONGER
TOGETHER



Technical Specifications

Dimensions (L × W × H)	**900 × 550 × 280 mm** (Chassis without monitor)
Total Weight	Approx. **90 kg** (Excluding battery)
Travel Speed	**0 – 3.5 km/h**
Climbing Ability	**≤ 40°**
Obstacle Crossing	**≤ 300 mm**
Trench Crossing	**≤ 600 mm**

Drive System	Electric, tracked chassis (6 wheels per side)
Power Supply	Lithium battery pack (Hot-swappable option)
Operation Time	**≥ 2 hours** (Standard configuration)
Remote Control Range	**≥ 1,000 m** (Visual, open area)
Monitor	Portable monitor with hose detaching device
Flow Rate	Up to **2,000 L/min** (Depending on monitor)

Product Dimensions



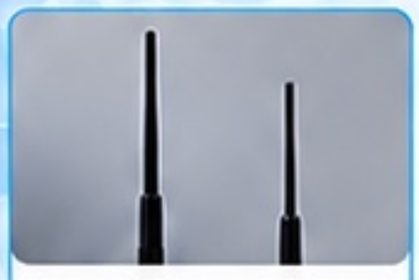
Main Components


Crawler chassis (6 wheels per side)


2 × LED headlights

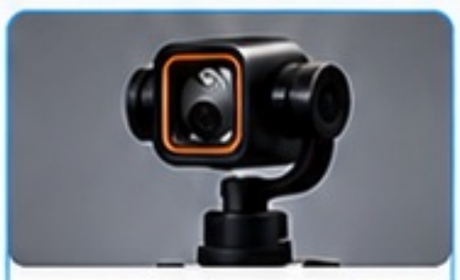

2 × amber flash lights


4 × red-blue lights


2 × antennas


Portable monitor with hose detaching device


2 × self-protection nozzles


Camera

EZ CAFS
RIV / FSU
RAPID INTERVENTION • FAST SUPPRESSION

SAFER
CLEANER
GREENER
STRONGER
TOGETHER

RIV

RAPID INTERVENTION VEHICLE

CAFS Powered | Compact | Fast Response



- Rapid first response to small fires
- High performance CAFS
- Compact and maneuverable
- Modular design for multiple applications
- Environmentally friendly foam solution



CAFS RIV

Fire departments are increasingly face congested traffic and dangerous firefighting operations. Emergency personnel sometimes face great risks to their lives and limbs because rapid intervention is required, but handy tools are usually too large and heavy to fit on standard fire trucks. RIV offers modularized RIV solution for fire departments to easily handle first response.

By utilizing pick-up or van type vehicle, TRIVER provide ready for use solution to fast equip a small-sized, light-weight, and powerful first response unit by different task modular.


Vehicle Fire Suppression


Petrochemical & Industrial Facilities


Storage Tanks & Terminals


Hazmat Response

FOAMING
A SAFER TOMORROW

EZ CAFS

RIV / FSU

RAPID INTERVENTION • FAST SUPPRESSION

SAFER
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TOGETHER



We know the physics.
We know-down fire.

RIV-Urban

- CAFS ≥ 130 L/min (Water equivalent)
- 400 L water tank
- Designed for urban environment
- 2-person operation

Equipped with CAFS of at least 130L/min flow to provide the same capacity of a 400L/min water handline nozzle according to PEREX study by the French Ministry of interior. So as to fight the fire as early as possible within the "golden time" before small fire becomes a disaster. The RIV-Urban also carries BA, hydraulic tools and relevant equipment to let 2-people team to execute most common jobs that first response will covers in a quick pace.



RIV-Forestry

- Automatic flow control for fast attack reels
- Reasonable low flow for long duration
- Bio-degradable foam concentrates
- Minimal environmental impact

Equipped with CAFS features automatic flow control function, to supply fast attack reels with a reasonable low flow to save water and fight initial forestry fire during patrol. By using less water to prevent soil loss and erosion. Enhanced by adequate foam concentrates, RIV-Forestry can let wetting agent penetrate deep into 500mm down the surface to perform cooling function. The chemicals are fully bio-degradable within 28 days.



RIV-Drone

- Carry drone payload up to 100 kg
- Operate at high-rise and difficult access
- Alternative to water tower or ladder truck
- Compact and versatile

Equipped with CAFS has high-rise function, RIV-Drone can carry a drone with a payload of 100kg, can fly over 200 meters to fight incipient high-rise building fires. This enables a small pickup truck to respond instead of relying on water tower or ladder which weight over a dozen tons and require space for outriggers.



RIV-Robot

- Tracked robot for difficult terrain
- Remote-controlled operation
- High flow 3,000 – 4,000 L/min
- Overcome obstacles up to 180 mm and climb 35° – 40°

Equipped with CAFS and a tracked robot that can easily be transported on small vehicles and handled by two personnel. The robot is ready for use and play within a 200-meter radius of the vehicle. Despite its low weight and compact dimensions, the attachable, remote-controlled monitor delivers up to 4,000 liters of wet foam per minute. The robot can overcome obstacles up to 180 mm high and climb stairs and ramps with an incline of up to 40°. It can move on slide slopes of up to 35° as well.



RIV-Hazmat Response

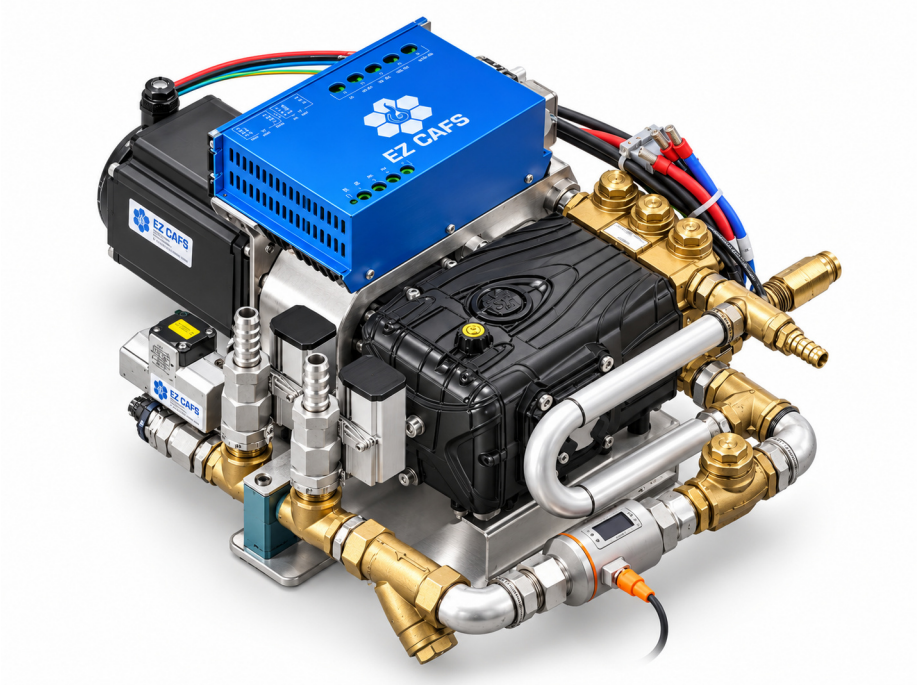
- Homogeneous, adhesive foam structure
- Allows longer reaction time
- Quick contain oil spills or chemical leaks
- Ideal for HAZMAT scenarios

A well engineered CAF features a homogeneous, adhesive bubble structure with extended drainage time. This allows decontamination agents a longer reaction time with the target. A RIV-Hazmat Response carries a modified CAFS and equipment and tools for quick setting up perimeter, determine the situation, quick contain oil spills or chemical leaks.



