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HOWE X HOWE



SFP



NFPT

NANO FIRE PROTECTION TECHNOLOGY





HOWE X HOWE
FIREFIGHTING ROBOT
THERMITE®

Thermite is a compact, high-performance firefighting robot. It is an automated robot that has the ability to fight fires and respond to emergency situations, and is capable of dealing with advanced and dangerous fire situations that neither humans nor any other machine can handle with the same efficiency.

The Thermite was designed with the highest quality standards with a focus on durability and high endurance on a military base. This device has a long life span and low maintenance, thus reducing costs and ease of maintenance. It is the first responder and fight fires very effectively and keeps firefighters away at a safe distance in order to preserve safety. Their souls, it is their first line of attack and defense.

Thermite is recommended for:

- 01** Fires in oil and gas fields, chemical and petrochemical facilities, Storage places such as petroleum tanks Petroleum and liquefied gas refineries.
- 02** Fire hazardous materials and ammunition.
- 03** Nuclear reactors Aircraft and port accidents.
- 04** Heavy industry factories such as aluminum, iron and steel factories.
- 05** High-rise building and house fires.
- 06** Power plants, electricity and pipelines.
- 07** Forest fires and open areas where it is difficult to control the fire.
- 08** Marine tanker fires It can be used on board tankers, ships and boats in coastal and marine firefighting in general for its ease of transportation and control of its placement in various places.



TREAD BOLDLY

HOWE X HOWE



FIREFIGHTING ROBOT

TERMITE® RS3

› CAPABLE OF OUTPUTTING 2,500 GPM FLOW RATE

The Thermite RS3 is a super-high volume, low center of gravity, wide chassis, industrial firefighting robot. The RS3 is remotely operated with a bellypack controller that provides high-definition video feedback for ultimate maneuverability in difficult conditions. The RS3's modular design and wider stance allows additional equipment to be incorporated, including a plow assembly and positive pressure ventilation (PPV) ventilator. Fabricated using industrial-grade steel reinforced rubber tracks, RS3 can navigate rugged terrain and withstand exposure to the extreme elements.

HOWEANDHOWE.COM →

MAX FLOW
RATE
2,500 GPM

DIMENSIONS
L 120 IN
W 65.5 IN
H 64.75 IN



THERMITE RS3 FIREFIGHTING ROBOT

SYSTEM

TRACKS
Industrial-grade
belted rubber

WINCH
8,000 lb capacity

VIDEO SYSTEM
DTV (standard)
FLIR thermal (optional)

**POWER
TRANSMISSION**
Hydrostatic

TYPE
Independent propulsion

MONITOR

MAKE & MODEL
Elkhart Brass Scorpion

MAX STREAM VERTICAL
+150 ft / 50 m

MAX STREAM HORIZONTAL
+300 ft / 100 m

MAX PSI/BARS
200 psi

FLOW
2,500 gpm

DIMENSIONS

VEHICLE WEIGHT
+/- 3,500 lb depending
on attachments

GROUND CLEARANCE
10 in

LENGTH
120 in

WIDTH
65.5 in

HEIGHT
64.75 in

SYSTEM PERFORMANCE

RANGE
300 m environment
dependent

SPEED
8 mph

MAX GRADE SLOPE
+50%

MAX SIDE SLOPE
35%

ENGINE

MAKE & MODEL
Yanmar 3TNV88C

ENGINE DESCRIPTION
36.8 hp, diesel, 4 stroke, water cooled

FUEL CAPACITY
9 gal

OPTIONAL ATTACHMENTS

- Foam Nozzle
- Foam Tank
- Scene Lighting
- PPV Ventilator
 - Max PPV Tilt: 35 degrees above horizontal
 - Flow: 9,200 cfm
- Plow Assembly
 - Height: 13 in
 - Width: 65 in
- Dimensions with Attachments
 - Length: 115 in
 - Width: 65.5 in
 - Height: 87.75 in

FEATURES

- 36.8 hp diesel engine
- 2,500 gpm nozzle
- Stand off range of over 300 m
- Track and vehicle cooling sprayers
- Up to 20 hr of runtime without refueling
- High strength industrial-grade belted rubber tracks
- Provides reconnaissance and situational awareness in high risk areas

TREAD BOLDLY

HOWE X HOWE

ALQUADRA

FIREFIGHTING ROBOT

TERMITE® RS1

› UNSURPASSED MOBILITY WITH MAXIMUM STANDOFF

Thermite RS1 is the most capable, durable and reliable firefighting robot on the market. The RS1 is remotely operated with a bellypack controller that provides high-definition and infrared video in real-time, allowing the machine to traverse hazardous terrain with maximum control. Manufactured by leaders in robotic innovation, RS1 has the power to push vehicles from its path, the agility to climb stairs and the ability to output a maximum 1,250 gpm. Thermite is designed as an advanced tool to help operators combat fires safely and efficiently.

MAX FLOW
RATE
1,250 GPM

DIMENSIONS
L 77.25 IN
W 44 IN
H 64 IN

HOWEANDHOWE.COM →



THERMITE RS1

FIREFIGHTING ROBOT

SYSTEM

TRACKS
Industrial-grade
belted rubber

POWER TRANSMISSION
Hydrostatic

TYPE
Independent
propulsion

LENGTH
77.25 in

HEIGHT
64 in

WIDTH
44 in

WINCH
5,000 lb capacity

VIDEO SYSTEM
DTV (standard)
FLIR thermal (optional)

**GROUND
CLEARANCE**
8 in

VEHICLE WEIGHT
+/- 1,600 lb

MONITOR

MAKE & MODEL
Elkhart Brass Cobra

MAX STREAM HORIZONTAL
+300 ft / 100 m

FLOW
1,250 gpm

MAX PSI/BARS
200 psi

MAX STREAM VERTICAL
+150 ft / 50 m

SYSTEM PERFORMANCE

MAX GRADE SLOPE
+50%

RANGE
300 m environment dependent

MAX SIDE SLOPE
35%

SPEED
6 mph

FEATURES

- › 24 hp diesel engine
- › 1,250 gpm nozzle
- › Stand off range of over 300 m
- › Track and vehicle cooling sprayers
- › Up to 20 hrs of runtime without refueling
- › High strength construction grade tracks and road wheels
- › Provides reconnaissance and situational awareness in high risk areas
- › Optional attachments: foam nozzle and scene lighting

TREAD BOLDLY



HOWE X HOWE



› NEXT GENERATION THERMITE® EV2 ALL-ELECTRIC FIREFIGHTING ROBOT

The Thermite® EV2 is an all-electric firefighting robot that provides real-time situational awareness with recording capabilities. Thermite EV2 safely and effectively targets fires with its modular design, including a multi-position nozzle and additional attachments. Instead of a traditional internal combustion engine, the Thermite EV2 is powered with the latest in high-capacity battery technology; and unlike these flammable fuel consuming engines, it does not require oxygen for power, enabling the firefighting robot to move farther into dangerous high-temperature oxygen deprived environments.

LEARN MORE:



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CONTACT
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THERMITE® EV2

ALL-ELECTRIC FIREFIGHTING ROBOT

SYSTEM

TRACKS

Industrial-grade
belted rubber

WINCH

8,000 lb capacity

VIDEO SYSTEM

HD (standard)

DRIVE SYSTEM

200-amp hour
battery system
Dual Electric Drive

MONITOR

MAKE & MODEL

Akron Brass
DeckMaster

MAX STREAM VERTICAL

+150 ft / 50 m

MAX STREAM HORIZONTAL

+300 ft / 100 m

MAX PSI/BARS

200 psi

FLOW

1250 gpm (4800 lpm)

DIMENSIONS

VEHICLE WEIGHT

2,700 lb depending on
attachments

GROUND CLEARANCE

10 in

LENGTH

113 in (plow and winch inc.)

WIDTH

60.5 in

HEIGHT

52 in w/ monitor stowed

73 in w/monitor full extension

OPTIONAL ATTACHMENTS

- Foam Nozzle
- Foam Tank
- Scene Lighting
- CAFS
- Plow Assembly
 - Height: 13 in
 - Width: 65 in
- Multisensor Day/night 360 deg.
PTZ with CCTV and Thermal Zoom
- FLIR Thermal

FEATURES

- 1,250 gpm nozzle
- Stand off range of over 300 m
- Track and vehicle cooling
sprayers
- Up to 20 hr of runtime
- High strength industrial-grade
belted rubber tracks
- Provides reconnaissance and
situational awareness in high
risk areas

SYSTEM PERFORMANCE

RANGE
300 m environment
dependent

SPEED
8 mph

MAX GRADE SLOPE
+50%

MAX SIDE SLOPE
35%

TREAD BOLDLY



› NEXT GENERATION THERMITE® EV1 ALL-ELECTRIC FIREFIGHTING ROBOT

The Thermite® EV1 is an all-electric firefighting robot that provides real-time situational awareness. Thermite EV1 safely and effectively targets fires with its modular design, including a multi-position nozzle and additional attachments. Instead of a traditional internal combustion engine, the Thermite EV1 is powered with the latest in high-capacity battery technology; and unlike these flammable fuel consuming engines, it does not require oxygen for power, enabling the firefighting robot to move farther into dangerous high-temperature oxygen deprived environments.

LEARN MORE:



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THERMITE® EV1

ALL-ELECTRIC FIREFIGHTING ROBOT

SYSTEM

MONITOR

DIMENSIONS

TRACKS

Industrial-grade
belted rubber

MAKE & MODEL

Elkhart Brass Cobra

VEHICLE WEIGHT

1,550 lb / 703 kg
depending on attachments

WINCH

5,000 lb capacity

MAX STREAM VERTICAL

+150 ft / 50 m

GROUND CLEARANCE

6 in / 17.8 cm

VIDEO SYSTEM

HD (standard)

MAX STREAM HORIZONTAL

+300 ft / 100 m

LENGTH

75 in / 190.5 cm

DRIVE SYSTEM

200-amp hour
battery system
Dual Electric Drive

MAX PSI/BARS

200 psi / 13 bar

WIDTH

38 in / 96.5 cm

FLOW

1250 gpm

HEIGHT

43 in / 109.2 cm (top of halo)
51 in / 129.5 cm (top of antenna)



FEATURES

- 1,250 gpm nozzle
- Stand off range of over 300 m
- Track and vehicle cooling sprayers
- Up to 20 hr of runtime
- High strength industrial-grade belted rubber tracks
- Provides reconnaissance and situational awareness in high risk areas

SYSTEM PERFORMANCE

RANGE

300 m environment
dependent

SPEED

5 mph /
8 kph

MAX GRADE SLOPE

+50%

MAX SIDE SLOPE

35%

TREAD BOLDLY



HOWE X HOWE



SWAT-BOT™ EV2

› NEXT GENERATION SWAT-BOT™ EV2 MOBILE BALLISTIC SHIELD

In 2012, Howe & Howe created SWAT-BOT™, a highly mobile, ballistic shield, tracked robot designed to protect an 8 person team from direct gunfire allowing operators a safer, more protected offensive movement. This robot provides effective defensive & offensive abilities in active shooter scenarios, hostage, and standoff situations. After reengineering its original design, SWAT-BOT is now all-electric & utilizes some of the same technologies that are in the unmanned ground vehicles used by the U.S. Army & Thermite® firefighting robots.

HOWEANDHOWE.COM



SWAT-BOT™

SYSTEM

TRACKS

Industrial-grade
Belted rubber

WINCH

8,000 lb capacity

UTILITY TOOLS

Door breacher
Dragon tail

DRIVE SYSTEM

200-amp hour battery system
Dual Electric Drive

DIMENSIONS

BASE HEIGHT

47 in / 78 in
119 cm / 198 cm
(shield deployed)

BASE WIDTH

60.5 in / 116 in
154 cm / 294 cm
(shield deployed)

BASE LENGTH

97 in / 246 cm

WEIGHT

3700 lbs / 1680 kg

ELECTRONICS

RADIO CONTROL

Handheld control
w/Picatinny rail mount

LOUDSPEAKER

LIGHTING

- › Front
- › Side
- › Emergency flasher, dual color
- › Spotlight

BALLISTICS OPTIONS

- › Ultra high hard steel nose
- › Three ballistic glass windows
- › Collapsible ballistic shield
 - NIJ 3
 - NIJ 4

VIDEO/CAMERA OPTIONS

- › Video system options
 - M10 PTZ HD Color/Thermal

SYSTEM PERFORMANCE

REMOTE RANGE

300 m / 984 ft
(environment dependent)

SPEED

8 mph / 13 kph

MAX GRADE SLOPE

+50%

MAX SIDE SLOPE

35%

Press News & Global Awards

Press News & Global Awards

The Howe & Howe team have been selected two years in a row for the innovative products they make. The Thermite® RS3 won a Popular Science 2020/2021 Best of What's New Award for "tackling the toughest blazes."

