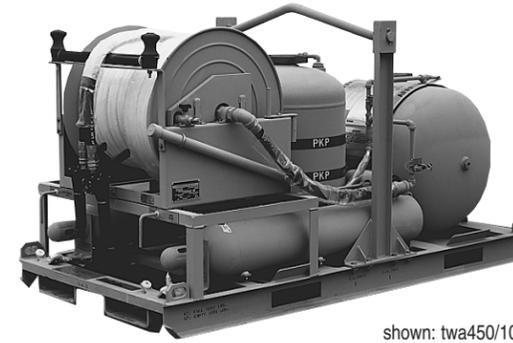


# TWIN AGENT UNITS

## Dry Chemical/AFFF Combined Agent Units



shown: twa450/100 with optional heater and lift bar

# TWIN AGENT UNITS

## Dry Chemical/AFFF Combined Agent Units

### Specifications

Specifications Available as ASCII Text File (0601-DDS.TXT)

Call: 1-800-866-4779

**Dry Chemical Agent Container Assy.** The container shall be welded steel construction built to the latest ASME Unfired Pressure Vessel Code. It shall be designed for a working pressure of 250 psi and identified by manufacturer data plate and serial number.

The container shall include gas tube(s) arranged to fluidize the dry chemical and pressurize the container upon actuation. Gas tube(s) shall include a rubber check valve to prevent agent from backing up into the expellant gas supply. The container shall include an agent pickup tube and outlet sized to the discharge requirements of the unit. A 4.0 inch I.D. agent fill opening with a nickel-plated threaded collar shall be provided.

**Aqueous Film Forming Foam (AFFF) Agent Container Assy.** The AFFF container shall be constructed of carbon steel lined with Formula M121 chemically grafted lining, and shall be built to the latest ASME Unfired Pressure Vessel Code, designed for a working pressure of 250 psi. The internal pickup tube and all the outlet spuds are of stainless steel and sized to the discharge requirements of the container. A 4.0 inch I.D. agent fill opening with a nickel-plated threaded collar shall be provided.

**Container Fill Cap.** Agent container(s) shall be provided with a cast aluminum fill cap(s), hardlube anodized black dyed and Teflon® coated. Fill cap(s) include two integral handles for easy hand tightening and removal. Each cap is equipped with rubber gaskets and safety vent holes to vent pressure while engaging at least 3½ threads. A visual pressure indicator is optional.

**Container Pressure Relief Valve.** Agents container(s) shall be provided with a pressure relief valve to prevent the container from exceeding pressures 10% above maximum working pressure.

**Actuation.** Unit actuation shall incorporate a UL® listed quick opening (QO) nitrogen cylinder valve capable of:

1. manual actuation by QO lever or handwheel action
2. remote actuation using optional truckside panel
3. remote actuation using optional cab actuator

Actuation method(s) employed shall be independent and not obstruct one another.

Each QO valve shall be constructed of chrome-plated brass with hardened stainless steel moving parts in areas subject to wear. The valve shall be fitted with an integral pressure gauge and safety relief device. Valve outlets and connections shall conform to CGA 580 standards for nitrogen service.

### Ordering

To order a Twin Agent Unit, specify the unit model number and capacity, agent type, actuation mode, expellant assembly, agent line type, discharge method and unit skid dimensions. You may want to consult a fire protection professional at Fire Combat before finalizing your Twin Agent purchase, or for custom OEM design.

**Expellant Nitrogen Assy.** Agents shall be expelled by gas pressure from nitrogen gas cylinder(s) conforming to the requirements of DOT 3AA. Cylinder size and quantity shall provide for both agent discharge and unit purge requirements.

Pressure regulator(s) shall be provided to reduce nitrogen cylinder pressure to working pressure. Regulator output shall be adjusted and sealed to discourage field manipulation, and a full flow relief valve shall be provided. High pressure hoses shall be 2250 wire braid hose with standard CGA fittings.