DC Motor Proportioner

Seven models. Integrated foam concentrate injection and HMI control.







Water and concentrate flow feedback.
HMI operation and control.
Tank A / B and external suction.

SEVEN MODELS / MAXIMUM CONCENTRATE FLOW



EZC-3-PPPS



EZC-6-PPPS



EZC-12-PPPS



EZC-18-PPPS



EZC-24-PPPS



EZC-36-PPPS



EZC-48-PPPS

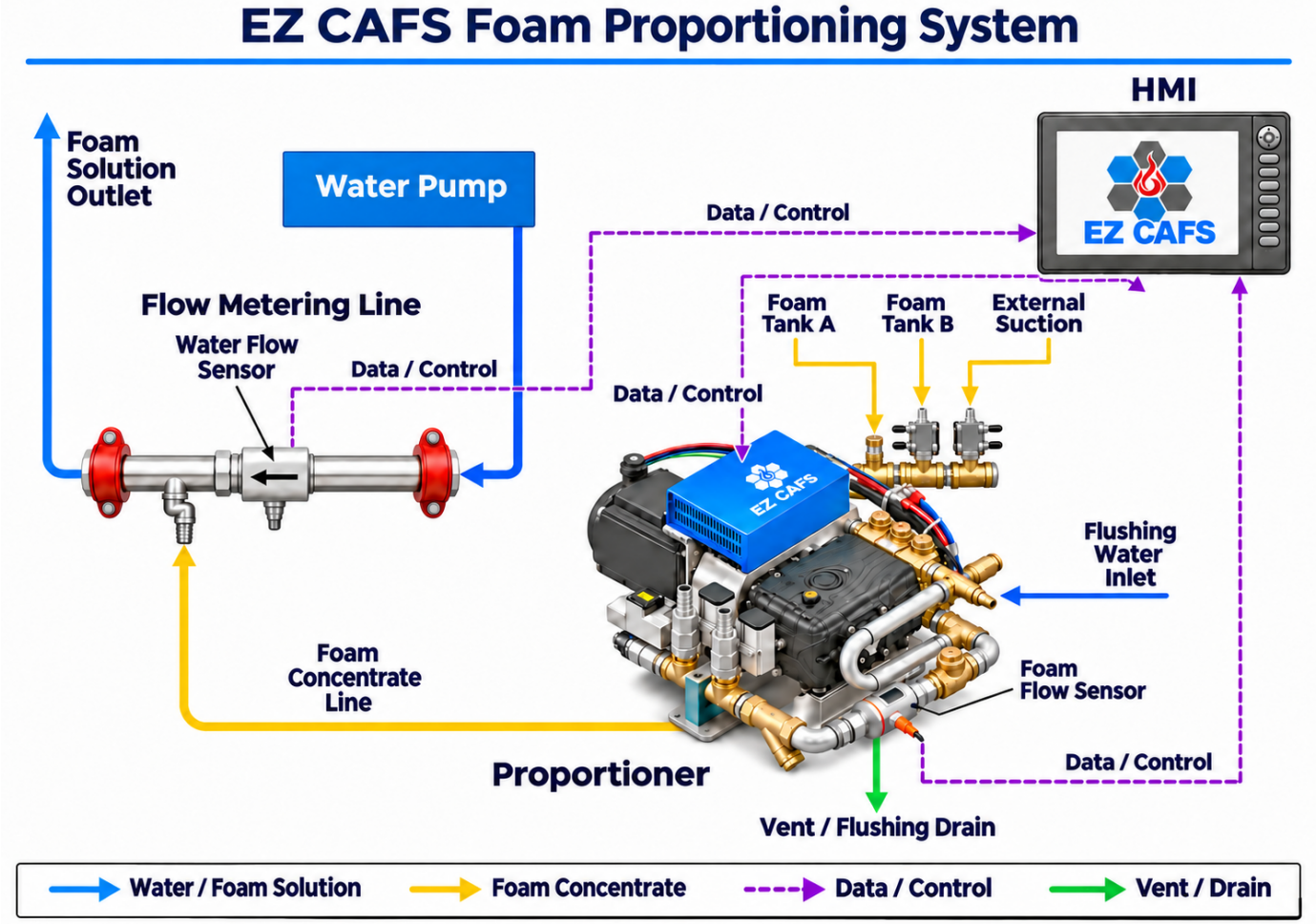
MODEL SELECTION

Model	Concentrate [L/min]	Water flow [L/min]	Maximum water flow [L/min]		
			1%	3%	6%
EZC-3-PPPS	0.05-3	50-3,000	300	100	50
EZC-6-PPPS	0.05-6	50-3,500	600	200	100
EZC-12-PPPS	0.05-12	50-3,500	1,200	400	200
EZC-18-PPPS	0.05-18	50-3,500	1,800	600	300
EZC-24-PPPS	0.05-24	50-3,500	2,400	800	400
EZC-36-PPPS	0.05-36	50-3,500	3,500	1,200	600
EZC-48-PPPS	0.05-48	50-3,500	3,500	1,600	800

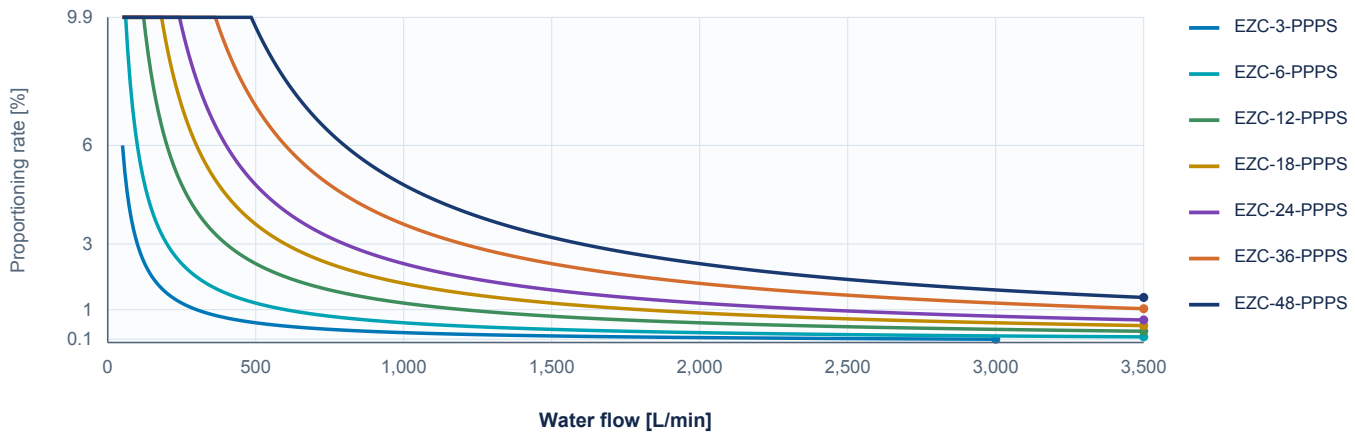
At 1%, 3% and 6%: calculated water-flow capacities, capped by each model's stated water-flow limit.
Basis: proportioning rate [%] = 100 x concentrate flow / water flow.

System & operating range

Flow Metering Line, Proportioner and HMI working together.