[The top 100 new technologies of 2021 | Popular Science \(popsci.com\)](#)

* Social Media

- <https://www.facebook.com/188236245889/posts/10159582187000890/>
- <https://www.facebook.com/188236245889/posts/10159459660630890/>
- <https://www.instagram.com/p/CW54Z9fNhM4/>
- <https://twitter.com/Textron/status/1468326450877112327>
- <https://twitter.com/smartercreative/status/1467903415904870404>



Abu Dhabi Civil Defense Authority won the International Best Practice award at the Excellence in Fire and Emergency Awards 2021

کیانی ابوظہبی للامن المدنی
ABU DHABI CIVIL DEFENCE AUTHORITY



- <https://www.fire-magazine.com/excellence-in-fire-emergency-awards-winners-2021>
- <https://www.albayan.ae/uae/news/2021-12-08-1.4318451>
- <https://www.instagram.com/p/CXN1AGkhi5a/>
- <https://www.instagram.com/p/CXN1YlzfC-P/>
- https://twitter.com/FIRE_Editor/status/1466798415992569861?s=20
- <https://www.instagram.com/p/ClF4km-hLkj/?igshid=ZmRIMzRkMDU%3D>



Global Press News

- <https://www.intelligentliving.co/thermite-rs3-americas-first-firefighting-robot/>
- <https://www.lafd.org/news/lafd-debuts-rs3-first-robotic-firefighting-vehicle-united-states>
- <https://edition.cnn.com/2020/10/21/business/first-firefighting-robot-in-america-lafd-trnd/index.html>
- <https://www.lafd.org/news/lafd-debuts-rs3-first-robotic-firefighting-vehicle-united-states>
- <https://newatlas.com/robotics/us-first-firefighting-robot-la>



Coverage of some of the accidents involving thermite

- <https://www.youtube.com/watch?v=2HI603r6BTA>
- <https://www.youtube.com/watch?v=lrc2ykFRSiQ>
- <https://www.youtube.com/watch?v=DW4cauOMw1k>
- https://www.youtube.com/watch?v=7IYi2onX_nc
- <https://www.youtube.com/watch?v=PEF0WhRJAJo>
- <https://www.youtube.com/watch?v=r6xJur4bOScG>



Local Press News

Press release from the Ministry of Interior website and social media platforms



Local Press News

Press release from the Abu Dhabi Civil Defense Authority website and social media platforms

الإماراتية للدفاع المدني
ABU DHABI CIVIL DEFENCE AUTHORITY



- [18 Affiliates proficient in using the firefighting robot for Abu Dhabi Civil Defense \(adcda.gov.ae\)](https://www.adcda.gov.ae/18-Affiliates-proficient-in-using-the-firefighting-robot-for-Abu-Dhabi-Civil-Defense)

Instagram

- https://www.instagram.com/tv/CKjaS8ihA4P/?utm_source=ig_web_copy_link
- https://www.instagram.com/p/CLQ_V1UhKIY/?utm_source=ig_web_copy_link
- https://www.instagram.com/p/CKd0BZ5BJKW/?utm_source=ig_web_copy_link

Twitter

- <https://twitter.com/adcd997/status/1360870425706823682?s=20>

Twitter

- <https://twitter.com/moiuae/status/1026036045371125760?s=19>



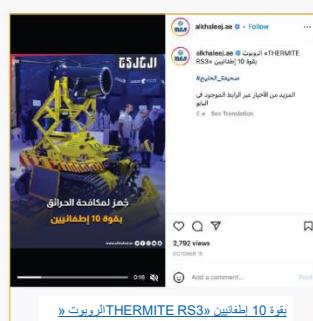
هيئة أبوظبي للدفاع المدني ضمن أفضل 5 مشروعات
مبتكة حكومة أبوظبي في جيتكس 2022



Various Press News



روبوت إلى يد مهام 8 رجال إطفاء



يُعد 10 أطفالن «THERMITE RS3»



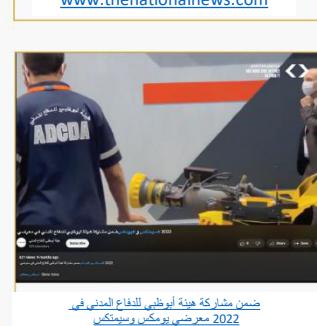
www.thenationalnews.com



هيئة أبوظبي للدفاع المدني
سعفج روبوت لخافع الماء
في جيتكس 2022



هيئة أبوظبي للدفاع المدني ضمن أفضل 5 مشروعات مبتكرة
حكومة أبوظبي في جيتكس 2022



ضمن مشاركة هيئة أبوظبي للدفاع المدني في
جيتكس 2022



[https://x.com/alkhaleej/status/1579384269570510850? s=48&t=xLuXqeC3KUbE6vD6B2mLw](https://x.com/alkhaleej/status/1579384269570510850?s=48&t=xLuXqeC3KUbE6vD6B2mLw)



Instagram



Various Press News



الدفاع المدني يدخل خدمة الإطفاء الآلي لإنذار
الحرائق الخطيرة



RS1T3 RS2T3



18 منتسبي يتقنون استخدام الروبوت الإطفائي بدفاع مدني أبوظبي

For more information about the Thermite robotic firefighting robot

Please Visit

WWW.HOWEANDHOWE.COM

ALQUDRA-GLOBAL.COM

YouTube Channel

[THERMITE RS3 ROBOTIC FIREFIGHTING-AR1](https://www.youtube.com/thermite_ar1)

[THERMITE™ FIREFIGHTING ROBOT](https://www.youtube.com/thermite_ar)

[THERMITE RS3 ROBOTIC FIREFIGHTING](https://www.youtube.com/thermite_rs3_en)

[THERMITE® RS3-EN](https://www.youtube.com/thermite_rs3_en)

Social Media Channels

[HOWE AND HOWE / INSTAGRAM](https://www.instagram.com/howeandhowe/)

[INSTAGRAM](https://www.instagram.com/alqudra_global/)

[FACEBOOK](https://www.facebook.com/thermite.uae/)

[@thermite.uae](https://www.x.com/thermite.uae)

[LINKEDIN](https://www.linkedin.com/company/thermite-uae/)

Contact



ALQUDRA-GLOBAL.COM

HEN®

BLADE™ 20

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	20 gpm	75 lpm
Target Pressure	100 psi	7 bar
BLADE™ Pattern Angle	22°	22°
Weight	1 lb	0.45 kg
Length	5.0 in.	127 mm
Width	2.5 in.	64 mm

Coverage

WIDTH	REACH
— 10' —	25'
— 8' —	20'
— 6' —	15'
— 4' —	10'
— 2' —	5'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1" NH and 1" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	14 (54)
75 (5.2)	17 (66)
100 (6.9)	20 (76)
125 (8.6)	22 (85)
150 (10.3)	25 (93)





BLADE™ 45

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	45 gpm	170 lpm
Target Pressure	100 psi	7 bar
BLADE™ Pattern Angle	22°	22°
Weight	1lb	0.45 kg
Length	5.5 in.	140 mm
Width	2.5 in.	64 mm

Coverage

WIDTH	REACH
— 10' —	25'
— 8' —	20'
— 6' —	15'
— 4' —	10'
— 2' —	5'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1" NH, 1" NPSH, 1.5" NH, & 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	32 (121)
75 (5.2)	39 (149)
100 (6.9)	45 (172)
125 (8.6)	51 (192)
150 (10.3)	56 (210)



HEN®

BLADE™ 95

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	95 gpm	350 lpm
Target Pressure	100 psi	7 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.2 lb	0.54 kg
Length	5.7 in.	145 mm
Width	2.7 in.	69 mm

Coverage

WIDTH	REACH
— 10' —	25'
— 8' —	20'
— 6' —	15'
— 4' —	10'
— 2' —	5'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1.5" NH and 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	67 (253)
75 (5.2)	82 (310)
100 (6.9)	95 (358)
125 (8.6)	106 (400)
150 (10.3)	116 (438)



HEN®

BLADE™ 160

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	160 gpm	650 lpm
Target Pressure	50 psi	4 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.7 lb	0.77 kg
Length	6.6 in.	168 mm
Width	3.2 in.	81 mm

Coverage

WIDTH	REACH
— 19' —	50'
— 16' —	40'
— 12' —	30'
— 8' —	20'
— 4' —	10'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1.5" NH and 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	124 (470)
40 (2.8)	143 (543)
50 (3.4)	160 (607)
60 (4.1)	176 (665)
70 (4.8)	190 (719)



HEN®

BLADE™ 185

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	185 gpm	750 lpm
Target Pressure	50 psi	4 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.7 lb	0.77 kg
Length	6.6 in.	168 mm
Width	3.2 in.	81 mm

Coverage

WIDTH	REACH
— 19' —	50'
— 16' —	40'
— 12' —	30'
— 8' —	20'
— 4' —	10'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1.5" NH and 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	143 (541)
40 (2.8)	165 (625)
50 (3.4)	185 (698)
60 (4.1)	202 (765)
70 (4.8)	218 (826)





BLADE™ 265

Combination Smoothbore Nozzle



Overview

The HEN® BLADE™ combination smoothbore nozzle redefines fire attack by combining the reach and penetration of a traditional smoothbore with the versatility of an in-line BLADE™ pattern. With a simple quarter turn, firefighters can transition from a tight solid stream to a wide, high-impact BLADE™ stream, delivering large water droplets for maximum efficiency, improved cooling, and enhanced control.

Specifications

	IMPERIAL	METRIC
Target Flow	265 gpm	1075 lpm
Target Pressure	50 psi	4 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.9 lb	0.86 kg
Length	7.0 in.	178 mm
Width	3.4 in.	86 mm

Coverage

WIDTH	REACH
— 19' —	50'
— 16' —	40'
— 12' —	30'
— 8' —	20'
— 4' —	10'

Features

- Quarter-turn from solid linear BLADE™ pattern to solid tight pattern
- Hard-coat anodized aluminum construction
- Available with 1.5" NH, 1.5" NPSH, 2.5" NH, & 2.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	205 (776)
40 (2.8)	237 (896)
50 (3.4)	265 (1002)
60 (4.1)	290 (1098)
70 (4.8)	313 (1186)



HEN®

HYDRO® 100

Shutoff



Overview

HYDRO® shutoff with 1-inch waterway. High durability shutoff with full-ball valve, designed for superior flow performance while minimizing resistance and enhancing firefighter control. The HYDRO® shutoff provides superior flow with less waterway turbulence.

Features

- Gate-ball design maintains stream quality when baled-down
- Lightweight
- Hard-coat anodized aluminum body and all-metal ball
- Inlet Threads: 1" NH, 1" NPSH, 1.5" NH, and 1.5" NPSH
- Outlet Threads: 1" NH, 1" NPSH, 1.5" NH, and 1.5" NPSH
- Full-time swivel
- NFPA 1964 compliant
- 5 Year Warranty
- Pistol grip available

Specifications

	IMPERIAL	METRIC
Waterway Size	1.00 in.	25 mm
Rated Pressure	200 psi	14 bar
Weight (1" / 1.5" thread)	1.2 / 1.3 lbs	0.5 / 0.6 kg
Length (1" / 1.5" thread)	4.7 / 4.7 in.	119 / 119 mm
Width (1" / 1.5" thread)	3.5 / 3.5 in.	89 / 89 mm
Height (1" / 1.5" thread)	4.1 / 4.4 in.	104 / 112 mm





HYDRO® 138

Shutoff



Overview

HYDRO® shutoff with 1-inch waterway. High durability shutoff with full-ball valve, designed for superior flow performance while minimizing resistance and enhancing firefighter control. The HYDRO® shutoff provides superior flow with less waterway turbulence.