**Agent Lines.** Agent shall be controlled by full port ball valves sized to design flow rates. All pipe and fittings subject to corrosion on the AFFF side shall be stainless steel or brass. Twin agent hand hose line shall be UL® 92 extinguisher booster hose fitted with a protective polyester sleeve and sized to the discharge requirements of the unit.

**Agent Discharge.** All agent discharge nozzles shall be constructed of brass, bronze or hardlube anodized aluminum and be capable of leak free sealing at unit operation pressure. The dry chemical nozzle shall provide a diffused pattern with low recoil and the AFFF nozzle shall provide high quality aspirated foam (use alternate foam nozzles for other foam concentrations)

**Hose Storage.** Manual and electric hose rewind reels shall be of steel construction. Internal fittings shall be carbon steel on the dry chemical side and brass and stainless steel on the AFFF side. Hose reels shall incorporate a friction brake with horizontal roller guides. Discharge nozzle holders shall be provided.

**Agent Purge and Blowdown.** Low pressure agent container piping for system purge and blowdown shall be brass or other suitable material. Dissimilar metals shall be protected against electrolytic corrosion. Low pressure hoses shall have a burst pressure of not less than four times the maximum working pressure of the unit. Check valves shall be provided to prevent agent backflow into nitrogen supply.

**Finish.** Painted surfaces shall be cleaned and primed with an alkyd-phenolic rust inhibiting primer and receive a top coat of red automotive grade polyurethane paint. All hoses, instruction plates and control markings shall not be painted.

**Skid.** Skids for mounting system components shall be low profile welded steel construction with lifting provisions and arranged so complete unit can be securely mounted to truck bed. Finish shall be the same as that used with unit components.

**Operating Instructions.** Control markings, and operating and precautionary instructions shall be permanently affixed near the appropriate controls for operator use.

Call: 1-800-866-4779

**FireCombat**  
A DIVISION OF SENSOR ELECTRONICS CORP.

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Made in USA • CAGE 64903

Fire Detection and Suppression Units and Components

- Gas Detectors • Stationary and Mobile Dry Chemical and Twin Agent Units
- Halon Substitute Units • Portable Automatic Systems • Foam Resupply Trailers
- CAFS • Actuators • Nozzles • Turrets • Hose Reels • Parts

Fire Combat also specializes in custom units to meet unique and OEM fire protection requirements. Call our 800 number to discuss your specific requirements with one of our fire protection professionals.

### Features

- Double-duty superior fire fighting unit combines dry chemical agent for rapid flame knockdown and aqueous film forming foam (AFFF) for securing fire area
- Units sized to protect common hazards with dry chemical capacities from 100 to 1500 lbs. and AFFF premix capacities from 30 to 200 gallons
- Compact skid-mounted design allows easy field placement or mounting on most standard truck beds; can be custom configured for trailers and OEM applications
- Available with Class BC dry chemicals (Purple K or sodium bicarbonate) and choice of 3% or 6% AFFF concentrate
- Totally self-contained unit includes agent containers, actuator, expellant gas, agent lines, hose storage, and discharge methods (nozzle or turret)
- Rugged construction – hardened stainless steel moving parts, corrosion-resistant hoses and finishes, and brass fittings available for long service life
- Polyester fabric jacket surrounds twin agent hoses to guard against snagging on corners and gratings
- Easy to maintain, fully field rechargeable and designed for use by one operator for swift first response situations
- Built to tough DOD military specifications, complies with NFPA 11C, 17, and 414, critical elements meet ASME and DOT codes

### Applications

- Petroleum Production Field Service
- Shipyards, Marinas and Port Operations
- Outposts Beyond Fire District Jurisdiction
- Surface Mining and Belt Drive Systems
- Flight Line and Aircraft Maintenance Areas
- Flammable Liquid Storage and Handling
- Rack Storage of Class A and B Materials
- Industrial Fire and Volunteer Brigades
- Wood Processing and Furniture Production
- Heliports
- Wildland/Urban Interface Fire Control
- New Construction and Hot Work Sites

### Operation

When the unit is in standby mode, the dry chemical and AFFF premix containers are fully filled but only the nitrogen gas cylinder is under pressure. Upon actuation, nitrogen expellant enters both agent containers through the pressure manifold piping system, fluidizing the dry chemical and pressurizing both agent containers for discharge.