OPERATING ENVELOPES / ALL SEVEN MODELS



Curves show the maximum available rate; use 0.1% up to the applicable curve (ceiling: 9.9%).
Water-flow windows: see selection table. Data basis: supplied PPPS envelopes and rating badges.

EZC-PPPS SERIES

High Flow Positive Pressure Foam Proportioning Systems

Automatic foam concentrate injection matched to water flow and the selected proportioning ratio for high-capacity firefighting equipment.

240-900 L/min
Maximum Concentrate Flow

1% / 3% / 6%
Common Proportioning Ratios

4 Drive Types
Vehicle Integration Options

Automatic Proportioning

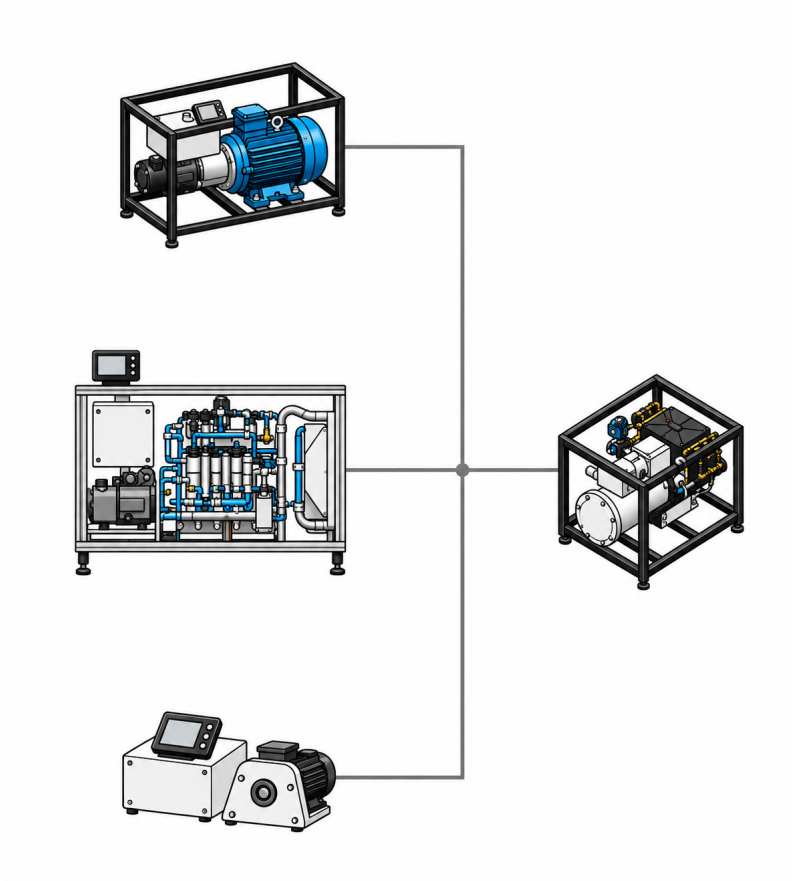
The system measures water flow and automatically adjusts concentrate injection to the selected proportioning ratio.

Touchscreen Operation

Adjust the ratio and view comprehensive operating data through a straightforward touchscreen interface.

Operating Records

View or export recorded operating data.



Illustrative system and power unit configurations.

Power Unit Configurations

- **Electric Motor**
- **Independent Internal Combustion Engine**
- **PTO Drive**
- **Hydraulic Drive**

System Components

Plunger pump, electrically controlled valves, electronic control unit, water and concentrate flowmeters, pressure sensors and touchscreen.

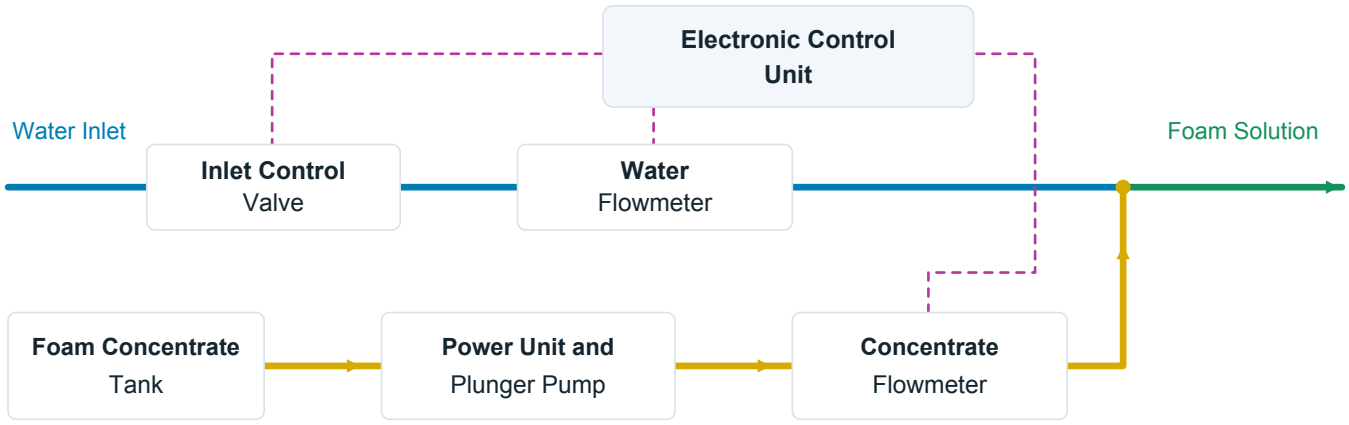
Capacity and Configuration

Select the model for the required water flow and foam ratio.

Model	Max. Concentrate Flow (L/min)	Pump Flow Rate (L/min)		
		6%	3%	1%
EZC-PPPS-240	240	4,000	8,000	24,000
EZC-PPPS-360	360	6,000	12,000	36,000
EZC-PPPS-480	480	8,000	16,000	48,000
EZC-PPPS-600	600	10,000	20,000	60,000
EZC-PPPS-900	900	15,000	30,000	90,000

Calculated flow points = maximum concentrate flow / proportioning ratio. Common settings: 1%, 3% and 6%.

Operating Principle



Simplified operating principle. The electronic unit adjusts concentrate delivery according to measured water flow and the selected ratio. Dashed lines represent control and feedback.

Customizable Options

- External foam concentrate suction
- System flushing
- Foam pump overpressure protection
- Automatic foam concentrate refilling
- Dual-screen display
- Foam pump self-test operation
- Other technically feasible functions