Features

- Full-ball design maintains stream quality when baled-down
- Lightweight
- Hard-coat anodized aluminum body and all-metal ball
- Inlet Threads: 1.5" NH, 1.5" NPSH, 2.5" NH, and 2.5" NPSH
- Outlet Threads: 1.5" NH, and 1.5" NPSH
- Full-time swivel
- NFPA 1964 compliant
- 5 Year Warranty
- Pistol grip available

Specifications

	IMPERIAL	METRIC
Waterway Size	1.375 in.	35 mm
Rated Pressure	200 psi	14 bar
Weight (1.5" / 2.5" thread)	2.65 / 3 lbs	1.2 / 1.4 kg
Length (1.5" / 2.5" thread)	5.2 / 5.2 in.	132 / 132 mm
Width (1.5" / 2.5" thread)	4.1 / 4.1 in.	104 / 104 mm
Height (1.5" / 2.5" thread)	5.2 / 5.7 in.	132 / 145mm



HEN®

HYDRO® 200

Shutoff



Overview

HYDRO® shutoff with 2-inch waterway. High durability shutoff with full-ball valve, designed for superior flow performance while minimizing resistance and enhancing firefighter control. The HYDRO® shutoff provides superior flow with less waterway turbulence.

Features

- Full-ball design maintains stream quality when balled-down
- Lightweight
- Hard-coat anodized aluminum body and all-metal ball
- Inlet Threads: 2.5" NH, and 2.5" NPSH
- Outlet Threads: 2.5" NH, and 2.5" NPSH
- Full-time swivel
- NFPA 1964 compliant
- 5 Year Warranty
- Pistol grip available

Specifications

	IMPERIAL	METRIC
Waterway Size	2 in.	51 mm
Rated Pressure	200 psi	14 bar
Weight	3.6 lbs.	1.6 kg
Length	5.9 in.	150 mm
Width	4.7 in.	119 mm
Height	5.4 in.	137 mm



TURBO™ 1.5"

Back-Pressure Increaser



Overview

The TURBO™ 1.5" increases the back pressure by an additional 25-30 PSI in the handline stretch for 160-185 GPM nozzles.

Turbocharge the performance of 1.75-inch hose when using a 50 PSI nozzle pressure yielding impressive benefits across all essential metrics, from higher pressure hose to premium low-pressure hose design.

Streamline essential members and handline fire stream development tasks on the fire ground, enhancing suppression and safety.

Features

- Increase hose pressure by 25-30 PSI with 160-185 GPM nozzles
- Increase hose stiffness and handling
- Reduce dangerous hose and nozzle whip
- Hard-coat anodized aluminum construction
- Available with 1.5" NH and 1.5" NPSH threads
- NFPA 1960/1964 compliant
- 5-Year Warranty

Specifications

	IMPERIAL	METRIC
Rated Pressure	200 psi	14 bar
Weight	0.54 lb	0.24 kg
Length	2.4 in.	60 mm
Width	2.5 in.	64 mm
Height	2.5 in.	64 mm

Pressure Drop at Given Flow Rate

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
22 (1.5)	150 (568)
25 (1.7)	160 (606)
28 (1.9)	170 (644)
31 (2.1)	180 (681)
35 (2.4)	190 (719)



TURBO™ 2.5"

Back-Pressure Increaser



Overview

The TURBO™ 1.5" increases the back pressure by an additional 25-30 PSI in the handline stretch for 160-185 GPM nozzles.

Turbocharge the performance of 2.5-inch hose when using a 50 PSI nozzle pressure yielding impressive benefits across all essential metrics, from higher pressure hose to premium low-pressure hose design.

Streamline essential members and handline fire stream development tasks on the fire ground, enhancing suppression and safety.

Features

- Increase hose pressure by 25-30 PSI with 250-275 GPM nozzles
- Increase hose stiffness and handling
- Reduce dangerous hose and nozzle whip
- Inlet Threads: 2.5" NH, and 2.5" NPSH
- Outlet Threads: 2.5" NH, and 2.5" NPSH
- NFPA 1964 compliant
- 5 Year Warranty

Specifications

	IMPERIAL	METRIC
Rated Pressure	200 psi	14 bar
Weight	1.55 lb	0.70 kg
Length	3.4 in.	87 mm
Width	3.7 in.	94 mm
Height	3.7 in.	94 mm

Pressure Drop at Given Flow Rate

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
22 (1.5)	245 (927)
24 (1.7)	255 (965)
26 (1.8)	265 (1003)
28 (1.9)	275 (1041)
30 (2.1)	285 (1079)



BLADE FORCE™ 175

Combination Smoothbore Nozzle



Overview

The HEN® BLADE FORCE™ nozzle combines the power of a smoothbore nozzle with a solid linear BLADE™ stream, delivering both a tight, solid stream for penetration and a blade-like pattern for enhanced fire attack versatility and coverage. Flowing at 175gpm @ 45psi with just 60lbs of nozzle reaction. The BLADE FORCE™ sets the industry standard for low pressure PSI nozzles.

Specifications

	IMPERIAL	METRIC
Target Flow	175 gpm	660 lpm
Target Pressure	45 psi	3 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.7 lb	0.77 kg
Length	6.8 in.	173 mm
Width	3.2 in.	81 mm

Features

- Solid tight pattern with large water droplets
- Works with ALL 1.75" hoseline
- 175 GPM @ 45 PSI nozzle pressure
- Hard-coat anodized aluminum construction
- Available with 1.5" NH, 1.5" NPSH threads
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	143 (541)
45 (3.1)	175 (663)
50 (3.4)	185 (698)
60 (4.1)	202 (765)
70 (4.8)	218 (826)



BLADE FORCE™ 250

Combination Smoothbore Nozzle



Overview

The HEN® BLADE FORCE™ nozzle combines the power of a smoothbore nozzle with a solid linear BLADE™ stream, delivering both a tight, solid stream for penetration and a blade-like pattern for enhanced fire attack versatility and coverage. Flowing at 250gpm @ 45psi with just 89lbs of nozzle reaction. The BLADE FORCE™ sets the industry standard for low pressure PSI nozzles.

Specifications

	IMPERIAL	METRIC
Target Flow	250 gpm	940 lpm
Target Pressure	45 psi	3 bar
BLADE™ Pattern Angle	22°	22°
Weight	1.9 lb	0.86 kg
Length	7.2 in.	183 mm
Width	3.4 in.	86 mm



Features

- Solid tight pattern with large water droplets
- Works with ALL 2", 2.25", & 2.5" hoseline
- 250 GPM @ 45 PSI nozzle pressure
- Hard-coat anodized aluminum construction
- Available with 1.5" NH & 1.5" NPSH threads
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	205 (776)
45 (3.1)	251 (951)
50 (3.4)	265 (1002)
60 (4.1)	290 (1098)
70 (4.8)	313 (1186)



TIP 160

Smoothbore Nozzle



Overview

The HEN® TIP 160 smoothbore nozzle performs with a tight, solid stream, maximizing reach and penetration for effective fire suppression at 50psi. The TIP 160 should be paired with a HYDRO® 138 or HYDRO FORCE™ 138 shutoff for maximum efficiency and knockdown power.

Features

- Solid tight pattern with large water droplets
- Works with ALL 1.75" hoseline
- 160 GPM @ 50 PSI nozzle pressure
- Hard-coat anodized aluminum construction
- Available with 1.5" NH, 1.5" NPSH threads
- NFPA 1960/1964 compliant
- 5-Year Warranty

Specifications

	IMPERIAL	METRIC
Target Flow	160 gpm	650 lpm
Target Pressure	50 psi	3.5 bar
Weight	1.1 lb	0.50 kg
Length	6 in.	152.4 mm
Width	2.7 in.	69 mm

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	125 (471)
40 (2.8)	144 (544)
50 (3.4)	161 (609)
60 (4.1)	176 (667)
70 (4.8)	190 (720)



TIP FORCE™ 175

Smoothbore Nozzle



Overview

The HEN® TIP FORCE™ 175 nozzle delivers a smoothbore-like performance with a tight, solid stream, maximizing reach and penetration for effective fire suppression while maintaining the benefits of a pressure-managed nozzle. Flowing at 175gpm @ 45psi with just 60lbs of nozzle reaction. The TIP FORCE™ sets the industry standard for low pressure PSI nozzles.

Specifications

	IMPERIAL	METRIC
Target Flow	175 gpm	660 lpm
Target Pressure	45 psi	3 bar
Weight	1.1 lb	0.50 kg
Length	6 in.	152.4 mm
Width	2.7 in.	69 mm



Features

- Solid tight pattern with large water droplets
- Hard-coat anodized aluminum construction
- Available with 1.5" NH, 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	143 (541)
45 (3.1)	175 (663)
50 (3.4)	185 (699)
60 (4.1)	202 (765)
70 (4.8)	218 (827)



TIP FORCE™ 250

Smoothbore Nozzle



Overview

The HEN® TIP FORCE™ 250 nozzle delivers a smoothbore-like performance with a tight, solid stream, maximizing reach and penetration for effective fire suppression while maintaining the benefits of a pressure-managed nozzle. Flowing at 250gpm @ 45psi with just 89lbs of nozzle reaction. The TIP FORCE™ sets the industry standard for low pressure PSI nozzles.

Specifications

	IMPERIAL	METRIC
Target Flow	250 gpm	940 lpm
Target Pressure	45 psi	3 bar
Weight	1.1 lb	0.50 kg
Length	6 in.	152.4 mm
Width	2.7 in.	69 mm



Features

- Solid tight pattern with large water droplets
- Hard-coat anodized aluminum construction
- Available with 1.5" NH & 1.5" NPSH threads
- Full-time swivel
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	206 (779)
45 (3.1)	252 (955)
50 (3.4)	266 (1006)
60 (4.1)	291 (1102)
70 (4.8)	314 (1190)



TIP 265

Smoothbore Nozzle



Overview

The TIP 265 is a 2.5" smoothbore nozzle tip engineered for high-rise, commercial, and standpipe operations. The TIP delivers 265 GPM at 50 PSI for maximum efficiency, as the smoothbore design produces a solid, concentrated stream for superior reach and penetration. Designed to pair with the HEN HYDRO 200 shutoff, the TIP 265 offers reliable performance in demanding fireground conditions.

Specifications

	IMPERIAL	METRIC
Target Flow	265 gpm	1000 lpm
Target Pressure	50 psi	3.5 bar
Weight	1.2 lb	0.54 kg
Length	7 in.	177.8 mm
Width	3.7 in.	94 mm



Features

- Solid tight pattern with large water droplets
- Hard-coat anodized aluminum construction
- Available with 2.5" NH or 2.5" NPSH threads
- Perfect for high-rise, commercial, and standpipe operations
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
30 (2.1)	206 (779)
45 (3.1)	252 (955)
50 (3.4)	266 (1006)
60 (4.1)	291 (1102)
70 (4.8)	314 (1190)



HEN®

HYDRO FORCE™ 138

Shutoff



Overview

The HYDRO FORCE™ Shutoff is offered in two purpose-built models designed to regulate nozzle pressure and optimize handline performance. The HYDRO FORCE 175 is engineered for a 75 PSI inlet pressure, maintaining 45–50 PSI nozzle pressure on 1.5" and 1.75" hose lines while delivering 175 GPM with a 60 lb nozzle reaction. The HYDRO FORCE 250 supports 2" and 2.5" hose lines, delivering 250 GPM at 45 PSI nozzle pressure with an 89 lb nozzle reaction.