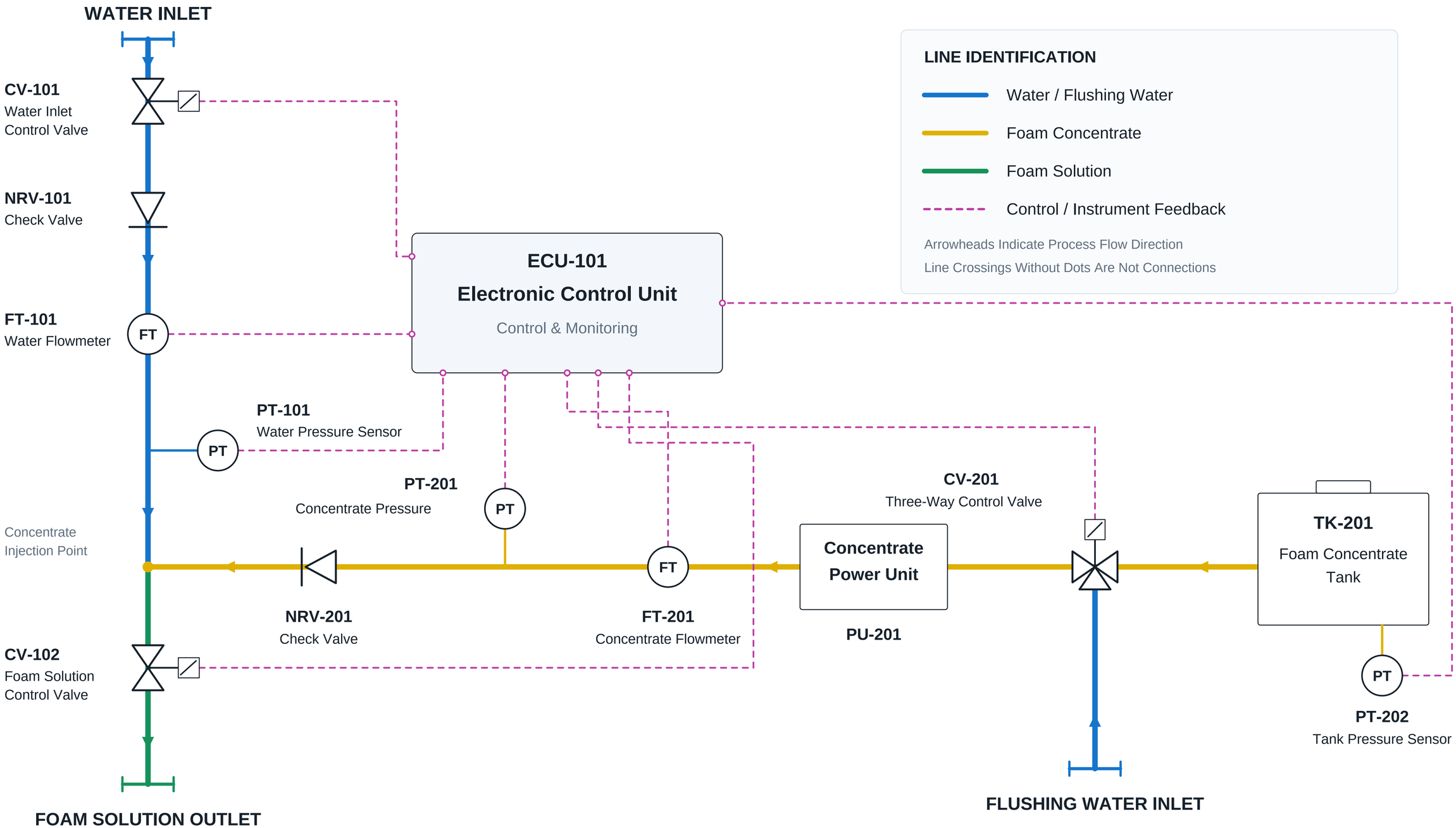
Model Designation

EZC = EZ CAFS **PPPS** = Positive Pressure Proportioning System
The model suffix indicates maximum foam concentrate flow in L/min.

Foam Proportioning & Control Schematic

EZ CAFS

Water, Concentrate Injection and System Flushing



EQUIPMENT TAG KEY

CV Control Valve NRV Check Valve FT Flowmeter PT Pressure Sensor

ECU Electronic Control Unit PU Power Unit TK Tank

PROCESS & CONTROL

ENGLISH EDITION | REV 01

EZ CAFS

INNOVATIVE FIREFIGHTING SOLUTIONS

SAFER CLEANER GREENER STRONGER TOGETHER

We know the physics. We know-down fire.

Fixed CAFS Container

Integrated Compressed Air Foam Suppression System



Features

The fixed CAFS container provides the ultimate line of defense for fire suppression in industrial environments.

It connects to protected section via fixed pipeline.

Capable of independent operation or integration with firefighting robots.

Suitable for various industrial automated fire suppression applications.

- Rapid fire suppression
- Fixed pipeline connection
- Independent or integrated operation
- Compatible with firefighting robots
- Suitable for industrial automated fire suppression
- Modular containerized design

Design Standards and Specifications

01	Technical Specifications for Compressed Air Foam Extinguishing Systems T/CECS 748-2020
02	General Specifications for Fire Protection Facilities GB 55036-2022
03	Technical Standard for Foam Fire Extinguishing Systems GB50151-2021
04	Low, Medium, and High Expansion Foam Systems Standard NFPA 11-2016
05	Foam Extinguishing Systems Part 5: Fixed Compressed Air Foam Extinguishing Equipment ISO 7076-5-2014
06	Design, Construction, and Acceptance Specifications for Compressed Gas Foam Fire Extinguishing Systems DB37T 1916-2017
07	Fire Protection Design Code for Petrochemical Enterprises GB50160-2008 (2018 Edition)
08	For all referenced documents without a specified version date, the latest version shall apply to this technical specification.



REAL-WORLD INSTALLATION
Fixed CAFS container deployed in an industrial site

Technical Parameters

Fixed CAFS Container







	5.4-meter-class equipment compartment Primary application: Electrochemical Energy Storage Power Station	7-meter-class equipment compartment Primary application: Substations and Small Petrochemical Facilities	9-meter-class equipment compartment Primary application: Large-scale facilities such as docks and petrochemical plants
External Dimensions (L*W*H)	5400×2500×2700 mm	7000×2500×2800 mm	9000×3000×3000 mm
Mixed Liquid Flow Rate	400 L/min	600 L/min or 800 L/min	800 L/min to 4000 L/min
Air-to-liquid ratio	10:1	6:1	6:1
Working Pressure	≤0.8 MPa	≤0.8 MPa	≤0.8 MPa
Maximum Fire Extinguishing Agent Output	4400 L/min	4200 L/min or 4800 L/min	5600 L/min to 24000 L/min
Water Pump (One active, one standby)	Water Supply Capacity: 36 m^3/h; Head: 107 m; Power: 18.5 kW	Water Supply Capacity: 36 m^3/h or 62 m^3/h; Head: 107 m or 103 m; Power: 18.5 kW or 35 kW	Water Supply Capacity: 62 m^3/h and above; Head: 103 m; Power: 35 kW – 136 kW
Air Compressor (One in use, one on standby)	Airflow: 5.4 m^3/min; Working Pressure: ⩾0.8 MPa; Power: 37 kW	Airflow: 6.2 m^3/min; Working Pressure: ⩾0.8 MPa; Power: 45 kW	Airflow: 10 m^3/min to 24 m^3/min; Working Pressure: not less than 0.8 MPa; Power: 55 kW to 175 kW
Water Tank Capacity	8000 L	8000 L	18000 L (or as required)
Without external water replenishment self-sustaining time	20 min	⩾10 min	⩾20 min
Electrochemical energy storage compartment full submersion time	≤3 minutes	≤3 minutes	≤3 minutes

Equipment Summary and Key Parameters

Container

- Air conditioning and lighting installed inside.
- Insulated body maintaining 5°C to 35°C.
- Meets transportation, installation, operation, and maintenance requirements.
- Waterproof and moisture-proof; meets heating and ventilation requirements.
- Harmonious, functional, aesthetically pleasing design.
- Modular container labeling includes dimensions and load capacity.