Features

- Full-ball design maintains stream quality when bailed-down
- Lightweight
- Hard-coat anodized aluminum body and all-metal ball
- Inlet Threads: 1.5" NH, 1.5" NPSH, 2.5" NH, and 2.5" NPSH
- Outlet Threads: 1.5" NH, and 1.5" NPSH
- Full-time swivel
- NFPA 1964 compliant
- 5 Year Warranty
- Pistol grip available

Specifications

	IMPERIAL	METRIC
Waterway Size	1.375 in.	35 mm
Rated Pressure	200 psi	14 bar
Weight (1.5" / 2.5" thread)	2.9 / 3.4 lbs	1.3 / 1.5 kg
Length (1.5" / 2.5" thread)	5.2 / 5.7 in.	132 / 145 mm
Width (1.5" / 2.5" thread)	4.1 / 4.1 in.	104 / 104 mm
Height (1.5" / 2.5" thread)	5.2 / 5.7 in.	132 / 145mm



HEN®

BLADE™ 500 Master Stream Nozzle



Overview

The BLADE™ 500 delivers powerful, stable streams with large droplet formation for deep penetration and optimal exterior coverage. Its adjustable BLADE™ stream offers tight, high-reach configurations or a solid linear BLADE™ for maximum coverage and suppression. The BLADE™ 500 is a game-changer, perfect for portable ground monitors—delivering up to 500 GPM with precise control. Built for versatility and power, the BLADE™ 500 redefines modern master stream performance.

Specifications

	IMPERIAL	METRIC
Target Flow	500 gpm	1895 lpm
Target Pressure	100 psi	7 bar
Weight	7.3 lbs	3.3 kg
Length	9.5 in.	241.3 mm
Width	8 in.	203.2 mm
Height	3.7 in.	93.98 mm

Coverage

WIDTH	REACH
21.3'	50'
17'	40'
12.8'	30'
8.5'	20'
4.3'	10'
-	-

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	354 (1340)
75 (5.2)	433 (1639)
100 (6.9)	500 (1893)
125 (8.6)	560 (2120)
150 (10.3)	613 (2320)



HEN®

BLADE™ 750

Master Stream Nozzle



Overview

The BLADE™ 750 delivers unmatched versatility and control, combining large droplet formation with variable velocity for superior stream stability, reach, and penetration. Its adjustable BLADE™ stream width and vertical-to-horizontal positioning allow for precise suppression in any fireground scenario. The BLADE™ 750 is engineered for maximum performance on any structure fire—from residential to high-rise.

Specifications

	IMPERIAL	METRIC
Target Flow	750 gpm	2893 lpm
Target Pressure	100 psi	7 bar
Weight	7 lbs	3.2 kg
Length	9.5 in.	241.3 mm
Width	8 in.	203.2 mm
Height	3.7 in.	93.98 mm

Coverage

WIDTH	REACH
21.3'	50'
17'	40'
12.8'	30'
8.5'	20'
4.3'	10'
—	—

Features

- Solid tight pattern with large water droplets
- Solid linear BLADE™ for maximum coverage
- Hard-coat anodized aluminum construction
- Available with 2.5" NH and 2.5" NPSH
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	530 (2006)
75 (5.2)	650 (2461)
100 (6.9)	750 (2839)
125 (8.6)	839 (3176)
150 (10.3)	919 (3479)



HEN®

BLADE™ 1000

Master Stream Nozzle



Overview

The BLADE™ 1000 delivers unmatched versatility and control, combining large droplet formation with variable velocity for superior stream stability, reach, and penetration. Its adjustable BLADE™ stream width and vertical-to-horizontal positioning allow for precise suppression in any fireground scenario. The BLADE™ 1000 is engineered for maximum performance on any structure fire—from residential to high-rise.

Specifications

	IMPERIAL	METRIC
Target Flow	1000 gpm	3785 lpm
Target Pressure	100 psi	7 bar
Weight	6.8 lbs	3.1 kg
Length	9.5 in.	241.3 mm
Width	8 in.	203.2 mm
Height	3.7 in.	93.98 mm

Coverage

WIDTH	REACH
— 21.3' —	— 50'
— 17' —	— 40'
— 12.8' —	— 30'
— 8.5' —	— 20'
— 4.3' —	— 10'
—	—

Features

- Solid tight pattern with large water droplets
- Solid linear BLADE™ for maximum coverage
- Hard-coat anodized aluminum construction
- Available with 2.5" NH and 2.5" NPSH
- NFPA 1960/1964 compliant
- 5-Year Warranty

Flow Rates

PRESSURE PSI (BAR)	FLOW RATE GPM (LPM)
50 (3.4)	707 (2676)
75 (5.2)	866 (3278)
100 (6.9)	1000 (3785)
125 (8.6)	1119 (4236)
150 (10.3)	1225 (4637)





TITAN™ ELITE

350 GPM Flow Monitor
Turret, Bumper Operations

- ✓ Pinpoint control
- ✓ Ultimate flexibility
- ✓ Automated control

The HEN TITAN™ Turret gives crews precise, smooth control of up to 350 GPM, putting water exactly where the fire needs it, fast. With four axes of motion and seamless nozzle integration, operators get unmatched mobility and accuracy on any scene.



Precision targeting

Horizontal and vertical rotation with blade pattern and orientation control.



Configurable travel range

Range of movement customizable to the limits of each scenario



Adjustable blade

Seamlessly transition between a tight stream and linear blade pattern



Joystick control

In-cabin joystick and controls allow one handed operation

TITAN™ ELITE

350 GPM Flow Monitor
Turret, Bumper Operations



Overview

The HEN TITAN™ Turret monitor provides unrivaled flow control for applications up to 350 GPM. In addition to horizontal and vertical motion, our monitors allow control of nozzle orientation and stream pattern with HEN electronic nozzles. The in-cabin joystick allows one-handed operation of all axes, giving the operator unmatched ability to control water direction and pattern. Multiple mounting options available, including all standard size flanges and NPT fittings. Configurable travel ranges supported for both horizontal and vertical motion.

Features

- 4 axes of control for precise water placement and flow control: horizontal rotation, vertical rotation, blade pattern, and blade orientation
- Seamless integration with HEN Electronic Nozzles
- Manual override to operate without power
- In-Cabin panel mount controller
- Configurable travel ranges
- High torque motors
- NEMA 4 waterproof housings
- NFPA 1960 compliant
- 5-year Warranty

Specifications

	IMPERIAL	METRIC
Max Flow	350 GPM	1325 LPM
Max Pressure	200 PSI	13.7 BAR
Travel range	135° vertical (-45°/+90°) 350° horizontal (175° left /175° right)	
Blade Orientation	90° horizontal to vertical	
Inlet	2.5 in flange, 3 in flange, 1.5 in NPT, 2 in NPT	
Outlet	1.5 in Male NH/NPSH	
Material	Aluminum w/teflon impregnated hard anodize	
Swing Radius	8 in	220 mm
Weight	20 lbs	9 kg
Height (w/out Nozzle)	18 in	457 mm
Width	11 in	279.4 mm
Temp Range	-40° to 140° F	-40° to 60° C
Voltage	12 or 24 VDC compatible	
Control	CANbus J1939	
Compatible Electronic Nozzles	20, 45, 95 GPM	

TITAN™ PRIME

1250 GPM Flow Monitor Deck Gun Operations

- ✓ Pinpoint control
- ✓ Ultimate flexibility
- ✓ Automated control

The HEN TITAN™ Deck Gun gives crews precise, smooth control of up to 1250 GPM, putting water exactly where the fire needs it, fast. With four axes of motion, seamless nozzle integration, and a detachable controller, operators get unmatched mobility and accuracy on any scene.



Precision targeting

Horizontal and vertical rotation with blade pattern and orientation control.



Configurable travel range

Range of movement customizable to the limits of each scenario



Adjustable blade

Seamlessly transition between a tight stream and linear blade pattern



Panel control

Panel mount control and/or detachable pendant remote

TITAN™ PRIME

1250 GPM Flow Monitor
Deck Gun Operations



Overview

The HEN TITAN™ Deck Gun monitor provides unrivaled flow control for applications up to 1250 GPM. In addition to horizontal and vertical motion, our monitors allow control of nozzle orientation and stream pattern with HEN electronic nozzles. Our panel mounted controller is removable for maximum mobility and unmatched control of water direction and pattern. Multiple mounting options available, including all standard size flanges and NPT fittings. Configurable travel ranges supported for both horizontal and vertical motion.

Features

- 4 axes of control for precise water placement and flow control: horizontal rotation, vertical rotation, blade pattern, and blade orientation
- Seamless integration with HEN Electronic Nozzles
- Manual override to operate without power
- Panel mount control and/or detachable pendant remote control
- Configurable travel ranges
- High torque motors
- NEMA 4 waterproof housings
- NFPA 1960 compliant
- 5-year Warranty

Specifications

	IMPERIAL	METRIC
Max Flow	1250 GPM	5000 LPM
Max Pressure	200 PSI	13.7 BAR
Travel range	-45° to +90° vertical 350° horizontal (175° left /175° right)	
Blade Orientation	90° horizontal to vertical	
Inlet	3 in flange, 4 in flange, 2.5 in NPT	
Outlet	2.5 in Male NH	
Material	Aluminum w/teflon impregnated hard anodize	
Swing Radius	10.5 in	265 mm
Weight	25 lbs	11.4 kg
Height (w/out Nozzle)	20 in	508 mm
Width	15 in	381 mm
Temp Range	-40° to 140° F	-40° to 60° C
Voltage	12 or 24 VDC compatible	
Control	CANbus J1939	
Compatible Electronic Nozzles	500,750,1000 GPM	

THE TURTLE FIRE SYSTEM

EV NOZZLE



The Turtle Fire System was founded in response to the growing concern of electric vehicle fires and the need for a simple, safe, and effective water delivery system.

Its unique design and operation allows for applications beyond EV fires, such as internal combustion engine fires, cooling fuel storage tanks, deep-seated fires, exposure protection, hazmat incidents and more.

VOLUME

Full spectrum nozzle capable of effectively delivering 75 to 500+ GPM and anywhere in between.

SAFE

Once deployed, the Turtle Fire System operates unmanned, reducing exposure to fire and harmful toxic gasses.

EFFECTIVE

Low-profile design easily deployed under a vehicle to deliver copious amounts of water directly onto an EV battery case.

DURABLE

Made in the USA of 100% welded American steel. Its strength is reinforced by its patent pending dome shape.

SIMPLE

Able to be assembled and deployed rapidly with minimal manpower.

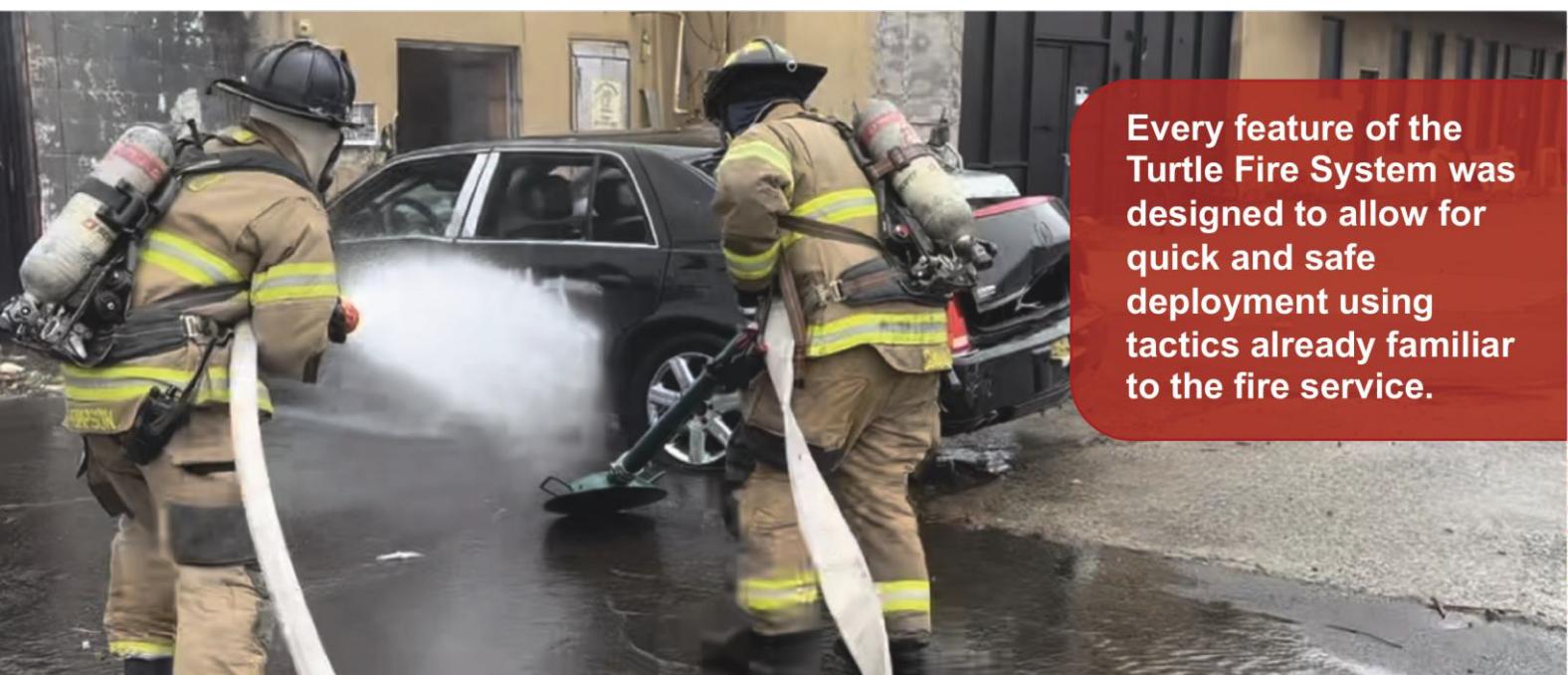
FORCE MULTIPLIER

The Turtle Fire System enables departments to repurpose manpower and do more with less.



The Turtle Fire System is the first full spectrum EV nozzle capable of quickly adapting to the demands of the fireground. Its flow pattern is equipped to accommodate both low- and high-profile vehicles and the while deployed flow rate can be adjusted from 75 to 500+ GPM to address water availability and the varying stages of thermal runaway.





- 1 Patent pending dome shape and hole placement allows for full coverage of EV battery case.
- 2 Hole sizes emit a column of water which allows for rapid heat absorption and permits the passing of debris.
- 3 Slide plate allows for maneuverability across various surfaces.
- 4 A carabiner can be attached to the front loop to assist with deployment.

- 5 Pike poles can utilize the side handles to push or reposition the Turtle Fire System.
- 6 Cam and groove connection allows for quick assembly and includes a secondary lock as an added safety measure.
- 7 Powder coated steel pipe provides leverage for deployment, added heat barrier for the hose, and ensures that water flow is maintained should the tires fail causing the vehicle to drop.

MINI TURTLE FIRE SYSTEM

EV NOZZLE



The Mini TURTLE™ Fire System offers the same key benefits of our original nozzle but in a more compact form.

At 33% smaller and supplied with two 1½" pipes, the Mini Turtle Fire System has been optimized for the following scenarios:

- Ferries and tunnels operating with limited pump pressures
- A standpipe in a parking structure to accommodate a gated wye for a handline
- Limited water supply
- Engine storage restrictions

VOLUME

Capable of effectively delivering low to high flows up to 300+ GPM.

SAFE

Once deployed, the Mini Turtle nozzle operates unmanned, reducing exposure to fire and harmful toxic gasses.

EFFECTIVE

At only 2.5" high, the Mini Turtle is easily deployed under a low-profile electric vehicle.

DURABLE

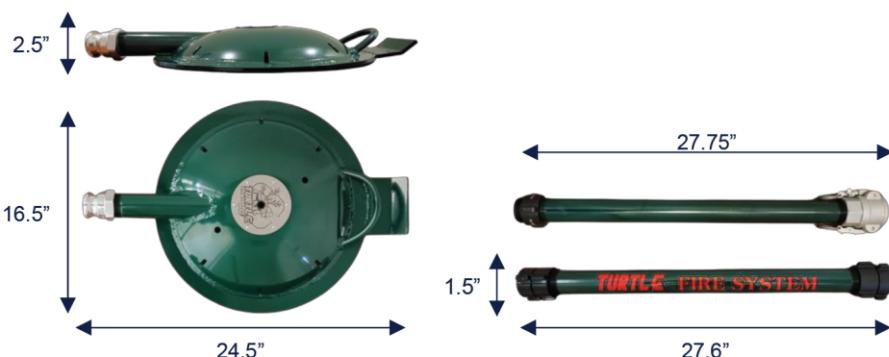
Made of welded steel. Its strength is reinforced by its patented dome shape.

SIMPLE

Able to be assembled and deployed rapidly with minimal manpower.

FORCE MULTIPLIER

Enables departments to repurpose manpower and do more with less.



Operating Pressures

Hose Size	Pump PSI		
	100	125	150
100' of 1¾"	250	285	315
100' of 2"	320	350	380
100' of 2½"	343	375	410



HOSE-PULL®

Operation and technical support device

HOSE-PULL® is an adaptable and very robust technical support tool. The device assists personnel on the field by significantly improving the mobility of a large and long hose lays. With their omnidirectional wheels, it can move all over different types of surface. By reducing hoseline ground friction, it eases their movements on the fireground areas and reduces physical stress while handling it.

HOSE-PULL® highlights

-  Simplifying fireground hose lay movements
-  Adaptable to different types of surface
-  Large weight capacity
-  Quick set up (less than 5 sec)
-  Fully engineered, manufactured, and assembled at our workshop
-  Minimal maintenance required (high pressure water washing)
-  Adaptable to different hose line diameters
-  Easy, safe and fast assembly through the two-in-one system Slic Pins™ (composed of an axle and a pin)



FEATURES

PARAMETER	DESCRIPTION
Cradle + Wheels	PA66 GF-30
materials	
Component materials	Stainless steel 304
Diameter	Up to 70 mm (approx. 2 3/4 inches)
	Up to 110 mm (approx. 4 1/2 inches)
Max Temperature	80°C (176°F)
Min Temperature	- 20°C (-4°F)
Wheels colors	Red / Black
Cradle colors	Red / Black
Warranty	1-year parts and labour



ACCESSORIES & OPTIONS

HOSE-PULL double format by adding a cradle using a connecting ring



- Polymer made dual cradleModularity for -
- Adaptable to different hose line sizes
- Available diameters:

70 mm (2 3/4 inches)

110 mm (4 1/2 inches)

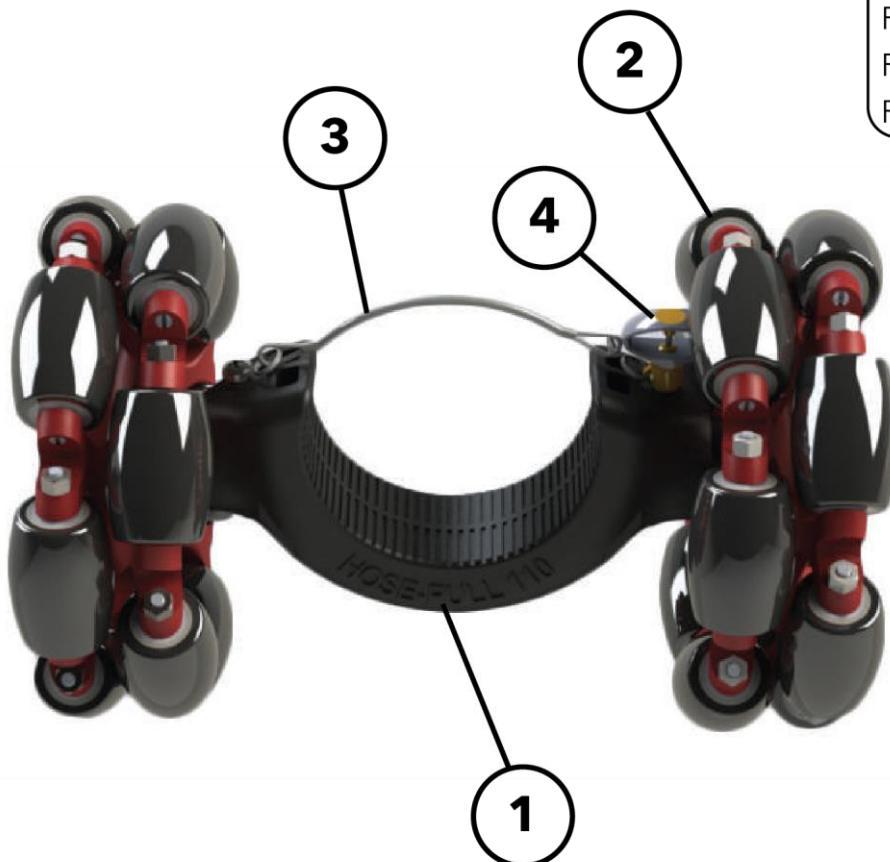
Simple HOSE-PULL®

HOSE-PULL® is made of a polymer cradle and two omnidirectional wheels allowing it to maneuver on different types of surface.



FEATURES

DN70 weight	4,43 Kg (9,77 lbs)
DN110 weight	4,59 Kg (10,12 lbs)
DN70 color	Red
DN110 color	Black
Rims colors	Black / Red
Ref UGAP	2716089
Ref Gallin	G090062



NOMENCLATURE

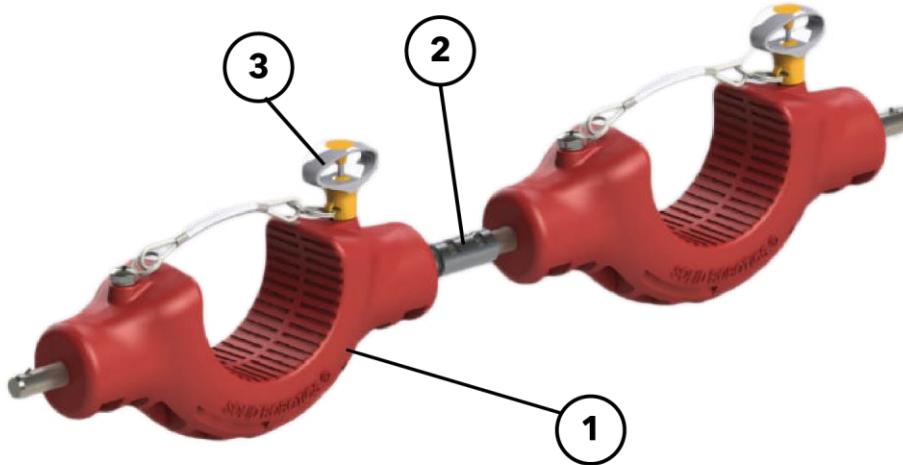
1	Cradle
2	Wheel
3	Stainless steel retention cable
4	Locking mechanism

OPTIONS

Double HOSE-PULL®

From the single HOSE-PULL model base, cradles can be twinned through a connecting ring.

- **Double cradle model with connecting ring**



COMPONENTS

1	Cradle
2	Connecting ring
3	Locking mechanism

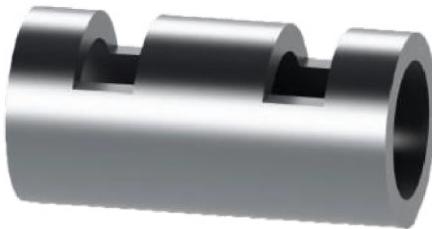
- **Black DN110 simple cradle
(110mm (4 1/2 inches))**



- **Red DN70 simple cradle
(70mm (2 3/4 inches))**



- **Connecting ring**



Weight: 5,09 g

- **Engineered polymer fixed dual cradle**



DN 70 or DN 110



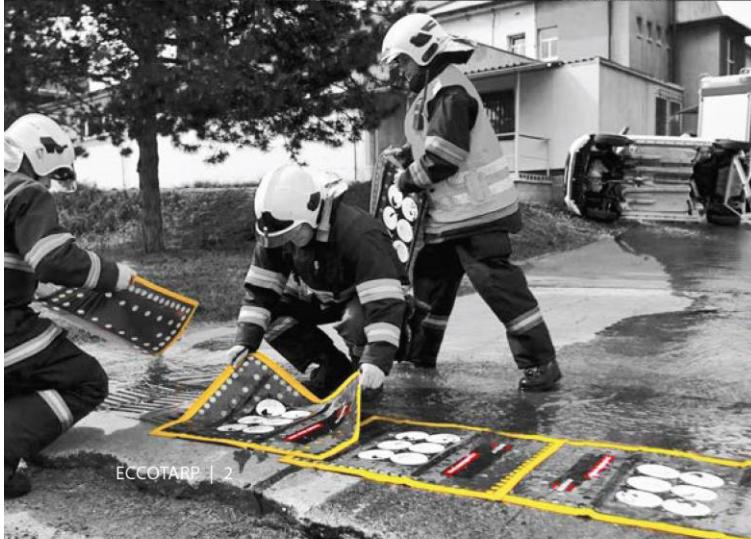
Collapsible
Contaminant
Capture

Foldable products
for protection of persons,
subjects and environment

**Catalogue
of products**



We pay maximum time and attention to developing and testing our products. We solve construction details, design, we cooperate with fire brigades in development, we test products during real interventions...