Compressed Air Foam Generation Module

- Includes foam proportioning mixer, foam pump, foam generator, control unit, etc.
- Sensors and controllers IP67 or higher.
- Operates in ambient temperatures from -20°C to 80°C.
- Automatic mode supports backend automatic inspection.
- Manual mode performs self-checks for air compressors, water pumps, and foam pumps.
- Equipped with test spray pipeline and test spray valve.
- Automatic foam pipeline flushing and automatic pipeline drainage.

Water Tank

- Corrosion-resistant material.
- Manhole, level gauge, and overflow pipe.
- Internal level sensor.
- Automatic high/low level alarms.
- Automatic water replenishment.
- Local display device inside container.

Control Valve (Outside Battery Compartment)

- Electric valve, nominal pressure 1.6 MPa, DC 24V.
- Zone valve controller and start/stop buttons.
- Local mechanical emergency operation.
- I/O board for valve opening and status feedback.

Area Control Valve (Main Pipeline)

- Electric valve, nominal pressure 1.6 MPa, DC24V.
- IP54 weatherproof enclosure.
- I/O control board for opening command and start/stop status feedback.

Fire Extinguishing Controller

- Displays alarm information, system status, and critical data.
- User interaction by keyboard/buttons.
- Can send extinguishing and reset commands.

Foam Release Device

- 304 stainless steel.
- Full coverage of protected area.
- Shall not deform or alter spray direction during explosion shock.

Applicable Scenarios

- Energy Storage Power Station
- Substation / Small Petrochemical Facility
- Dock / Large Petrochemical Plant



Retrofit CAFS-200

Modular Retrofit Compressed Air Foam System

FLEXIBLE RETROFIT | COMPACT MODULE | ENHANCED FIRE SUPPRESSION



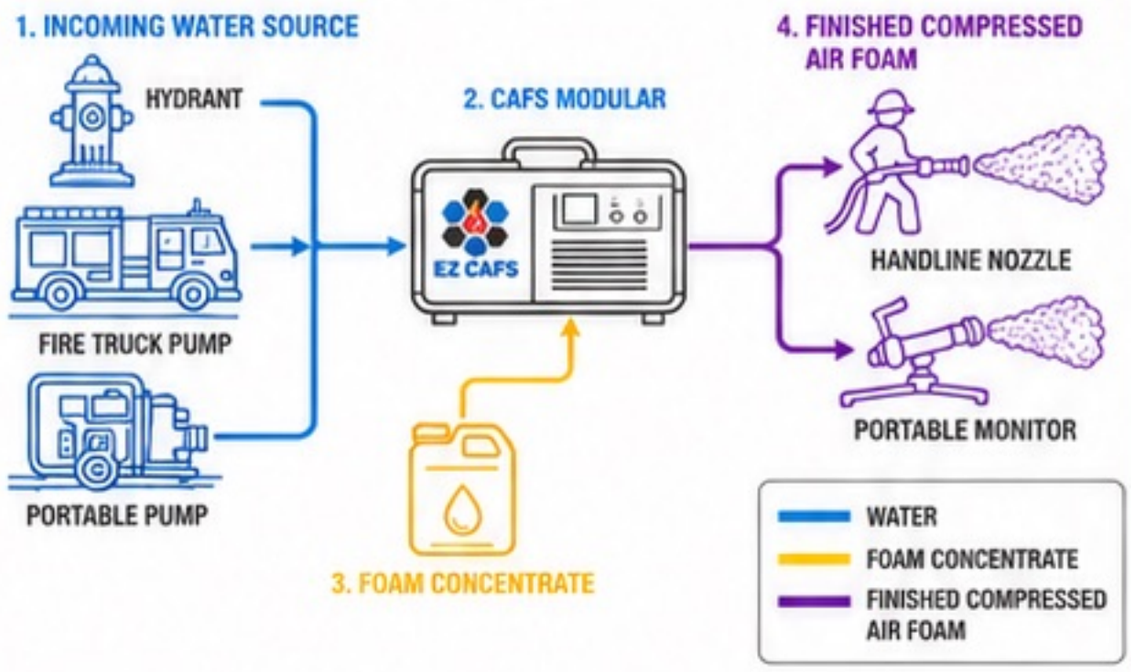
A retrofit system can be used to:

1. Upgrade a water tanker into a CAFS truck;
2. Upgrade extinguishing performance of a hydrant;
3. Enhance the capability of wetting agent during forest fire.

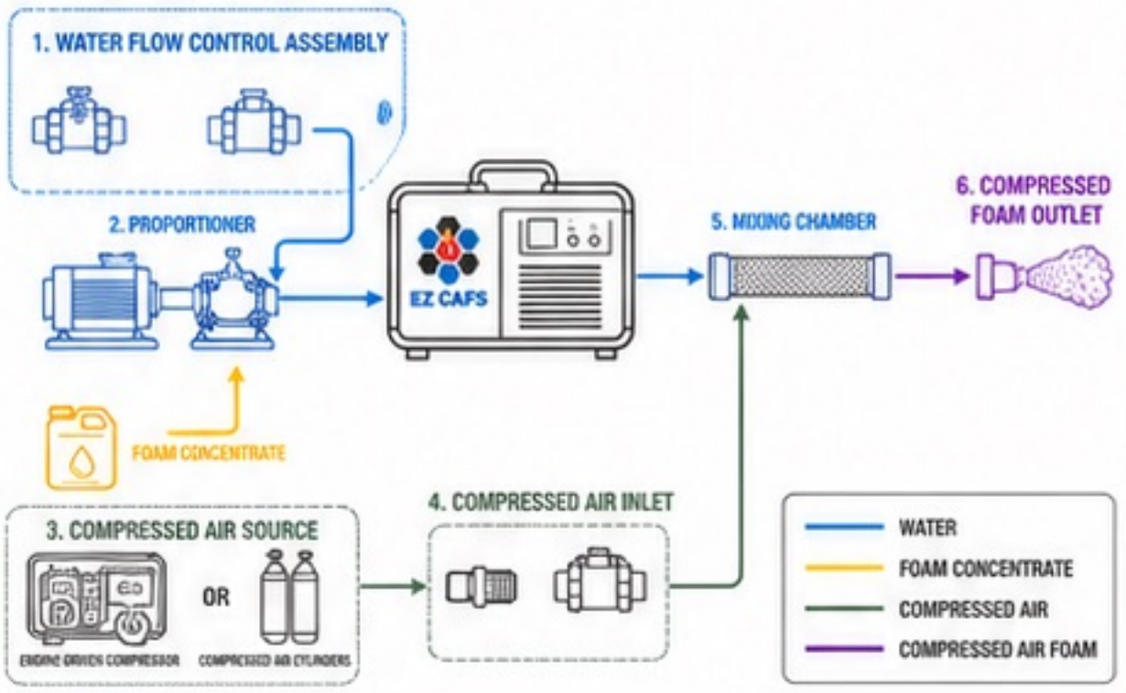


Fig. 1 400m CAF Delivery and Throwing Distances

Retrofit CAFS Schematics



Components of the CAFS Modular



Features

- Utilizing EZ CAFS non-equipotential pressure mixing technology;
- Diverse application environments;
- Compatible with robotic systems;
- Suitable for manned firefighting operations;
- No water pump required; can be directly install on pressurized fire hydrants for operation;
- Air compressor driven by gasoline engine, capable of continuous long-term operation.