Rollers for fire hoses

Backsaver ET-Roller 7 Electric
Roller for fire hoses up to
6 inch powered by Milwaukee
batteries



ET-Roller 6 Electric Roller for
fire hoses up to 4 inch powered by
18 V Milwaukee aku batteries



Backsaver ET-Roller 7 Electric
Roller for fire hoses up to
6 inch powered by Milwaukee
batteries

Portable collapsible spill bunds



Collapsible spill
bund ECCOTARP



Collapsible Spill
Bund UNIQUE



Collapsible Spill
Bund CARGO



Collapsible spill
bund DECON



Collapsible spill bund RAIL



Collapsible spill bund ANTISTATIC

Large collapsible folding pools



Large Surface
Folding Pool **LARGE**



Large Surface Folding
Pool **HEAVY DUTY**



Collapsible Electric Car
Quarantine Container

Temperature
alarm

Emergency containers



Emergency container
EC 01 and EC 02



Collapsible Flexible
Utility Tray FASTER

High capacity tank



High capacity tank with
collapsible structure



Collapsible containment
tank

Drain covers



Magnetic Drain
Cover MDC



Foldable Drain
Cover FDC



Nitrile drain
cover NDC

Dispenser Carts



Foldable Dispenser
Cart SDC 03 Plus



Metal Sorbent Dispenser
Cart SDC 05

Protective screens



Magnetic ET Flexi protective
screen for door frames



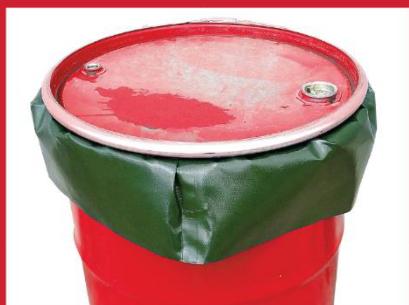
ET Flexi protective
screen with structure
for fixing to desktop

Others



Folding drip collection tray with exchangeable absorbent lining

Industrial Folding Funnel IFF



Impermeable emergency barrel insert

Facade drainage slot



Decontamination foot floor mats

Floor ET Barrier



scan for more details

Do you really know
all the products from
ECCOTARP?

SFP



What is SF+Bio Gel Barrier?

SF+Bio Gel Barrier is an innovative, aqueous gel composition designed to provide heat-resistant protection and fire retardation by forming a continuous gel layer on surfaces. It contains a blend of copolymers, block copolymers, water, and targeted additives, making it highly effective at slowing down or extinguishing fires, especially Class A and B fires.

- Highly fire and heat resistant
- Non-toxic and safe for humans and animals
- Biodegradable and environmentally friendly
- Causes no secondary damage to protected materials
- Adheres well and remains effective on inclined and horizontal surfaces for extended periods

As Al Qudra Global, we proudly recommend **SF+Bio Gel Barrier** as a cutting-edge, sustainable solution for advanced fire protection, unmatched in performance and safety.

Uniqueness in the Market

Unlike traditional firefighting agents or suppression methods, there is currently no other gel-based heat-resistant barrier on the market comparable to SF+Bio Gel Barrier. Its innovative formulation and ability to form a long-lasting, adherent protective layer on various surfaces make it truly one-of-a-kind.

This unique gel barrier provides an advanced solution for preventing fire spread and thermal damage that no other product can match in terms of effectiveness, safety, and environmental friendliness. SF+Bio Gel Barrier stands alone as a pioneering technology with no real alternative available today.

The Solution: SF+Bio Gel Barrier – The Advanced Heat-Resistant Fire Protection

SF+Bio Gel Barrier forms a cohesive, aqueous gel layer on protected surfaces. This gel significantly reduces surface temperature below the ignition point, preventing fire spread and protecting materials from thermal damage.

Key benefits include:

- Continuous gel layer retention on horizontal, vertical, and inclined surfaces
- Improved fire suppression for Class A (solid combustibles) and Class B (flammable liquids) fires
- Environmentally beneficial, aiding soil moisture retention post-fire to promote recovery
- Easily washable with water after use, with no special disposal needed

How Does SF+Bio Gel Barrier Work?

When applied to a surface, the gel:

- Creates a thick aqueous barrier that absorbs and holds back heat
- Adheres strongly, preventing detachment even on sloped or vertical surfaces
- Lowers surface temperature below combustion thresholds, inhibiting fire spread
- Provides a physical and thermal shield, delaying ignition and supporting firefighting efforts

Environmental and Safety Profile

- Fully biodegradable with no toxic residues
- Non-toxic to humans, animals, and the environment
- Does not interfere with air exchange or further surface treatments such as painting or gluing
- Supports ecosystem recovery by maintaining soil moisture after fire events

Ideal Applications of SF+Bio Gel Barrier

- Power plants and electrical transformers
- Server rooms and data centers
- Museums, libraries, and archives
- Electrical equipment up to 1300 volts
- Warehouses, factories, and smart buildings
- Oil & gas companies, chemical and petrochemical industries, and their storage facilities
- Industrial zones, storage areas, warehouses, and garages
- Petrol stations and fuel storage facilities



- Ports and terminals
- Government entities
- All types of ships, and marine industry
- Homes, schools, universities, hospitals, and both private and public facilities
- Airports, jet fuel storage and planes technical maintenance facilities
- Military sector, Suitable for bases, storage zones, and vehicle areas
- All types of kitchens, Ideal for restaurants and home kitchens, especially for grease and electrical fires without leaving any residue

Why Choose SF+Bio Gel Barrier?

- Highly effective against Class A and B fires
- Long-lasting adhesion on various surfaces
- Environmentally safe and biodegradable
- Non-toxic, with no secondary damage to materials
- Easy cleanup and no special disposal required
- Supports fire safety in critical industries including oil, gas, automotive, rail, military, and marine





What is SF+Bio?

SF+Bio is an advanced firefighting and decontamination liquid, also available as a fire-retardant impregnation solution. It is designed to neutralize biological and chemical contamination while extinguishing fires with exceptional safety, environmental performance, and material protection.

SF+Bio combines **fire suppression, bio-decontamination, and material impregnation** in one solution, making it ideal for high-risk, high-value, and sensitive environments.

Key Features:

- **Dual-action:** Extinguishes fire and neutralizes chemical/biological threats
- **Material protection:** Impregnates and protects fabrics, wood, paper, and synthetic materials against ignition and decay
- **Safe for humans:** Can be used on skin, clothing, food contact surfaces, and medical environments
- **Non-toxic, non-corrosive, and biodegradable**
- **Compatible with PPE, vehicles, electronics, and sensitive materials**
- **Effective against fire Classes A, B, and C**
- **Proven performance against chemical warfare agents, viruses, and industrial toxins**
- **Tested to meet GOST 12.1.007-76 (Class IV – low-hazardous substances)**

At **Al Qudra Global**, we proudly offer SF+Bio as a next-generation solution for civil defense units, emergency responders, industrial users, hotels and any sector requiring multifunctional safety and contamination control.

The Challenge: Fire & Chemical Contamination

Traditional firefighting agents only extinguish fires but fail to address secondary hazards such as toxins, viruses, or environmental residues. This presents multiple risks:

- Fires may be extinguished, but hazardous residues remain
- Infrastructure and equipment remain unsafe to use
- Separate products are needed for firefighting and decontamination
- Agents may trigger allergic reactions or harm sensitive materials
- No built-in protection for personnel or contaminated surfaces



The Solution: SF+Bio – Fire Suppression + Bio & Material Protection

SF+Bio is a **transparent, water-based polymer suspension** that offers both **active fire suppression** and **long-lasting surface protection**. Its advanced formula allows:

- Rapid extinguishing of Class A, B, and C fires
- Full-spectrum neutralization of biological, chemical, and radioactive particles
- Deep impregnation into materials to prevent ignition and microbial growth
- Long-term material protection without altering structure or air permeability
- Non-toxic, non-corrosive, non-flammable – safe for humans and the environment
- Works on people's clothing, gear, and skin for instant decontamination
- Zero residue, zero corrosion, and no release of harmful gases
- Dermatologically tested and compatible with PPE and sensitive gear

How Does SF+Bio Work?

SF+Bio operates through multiple synergistic mechanisms:

- **Breaks chemical bonds** of harmful agents and dissolves residues
- **Cools burning surfaces** and displaces oxygen to halt combustion
- **Neutralizes pathogens** (viruses, bacteria) and industrial toxins on contact
- **Forms a protective, non-toxic film** to prevent re-exposure
- **Impregnates surfaces** such as wood, textiles, and polymers, making them flame-retardant and decay-resistant

Health & Environmental Safety

SF+Bio has been tested and validated by international labs and health authorities:

- Classified as **low-hazardous (Class IV)** under **GOST 12.1.007-76**
- **Safe for use on skin, eyes, open wounds, and food-contact surfaces**
- Free from alcohol, ammonia, chlorine, fluorine, and VOCs
- **Biodegradable within 28 days** – no harm to soil or aquatic systems
- **Non-mutagenic, non-carcinogenic, non-allergenic**

Ideal Applications of SF+Bio

Firefighting and Decontamination:

- Civil defense and emergency response teams
- Military operations, and decontamination units
- Chemical and petrochemical industries
- Airports and aircraft maintenance areas
- Warehouses and logistics centers handling hazardous goods
- Public transportation, metros, buses, and terminals
- Healthcare facilities, ambulances, and medical equipment
- Schools, universities, and government buildings
- Refineries, factories, and oil & gas infrastructure
- Military bases, barracks, vehicles, and training camps
- Nuclear and industrial zones with biohazard risks
- Marine vessels and offshore platforms
- Police, fire, and ambulance rapid intervention vehicles
- Hotels, kitchens, and food production plants
- Used by civilians during pandemics or chemical exposure risks



Impregnation and Fireproofing:

- Wood and wood-based materials (plywood, cardboard)
- Fabrics (upholstery, sleeping bags, tents, uniforms)
- Special clothing (firefighting, welding gear)
- Carpets, rugs, and floor coverings
- Construction materials (e.g., polyurethane foam, filters)

Application Methods & Instructions

Methods of application:

- Spraying (air or airless systems)
- Mechanical (roller or brush)
- Dipping (for full immersion treatments)

Surface preparation:

- Clean materials thoroughly of dust, grease, and debris before application
- Apply at ambient temperatures between **+5°C and +40°C**
- Treated wood should be protected from moisture after application



Consumption rates:

- 1 liter covers 7–12 m², depending on surface type
- Fabric (100–150 g/m²): 30–50 ml/m²
- Carpets: 30–70 ml/m²
- Wood: 50–200 ml/m² depending on density

Durability:

- Protective effect lasts for **at least 5 years** with proper application

Certification Notice:

- The **Certificate of Conformity** is valid **only when applied according to manufacturer's instructions**. Misuse may void certification.

Storage and Safety Precautions

- Store in a dry, cool place, away from children
- Use **goggles and gloves** when applying manually
- In case of skin or eye contact, rinse thoroughly with water
- If irritation occurs, consult a physician
- **Shelf life: 10 years** when stored in original packaging

Why Choose SF+Bio?

- Combines **fire suppression, bio-decontamination, and material protection**
- **Saves lives** by neutralizing toxic threats instantly
- **Protects equipment and personnel** with zero corrosion or damage
- **Easy to apply** with standard equipment or manual tools
- **Reduces firefighting time**, cleanup effort, and environmental harm
- Fully **biodegradable, certified, and field-tested**
- Trusted for **civilian, industrial, and military use** worldwide



What is SFP?

SFP is a next-generation fire extinguishing liquid that is environmentally friendly, non-conductive, and a safe alternative to traditional agents such as freons, powders, foams, or water.

- Innovative non-pressurized formula
- Safe for use on electronic devices up to 1300V
- Leaves no residue or side effects
- Effective on fire classes A, B, C, E
- Suitable for critical environments: data centers, substations, museums, and more

As Al Qudra Global, we are proud **to recommend** this innovation-driven solution as a game-changing advancement in firefighting technology. As demonstrated above, SFP stands alone in the market, with no real alternative when it comes to safety, versatility, and performance.

Challenges with Traditional Fire Suppression Methods

Common extinguishing agents such as water, foam, powder, and freons have several limitations:

- Cause damage to electronics and property
- Do not prevent reignition
- Incompatible with electrical fires
- Harm the environment and contribute to harmful emissions
- It may be toxic or irritating to the respiratory system or skin, causing various illnesses for firefighters and humans in general.





The Solution: SFP - The New Generation of Fire Suppression

SFP is a clear, non-pressurized extinguishing liquid with a unique formulation offering:

- Superior extinguishing performance
- Electrical safety up to 1300 volts
- Complete health and environmental safety
- Zero impact on electronics or equipment
- Free from chlorine, bromine, and fluorine
- No post-use side effects or contamination
- Operational temperature range from -40°C to +50°C
- One powerful agent tackles Class A, B, C, and D fires, all with a single solution.
- Unique in the market, expiration time 10 Years while stored in fire extinguisher.

How Does SFP Work?

When sprayed directly on a fire source, SFP acts in three primary ways:

- Creates a vapor cloud that displaces oxygen and smothers the fire
- Rapidly absorbs heat thanks to its high thermal capacity
- Forms a protective nanolayer that prevents reignition
- Non-conductive, safe to use even on energized electrical equipment

The result: Fast, clean, and safe fire suppression without damage or mess.

Health & Safety

SFP has been medically and industrially tested to ensure:

- Non-toxic by inhalation or skin contact
- Non-allergenic and non-irritating
- Not classified as an environmental or health hazard
Safe for storage, transport, and use
- Leaves no salt or lime deposits in storage areas
- Not classified as hazardous to health or the environment
- Safe for storage, transportation, and use





Comparison Table: SFP vs Traditional Agents

Feature / Product	SFP	Dry Powder	CO ₂	Traditional Foam
Reignition Prevention	Forms nanolayer that blocks reignition	No post-fire barrier	Gas disperses without sealing	Foam dissipates quickly
Electrical Equipment Safety	Safe up to 1300V, non-conductive	Risk of short circuit	Not safe on energized systems	Not suitable for live electrical fires
Post-use Side Effects	No residue, no corrosion	Leaves powder residue	Causes condensation	Leaves sticky foam
Surface Cooling	Rapid heat absorption	Minimal cooling effect	Moderate cooling	Moderate cooling
Environmental Friendliness	0% ozone or global warming impact	Harmful particulates	High greenhouse potential	Contains surfactants harmful to environment
Health & Toxicity	Non-toxic, dermatologically safe	Respiratory and skin irritant	Inhalation risk	Can cause skin/eye irritation
Effectiveness on Fire Types (A, B, C, E)	High effectiveness across all types	Effective mostly on Class A & B	Primarily for Class B and electrical fires	Limited to Class A & B
Site Cleaning After Discharge	No cleaning required	Requires extensive cleanup	May cause condensation on equipment	Leaves foam residues
Environmental Lifetime	Fully biodegradable	Settles but leaves traces	Can linger and cause humidity issues	May remain in porous materials for years
Use in Low Temperatures (-40°C)	Fully effective	Poor performance in freezing environments	Risk of freezing or pressure issues	Limited function below 0°C
Impact on Electronic Equipment	Zero corrosion or degradation	High risk of damage	Condensation may harm sensitive components	Can damage PCBs and sensors

Ideal Applications of SFP

- Power plants and electrical transformers
- Server rooms and data centers
- Museums, libraries, and archives
- Electrical equipment up to 1300 volts
- Warehouses, factories, and smart buildings
- Oil & gas companies, chemical and petrochemical industries, and their storage facilities
- Industrial zones, storage areas, warehouses, and garages
- Petrol stations and fuel storage facilities
- All types of ships, and marine industry
- Ports and terminals
- Airports, jet fuel storage and planes technical maintenance facilities
- Homes, schools, universities, hospitals, and both private and public facilities
- Government entities
- Military sector, Suitable for bases, storage zones, and vehicle areas
- All types of kitchens, Ideal for restaurants and home kitchens, especially for grease and electrical fires without leaving any residue
- This agent works with exceptional efficiency on **all major fire types** – A, B, C, and E – unlike conventional agents that are limited to specific classes only.
- Used by individuals in personal use, cars, offices, homes, hotels, and many other communities' facilities.

Why Choose SFP?

- A highly effective and safe product.
- Does not harm your equipment.
- Environmentally friendly.
- Significantly reduces fire control time.
- Boosts overall performance indicators.
- Lowers post-fire cleanup and recovery costs.
- Reflects your commitment to safety and responsibility.
- Greatly reduces water and foam consumption.
- Can be filled into any application, from fire trucks and rapid response units to small cylinders.
- Requires no special filling system, easily usable with any pump or vehicle, with no mixing required.
- A modern approach aligned with safety and innovation
- Unique in the market, expiration time 10 Years while stored in fire extinguisher.





NFPT
NANO FIRE PROTECTION TECHNOLOGY



NFPT

NANO FIRE PROTECTION TECHNOLOGY

Global Vision - 360° Fire Safety for a Safer, Smarter Nation

01

FROM SPARK TO SUPPRESSION: A FULL-SPECTRUM FIRE RESPONSE

360° Fire Safety Solutions combine unique patented technologies to manage fire emergencies from the moment of ignition to full-scale suppression — even in complex environments like oil fields.

With smart detection and instant and scalable response, this system anticipates and neutralizes threats
Global's escalation, supporting the UAE's drive for innovation-led infrastructure and public safety.

02

ECO-ENGINEERED SAFETY FOR A SUSTAINABLE FUTURE

Aligned with UAE Vision 2030's sustainability goals, these systems use eco-friendly, non-toxic extinguishing agents that are safe even for human skin. By minimizing water usage and avoiding corrosive damage, they not only protect infrastructure and the environment but also save lives in critical moments. Ideal for both urban and industrial settings, they are a key asset in building safer, greener smart cities.

03

NATIONAL RESILIENCE THROUGH OPERATIONAL CONTINUITY

The economic impact of fire-related incidents can be catastrophic, especially across vital sectors such as logistics, energy, and tourism. 360° solutions are designed to protect not just lives and property, but also business operations and national assets. By embedding the GCC.ems into critical infrastructure, the UAE builds resilience, attracts global investment, and reinforces its position as a leader in innovation and safety.

Nano Capsules

TECHNOLOGY

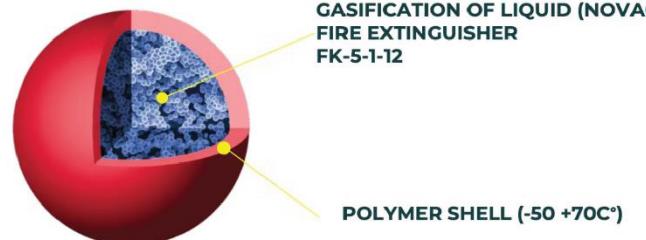


- The polymer microcapsule shells contain a highly effective extinguishing agent.
- Size of microcapsules: 700-1300 micrometers.
- NFPT technology utilizes polymer matrixes filled with microcapsules containing highly volatile extinguishing liquids.
- In the event of overheating, sparking, or flames (sources of ignition), the microcapsules are destroyed and a gaseous extinguisher is released into the atmosphere.
- Generally, the opening should take place at temperatures between 110°C and 150°C.
- There are many advantages to this technology, including its high efficiency, versatility, ease of use, ability to extinguish fires of all classes with the least amount of fire-extinguishing liquid, and complete safety for both people and the environment.

Nano Capsules



MICROCAPSULE FILLED WITH EXTINGUISHER



EXTRAORDINARY MERITS OF NFPT CHEMISTRY SCIENTISTS



The capsules are filled with fire extinguishing composition



Microcapsule shell durability



Design temperature
Microcapsule triggering



Design and development of a bonding material that provides strength, flexibility, and stability to BAST products..

Nano Capsules - Products - Sticker



BAST STICKERS

NAME OF THE PRODUCT	SIZE, MM	MAX. PROTECTED VOLUME	RESPONSE TEMPERATURE
BAST Sticker-10	100x25x2	10 litres	120 ± 5 °C
BAST Sticker-20	100x50x2	20 litres	120 ± 5 °C
BAST Sticker-30	100x100x2	30 litres	120 ± 5 °C
BAST Sticker-Socket	20x30x2	0.5 litres	120 ± 5 °C



Nano Capsules - Products - Cord



BAST CORD

Using a cord filled with microcapsules and granules, this technology provides protection for large objects with a volume up to 2 000 litters based on the production of fire protection plates.



- In this method, fires are extinguished through reactive impulse extinguishing and as close as possible to potential dangers.
- The material maintains the operability of electronic systems, does not damage equipment, is dielectric, and is able to operate in humid, hot, and smokey conditions.
- Despite its autonomy, this tool can be used in conjunction with smart signalling and triggering devices that are compatible with the corresponding software.

Nano Capsules - Products - Paint



BAST PAINT

A wide range of surfaces can be painted with microcapsules, including plastic, wood, metal, rubber, and even textiles



Where to use?

- Protection against fire in small closed spaces, such as:
- Control cabinets
- False floors
- Dropped ceilings
- Boat engine compartments
- Electric vehicle battery compartment
- Server rooms
- Storage with explosive or valuable products
- Electronic devices
- Heavy-duty appliances

Nano Capsules - Products - Application



APPLICATION AREAS OF BAST PRODUCTS

Civil Defence



Construction



Electric Vehicles



Healthcare



Hospitality



Military & Defence



Logistics & Transportation



Telecommunications



Oil & Gas



Nano Capsules - Products - Certificates



CERTIFICATES



Nano Capsules - Products - Certificates



CERTIFICATES





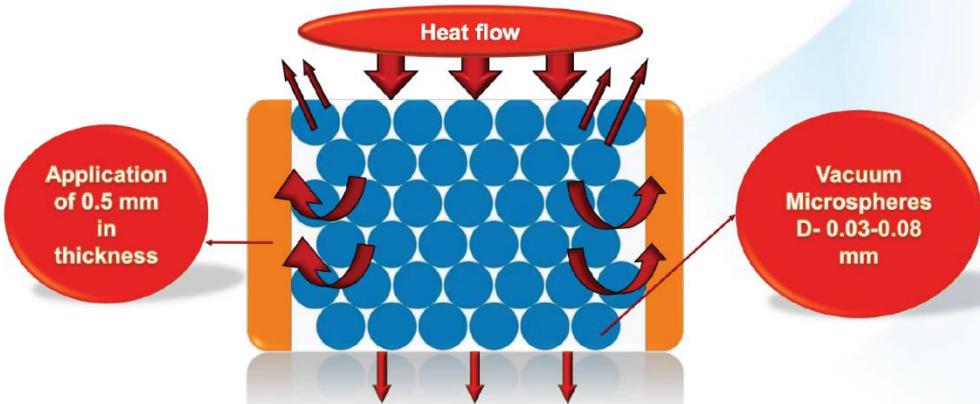
Liquid Thermal and Fire insulation - Product - Summary



Innovative Centre
Implementation. Expertise. Training.

Energy-efficient TSM Ceramic Material

TSM Ceramic represents liquid ultra-fine thermal insulation material. It consists of microscopic ceramic vacuum microspheres (0.03-0.08 mm in diameter), which are in a liquid composition, similar to the paint. Elastic coating is formed after drying. About 20 layers of vacuum microspheres are in the layer of 0.5 mm in thickness. They create thermal barrier and prevent transmission of heat flow.



The diagram illustrates the structure of TSM Ceramic Material. It shows a cross-section of a wall with a central layer of blue ceramic vacuum microspheres. Above the wall, a red oval labeled 'Heat flow' has arrows pointing downwards. Below the wall, arrows point upwards, indicating heat flow is prevented. To the left, a red circle says 'Application of 0.5 mm in thickness'. To the right, another red circle says 'Vacuum Microspheres D- 0.03-0.08 mm'. A red banner at the bottom says 'For indoor and outdoor applications'.