Technical Specifications

Item	Parameter
Overall Dimensions (L*W*H)	≤1200*500*700mm
Weight	Approx. 160 kg
Max. Flow Rate	200 L/min @ 0.4 MPa
Proportioning Rate	Mechanically Fixed: 1% or 3%
Foam tank capacity:	20L
Working Pressure:	≤0.8MPa
Water-Air Ratio:	1:6 wet; ≥1:15 dry
Effective Discharge Distance:	≥18 meters
Effective Delivery Distance: with DN65 hose	≥170 meters (water pressure @0.2MPa) ≥400 meters (water pressure @0.5MPa)
Fuel Tank	15L
Air Compressor Max. Flow	1200L/min

Gasoline Engine 21HP (15.5kW)

System Flow 200L/min

Compressor Flow Max. 1200L/min

System Max. Output 1400L/min

EZ CAFS
Safe · Efficient · Professional

Technology Safeguards a Safer World

EZ CAFS DECON
COMPRESSED AIR FOAM DECONTAMINATION SYSTEM

CBRN Compressed Air Foam Decontamination System for Reconnaissance Vehicle

Rapid Response

Professional Decontamination

Protecting Personnel and Environmental Safety

Vehicle-mounted compressed air foam firefighting / decontamination system for handling small Class A and Class B fires, and for CBRN decontamination of personnel, equipment, and samples.







Vehicle-mounted Module
Highly integrated, compact layout, easy operation

Airtight Personnel Decontamination Chamber
Enclosed and efficient, all-round spray decontamination

Airtight Sampling Port Decontamination
Convenient and efficient, suitable for multi-scenario sample decontamination

System Working Principle

Clean Water Tank
400 L

CBRN / Oil / Foam Concentrates
20 L each

Compressed Air
(Vehicle-mounted air compressor)

EZ CAFS

Proportioning / CAFS Generation Module
(Automatic proportioning · Precise control)

Multi-function Applications

- **Personnel Decontamination** (Airtight decontamination chamber)
- **Equipment Decontamination** (Vehicles / Equipment)
- **Sampling Port Decontamination** (Airtight sampling port)
- **Small Class A/B Fire Suppression** (Compressed air foam firefighting)



Professional Decontamination Mission Accomplished

Prevent CBRN Threats
Protect Life and Safety

Key Advantages

- Long drainage time of compressed air foam extends agent contact time
- Fully automatic control, one-button switching between firefighting and decontamination
- Automatically selects the corresponding decontamination agent
- Wide flow range and flexible configuration
- Optional low-infrared-signature version reduces thermal imaging exposure risk

Main Subsystems

Power System



Standard: PTO-driven hydraulic system
Components: hydraulic pump / hydraulic motor / hydraulic oil tank / radiator
Optional: independent internal combustion engine drive / electric drive / hybrid drive

Control System



10-inch touchscreen
PLC programmable logic control
CAN bus valve manifold
Ultra-precision valve group system

Liquid Storage System



Clean water tank: 400 L
Wastewater tank: 300 L
CBRN / oil / foam concentrates: 20 L each
All tanks equipped with liquid level sensors

Decontamination System



Decontamination agent flow: up to 130 L/min
Compressed air flow: up to 800 L/min
Multiple proportioners enable 6 ratio groups for CBRN, oil contamination, firefighting, and cleaning
Heating and thermal insulation system
Electric flushing system

Connection Configuration



DN50 water inlet ×1 (automatic filling)
DN50 water inlet ×1 (external suction)
DN50 outlet ×1 (compressed air foam)
DN50 outlet ×1 (clean water)
DN25 30 m quick-attack hose reel (for decontamination)
2 × 4 nozzles: 4 disinfecting nozzles, 8 L/min; 4 washing nozzles, 20 L/min
2 × 1 shower heads: 16 L/min

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Professional Innovation • Serving the World

EZ CAFS

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EZC-X-SES-FDD

Fast Deployment Drone Pod

Stored-Energy Compressed Air Foam System



Technical Specification

Modular Design | Fast Deployment | Homogeneous Foam | Standard SCBA Cylinders

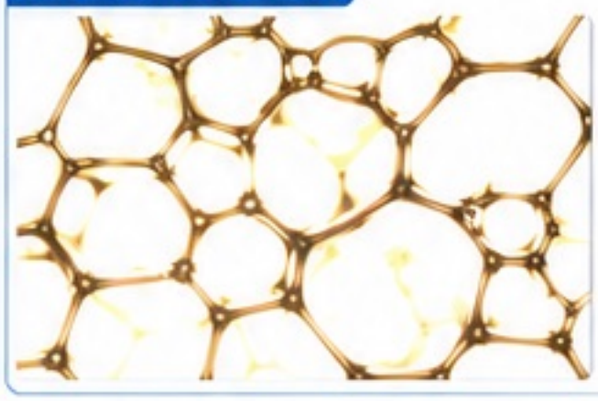
Side-View Module



Detail Module



Foam Microstructure



Excellent microstructure of EZ CAFS foam (copyright China Huaneng)

System Overview and Design Description

- EZC-X-SES-FDD is a fast-deployment stored-energy compressed air foam pod system designed by EZ CAFS for multiple fire-fighting drone companies.
- In the model designation, EZC stands for EZ CAFS; X represents the product design flow rate (L/min), which can be customized according to customer requirements; SES is the abbreviation of Stored Energy System; and FDD is the abbreviation of Fast Deployment Drone.
- The product design principles refer to relevant standards including NFPA 11, FM 5136, and ISO 7076. Special engineering design features are also incorporated so that the foam quality produced by the system is far superior to conventional low-expansion foam.

Applications and Advantages

- The system can be used for solid combustibles, hydrocarbon liquid fires, electrical fires, and kitchen fires. Dry foam mode may be used to control metal fires or to provide thermal insulation protection for structures.
- Over the past 20 years, CAFS has extinguished numerous high-rise fires. The real problem is often exterior facade coatings, insulation materials, and similar components. Rapid facade fire development can create multiple points of fire entry into the building, overwhelming the sprinkler system.
- Once a fire exceeds a certain heat-release rate, fire-fighting equipment may no longer be effective. Therefore, "early intervention while the fire is still small" becomes the key to solving the problem.
- Through modular design, EZ CAFS enables small vehicles with good mobility, such as pickup trucks, vans, and light trucks, to serve as drone carriers and arrive at the fire scene as quickly as possible during the incipient stage to carry out rapid intervention.
- The fast-deployment drone can take off immediately upon arrival at the fire scene to perform initial suppression, block fire spread, and extinguish incipient fires, thereby gaining valuable time for subsequent operations.
- The system can be quickly refilled, uses standard self-contained breathing apparatus cylinders, and is easy to operate.



Excellent adhesion performance of compressed air foam



Rapid intervention fire truck equipped with a compressed air foam system



GVW 12-ton short-wheelbase Fast Suppression Unit, FSU

System Composition

The system adopts a modular design. Its subsystems use commercially available, proven technologies, allowing a high degree of customization and flexible configuration. At the same time, the design ensures continoous and stable output of a homogeneous-structure foam extinguishing agent, preventing gas-liquid separation and slug flow, thereby ensuring the safety of both equipment and personnel.

Compressed Air Foam System Parameters

Model	Storage Tank	Capacity	Dry Weight	Pressure	Range
EZC-80-SES-FDD	SS304	100 L	20 kg	11 bar	13 m
EZC-60-SES-FDD	SS304	120 L	60 kg	11 bar	16 m
EZC-200-SES-FDD	SS304	200 L	75 kg	11 bar	19 m

Quick Refilling | **Standard SCBA Cylinders** | **Easy Operation**

EZ CAFS can also manufacture self-contained modules and PTO-driven medium and large compressed air foam systems that supply extinguishing agent to hose-tethered drones. Please consult our sales team for more details.

EZ CAFS

FOAM FILL DEVICE

SMART. SAFE. SIMPLE.

INTRODUCTION

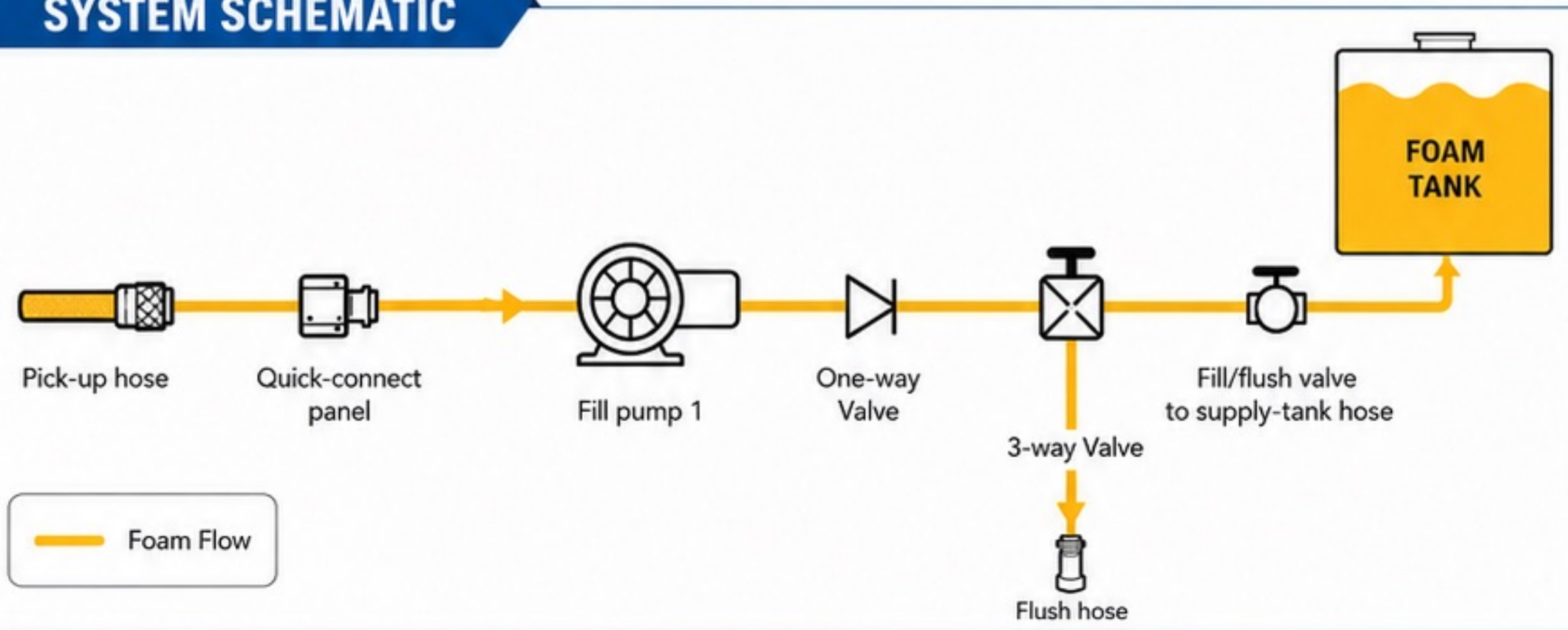
The foaming fill kit is a handy and safety tool to easily refill foam tank without work at a height.

DESCRIPTION

The system is a compact design for stand-alone operation, and it can also knock down to retrofit your existing fire truck. To power this system, you can use the chassis battery. The heavy-duty refilling pump utilizes self-priming function and can handle high viscosity liquid.

The whole system equipped with a sensor, which is convenient to program or integrated into the existing HMI. You can simply switch the toggle; the system will automatically stop when the tank is full.

SYSTEM SCHEMATIC



SPECIFICATION

Power:	24V ≤1.0kW
Pump:	AFLAS Diaphragm ≥50L/min up to 3m priming capacity up to 20m head
Filling Pipe:	32mm flexible clear tube
Flush:	Manual 3-way Valve
Automatic Stop:	by pressure sensor; or mechanical sensor



*Picture for reference only

EZ CAFS International | dirkschmitz@ez-cafs.com | www.ez-cafs.com

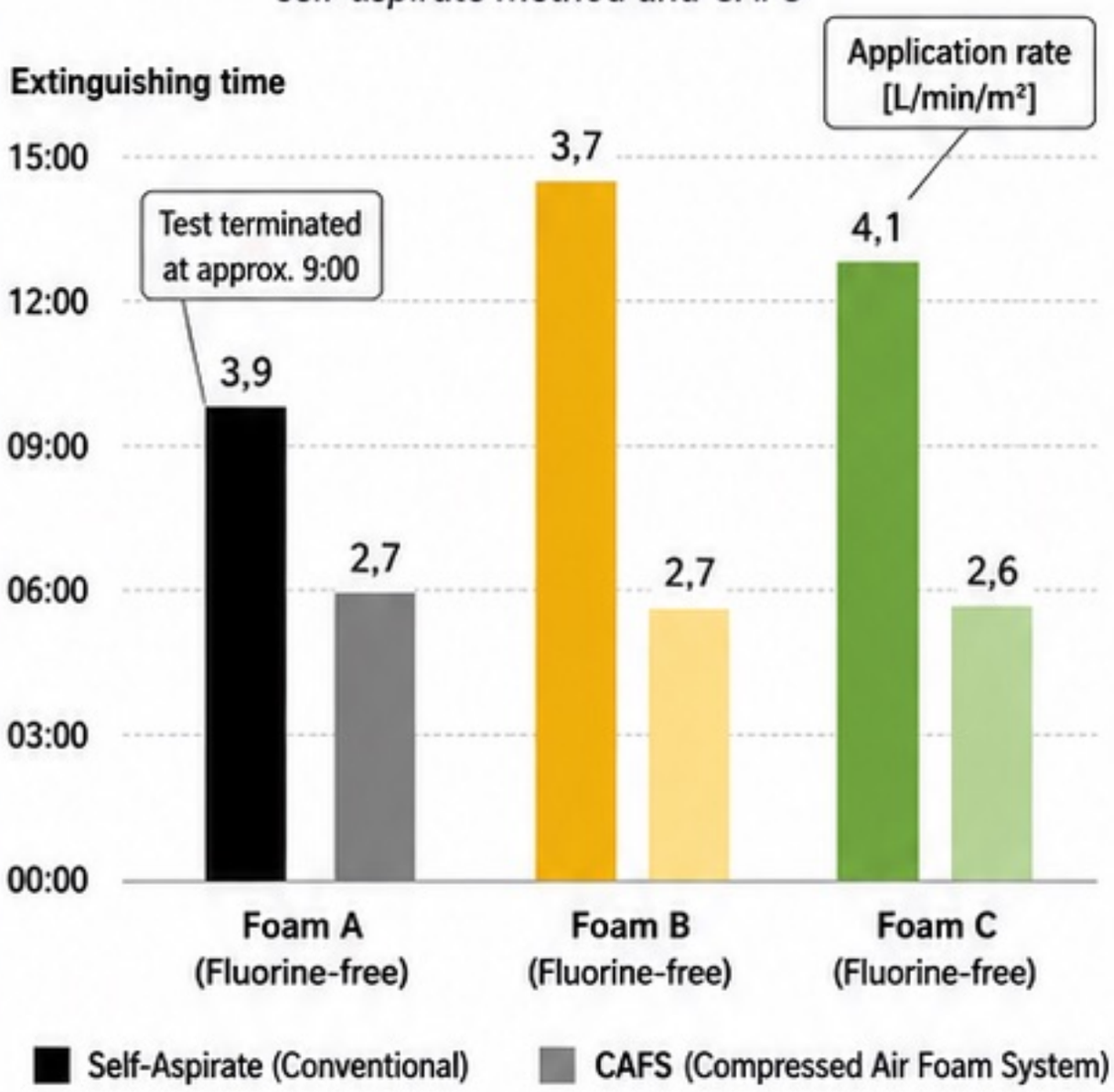
EZ CAFS
Fire-fighting Technology Co., Ltd.