3

Liquid Thermal and Fire insulation - Product - Advantages



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Advantages of TSM Ceramic Material

 <p>HEAT SAVING Heat flow reflection 60-70%. Cutting expenses on heat of a building by 30%.</p>	 <p>COLD PROTECTION Material reduces penetration of cold air inside by up to 45%.</p>
 <p>NOISE INSULATION Layer of 0.6 mm in thickness reduces noise level by 2 decibels.</p>	 <p>WATERPROOFING Latex in material provides it with low water permeability, less than 0.03 grams per cubic centimetres.</p>
 <p>ECOLOGICAL SAFETY TSM Ceramic is an ecologically pure material: it does not contain any poisonous or harmful substances.</p>	 <p>FIRE SAFETY TSM Ceramic is a fire resistant material, it enables slowing down the flame spread.</p>

Liquid Thermal and Fire insulation - Product - Advantages

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Advantages of TSM Ceramic Material



ANTICORROSION MATERIAL
Insulating the covered surface from water and air, it eliminates external corrosion.



COLOUR MATCHING
It can be painted with any colour, for any interior.



APPLICATION ON HOT SURFACES
Material is used at the temperature from +5 to +150 C°.



EASE OF HANDLING
It is applied with a painting brush or an airless spray.



OPERATING LIFE
Warranty is 30 years. Service life is over 30 years.



COST EFFECTIVENESS
Reduction of working hours thanks to high speed and simplicity of material application. Reduction of repair expenses. Saving of thermal energy. Space saving.

Liquid Thermal and Fire insulation - Product - Usage

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Application of TSM Ceramic In the field of heat power engineering

TSM Ceramic is widely used in the field of heat power engineering

- Pipelines of thermal heating systems
- Steam pipes and gas pipes
- Systems of air conditioning
- Pipes with cold water (for prevention of condensation)
- Steam boilers
- Isolation valves
- Containers and tanks







Liquid Thermal and Fire insulation - Product - Usage



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Krasnoyarsk, "Krasmash" - heat insulation of heat transport system

Objects where TSM Ceramic materials were applied




Krasnoyarsk, "Europe" Business Centre - heat insulation of pipelines




Liquid Thermal and Fire insulation - Product - Usage



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Objects of petroleum Industry with application of TSM Ceramic materials

TSM Ceramic





Achinsk, "ROSNEFT"
Heat insulation of petroleum storage containers

Liquid Thermal and Fire insulation - Product - Usage



Innovative Centre
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Objects of petroleum industry with application of TSM Ceramic materials

TSM Ceramic is used for heat insulation of oil and gas pipes of above ground and subsurface lining.









Liquid Thermal and Fire insulation - Product - Certificates



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Implementation. Expertise. Training.

Certificates



EC Declaration of Conformity No. JIC02250
Conformity Certificate No. POCC RU.AE95.H01852
Fire Certificate No. № C-RU.ПБ24.В.00354
Hygienic Certificate – №.77.01.03.570.П.0650800808
Hygienic Certificate No. 34.77.03.570.П.0038280906
Hygienic Certificate No. 77.ТУ.05.576.П.0001000907
Russian Technical Expertise Centre CTO-CA-03-002-2009
Russian Building Certification.
TO-H00025-07 Belorussian National Institute Of Intellectual Property TC 05.0046.10



Experimental Centre "All-Union Scientific Research Institute of Hydro mechanization of Sanitary-engineering and Special Construction Works" №. 270-1-09



Russian Technical Supervision Service "Centre of Laboratory Analysis and Technical Metrology" T3 2007
State Unitary Enterprise "Moscow Scientific Research and Project Institute of Housing Services" T3 2009
Institute for Scientific Research of Building Constructions T3 2005



TSM Ceramic IS RECOMMENDED BY:

FUND OF HOUSING AND PUBLIC UTILITIES REFORMING, MINISTRY OF HOUSING AND PUBLIC UTILITIES OF MOSCOW REGION, RUSSIAN RAILWAYS, GAZPROM, ROSNEFT', RUSSIAN TECHNICAL SUPERVISION SERVICE , UNION OF ARCHITECTS OF RUSSIA, UNION OF PUBLIC ENTERPRISES OF RUSSIA , UNION OF BUILDERS.



AEVEX Aerospace Company Overview 2025



TRANSFORMING MISSION SUCCESS WITH DATA-DRIVEN SOLUTIONS

AEVEX is a trusted partner delivering advanced airborne, maritime, and ground-based intelligence solutions—providing operational flexibility and ensuring mission data remains customer-owned for global defense, government, and commercial operations.



670+ EMPLOYEES, 7 OFFICE LOCATIONS



40+ YEARS DELIVERING COMPLEX SOLUTIONS



5,000+ UNMANNED, 125+ MANNED PLATFORMS DEVELOPED/OPERATED



124+ PERSONNEL IN EUCOM, AFRICOM, CENTCOM, & SOUTHCOM

Recent News:

[Top 100 Drone Defense Companies in 2025 - The Defense Post](#)

[The Mysterious Phoenix Ghost Drones of the Ukraine War - Forbes](#)



ADVANCED AEROSPACE SOLUTIONS



AVIATION SOLUTIONS

Design-Build-Fly solutions to deliver complex aircraft platforms with full engineering, modification, integration, and certification support



UNMANNED SYSTEMS

Cutting-edge unmanned systems and services from loitering munitions to unmanned surface vehicles and counter-UAS services



GLOBAL SOLUTIONS

Full-service flight operations and mission support for a variety of manned and unmanned operations executed across the globe



TECHNOLOGY PRODUCTS

Innovative technologies to support airborne operations, from special modifications to mission software to position, navigation, and timing



MISSION CONTROL & DATA SECURITY

Vessels can be controlled beyond line-of-sight via Starlink, while all mission data belongs to the customer and can be securely stored offboard, ensuring no data remains onboard.

PROVEN PERFORMANCE SUPPORTING THE NATION'S MOST SENSITIVE OPERATIONS

AEVEX MISSION FOCUSED, TRUSTED PARTNER



AEVEX
AEROSPACE

PROVEN PERFORMANCE CUSTOMIZED SOLUTIONS



Development, operations, and sustainment of:

- Fixed wing
- Rotary wing
- Group 1-4 UAS
- Loitering munitions
- Unmanned surface vehicles

- Thousands of Group 1-4 unmanned platforms rapidly developed for DoD and Industry (Threat Replicators)
- Special-mission modifications and integrations for hundreds of mid-size and large jet platforms
- Sustained ISR mission support for operations in AFRICOM, CENTCOM, and SOUTHCOM



PROVEN, ELITE PERFORMANCE SUPPORTING THE NATION'S MOST SENSITIVE ISR OPERATIONS



- 650+ full-time aviation & intelligence professionals
- HW & SW engineering teams



- 1.9 million operational hours overseas
- Over 18 aerial platforms



- Staff deployed & operating in more than 20 countries
- In-House Deployment Team



AUTONOMOUS USVs



SPECS	MAKO	MAKO LT	AQUILA
Range	287 nm (531.5 km)	287 nm (531.5 km)	609 nm (1,127.8 km)
Maximum Speed	43.4 knots (80.4 km/h)	34.7 knots (64.2 km/h)	34.7 knots (64.2 km/h)
Payload Capacity	200 lbs (90.7 kg)	100 lbs (45.35 kg)	1000 lbs. (453.5 kg)
Endurance	22.5 hrs.	30 hrs.	132 hrs.
Length/Width	136" L / 49.5" W	110" L / 46" W 10" / 46"	18.4 ft L / 7.4 ft W
Weight (wet)	895 lbs. (405 kg)	455 lbs. (206 kg)	4295 lbs. (1948 kg)
Fuel Capacity	56 gallons	27 gallons	264 gallons

**Infil-Exfil | Logistics
ISR | Kinetic Payloads
FPV Kit | Mesh Network
BLOS Comms | Radar**

**CONFIGURABLE
ON DEMAND**





M A K O L I T E

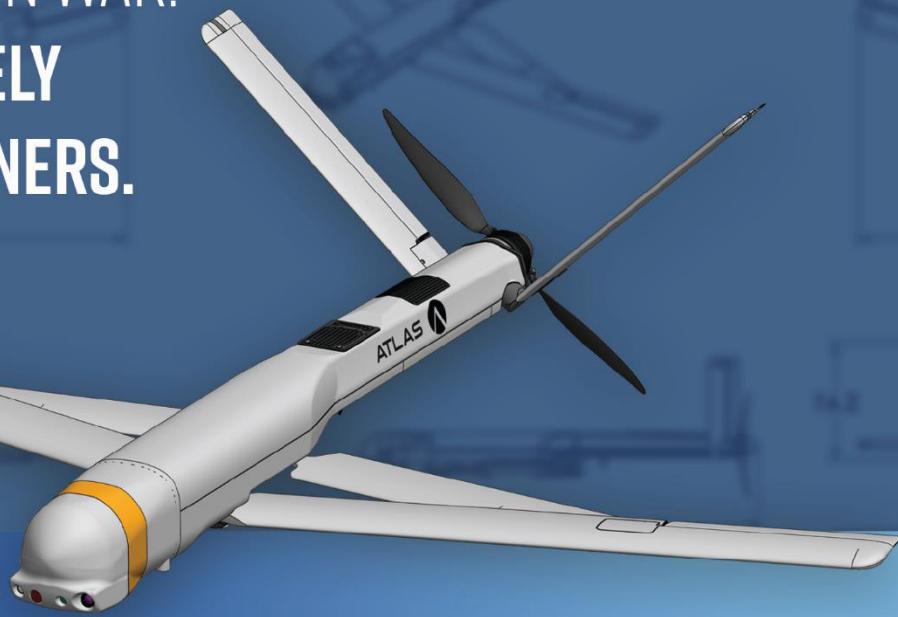




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DESIGNED FOR MODERN WAR.
AVAILABLE IMMEDIATELY
FOR ALLIES AND PARTNERS.

ATLAS



PERFORMANCE

- 86 min loiter
- 160 km range
- 67 kts (77.1 mph) cruise speed
- 87 kts (100.1 mph) dash speed

SPECS

- 55 in/139.7 cm length
- 75.5 in/191.8 cm width
- 34 lbs/15.4 kg max wt.

PAYOUT

- 7.5 lbs (3.4 kg) max wt.
- Kinetic
- Visual/ISR

CONFIGURATION*

- Mesh Networking
- Swarm Autonomy
- A-PNT using Visual Navigation



Lightweight



Anti-Armor Javelin Warhead



Man Portable



Modular Architecture



Multi-Launch Capabilities



Scalable & Cost Effective





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MULTIPLE STAKEHOLDERS.
ONE TEAM.



DISRUPTOR

PERFORMANCE

- 5-8 hr. endurance
- 600 km (carburetor)
- 1300 km (EFI)

SPECIFICATIONS

- 83.9 kg max takeoff
- 3.08m length
- 4.8m wingspan
- 32.66 kg empty weight

PAYOUT

- 22.6 kg payload
- MOSA aligned design allows for user defined payloads including ISR, EW and Lethal (frag or penetrator)

LAUNCHER

- Pneumatic launcher
- Vehicle launched option
- Rocket-Aided Take-Off



The Group 3 Disruptor is a runway independent, threat replica aircraft, launched pneumatically or via rocket assisted takeoff (RATO). The airframe is comprised of lightweight carbon fiber and composite materials to achieve an optimal strength-to-weight ratio.



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COMBAT TESTED.
AVAILABLE IMMEDIATELY
FOR ALLIES AND PARTNERS.

DOMINATOR

PERFORMANCE SPECS

- 4.6 hrs - 11.7 hrs endurance*
- 579 km - 1196 km range*
- 3.07m length
- 4.8m wingspan
- 55.79 kg empty weight
- 92.9 kg - 102 kg MTOW**

PAYOUT

- 18.1 kg payload
- Frag or penetrator
- Optional ISR

CONFIGURATION

- Mesh radio
- Hardened GNSS Solution
- Visual Navigation
- Alternate PNT

* Carburetor vs. EFI
** Pneumatic vs. RATO



- ✓ Visual Based Navigation
- ✓ Alternate PNT
- ✓ Autonomous Operation

- ✓ Small Operational Footprint
- ✓ Configurable Payloads
- ✓ Open Architecture





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