Can Class B Foam Concentrate Functioning in CAFS

Class B foam concentrate is fully compatible with compressed air foam systems. Research results show that CAFS can accelerate extinguishment and normalize performance across different foam concentrates. This advantage becomes particularly important when users are transitioning from traditional AFFF agents to modern fluorine-free foam concentrates.

Extinguishing Time Comparison

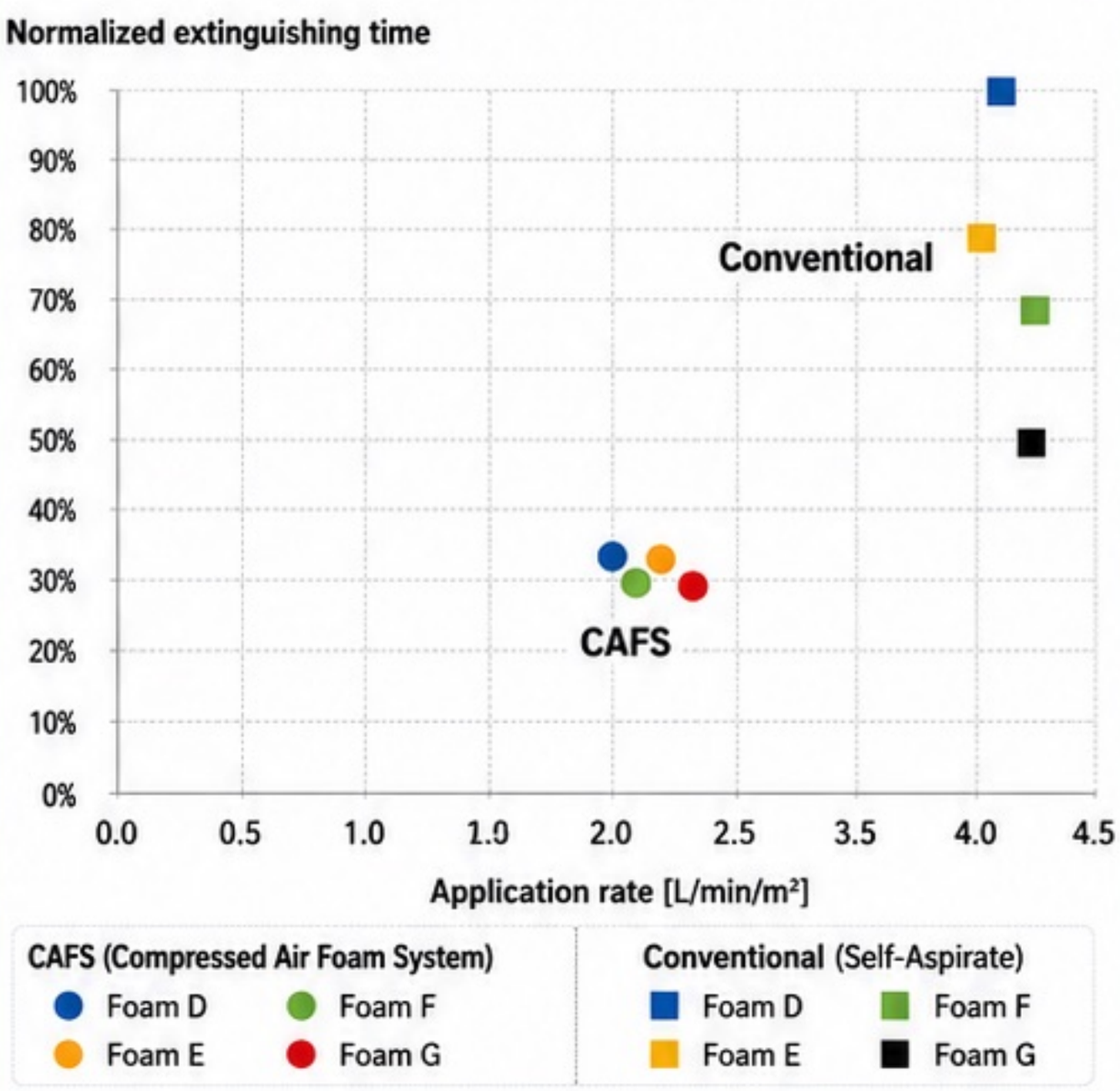
E.P. Fire research – 3 foam concentrates tested with self-aspirate method and CAFS



CAFS lowers extinguishing time and brings different foam concentrates to a similar **performance level.**

Normalized Extinguishing Time vs. Application Rate

E.P. Fire research – fluorine-free foam concentrates compared



With conventional self-aspirating application, different fluorine-free foams show wider performance spread. With CAFS, both extinguishing time and application rate converge to a similar and more efficient performance band.

1. Compatible

Class B foam concentrates can be used effectively in CAFS.

2. Faster Extinguishment

CAFS reduces extinguishing time compared with self-aspirating foam application.

3. More Consistent Performance

CAFS compresses the performance gap between different foam concentrates.

4. Supports AFFF Transition

CAFS helps maximize the capability of fluorine-free foams during the transition away from AFFF.

Tested. Proven. Ready for the Future. | *Smarter Foam. Faster Results. Safer Tomorrow.*

Research charts recreated from user-provided E.P. Fire test graphics for communication purposes.

HYDRA SWIFT

by EZ CAFS

One System. Total Control.

INTEGRATED FIRE APPARATUS CONTROL PLATFORM

Hydra Swift is the centralized PLC-based control system aiming at ease fire-fighter's work load.

INTELLIGENT
CONNECTED
RELIABLE
READY



Tank Level Monitoring

Dynamic Tank Level, CANBus control valve always keep the tank level at desired position

Door & Light Control

Centralized management of compartments, warning lights, and work lights.

Safety Interlocks

Protective logic to prevent unsafe vehicle and pump operations.

PLC-Based Central Control

A robust programmable platform for reliable vehicle integration.

Diagnostics & Status

Quick visibility of system health, alarms, and operating conditions.

Expandable Vehicle I/O

Flexible architecture for future functions and custom equipment.

SIMPLIFY OPERATIONS

One intuitive system for complete control.

ENHANCE SAFETY

Smarter logic for safer operations.

INTEGRATE THE WHOLE TRUCK

A unified platform for today and tomorrow.

SAFER
CLEANER
GREENER
STRONGER
TOGETHER

EZ CAFS

INNOVATIVE FIREFIGHTING SOLUTIONS

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FOAMING
A SAFER
TOMORROW

PEOPLE | PROPERTY | OUR PLANET