Grasping the nozzle firmly, the operator fully unwinds the delivery hose from the hose reel. Once positioned at a safe distance upwind from the fire, the operator opens the

discharge nozzle fully and directs agent to the fire. Dry chemical and AFFF may be delivered independently or simultaneously. Agent is applied until fire suppression is achieved. Use AFFF to secure smoldering materials and flammable liquids.

After the fire is completely extinguished all agent lines are blown clear. The unit is then recharged with agent and expellant gas, individual components are evaluated to operational guidelines, and the unit is returned to service.

# TWIN AGENT UNITS

## Description

### Components



**Combined Agent Container Assemblies**  
 twa100/30  
 twa450/100  
 twa900/100  
 twa1500/200



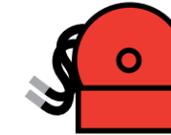
**Actuation**  
 manual quick open (QO) valve  
 truckside actuator  
 electric  
 pneumatic



**Expellant Nitrogen Assembly**  
 110 cu. ft.  
 220 cu. ft.  
 300 cu. ft.  
 400 cu. ft.



**Agent Line**  
 50 ft. x .75 in. dia. twin hose line  
 100 ft. x 1.0 in. dia. twin hose line  
 150 ft. x 1.0 in. dia. twin hose line



**Hose Storage**  
 manual rewind hose reel  
 electric rewind hose reel  
 manual turret



**Discharge Method**  
 "Squeeze-Grip" side/side nozzle  
 "Handgun"  
 Hydrochem nozzle

## Component Availability by Model (Availability subject to change without notice. Call Fire Combat for current models and custom designs.)

Model Number	Nominal Capacity	Agent Container Assy. Capacities	Actuation Options	Expellant Nitrogen Assy.	Agent Line Options	Hose Storage Options	Discharge Method Options	Available Flow Rates	Discharge Time*	Ship Wt. (Empty)**	Dimensions (H x W x D)***
twa100/30	100 lbs. DC 30 gal. AFFF	100 lbs. (45 kg) Purple K 111 lbs. (50 kg) Sodium Bicarbonate 30 gal. (113 L) 3% AFFF premix	manual QO	1-110 cu. ft. (3.2 m <sup>3</sup> )	1-50 ft. (15.3 m) twin hose	1-manual reel 1-electric reel	Squeeze-Grip nozzle Handgun nozzle	4.5 lb./sec.(DC), 60 GPM (AFFF) 8.0 lb./sec.(DC), 95 GPM (AFFF)	22 sec./30 sec. 12.9 sec./19 sec.	583 lbs. (264 kg)	50 in. x 25 in. x 55 in. (1.3 m x 0.6 m x 1.4 m)
twa450/100	450 lbs. DC 100 gal. AFFF	450 lbs. (204 kg) Purple K 500 lbs. (227 kg) Sodium Bicarbonate 100 gal. (378 L) 3% AFFF premix	manual QO remote actuator truckside actuator	2-300 cu. ft. (8.5 m <sup>3</sup> ) 2-400 cu. ft. (11.3 m <sup>3</sup> )	1-100 ft. (30.5 m) twin hose 1-150 ft. (45.8 m) twin hose fixed piping manifold for optional turret application	1-manual reel 1-electric reel	Squeeze-Grip nozzle Handgun nozzle manual turret	4.5 lb./sec.(DC), 60 GPM (AFFF) 8.0 lb./sec.(DC), 95 GPM (AFFF) (engineered for particular hazard)	100 sec./100 sec. 56 sec./63 sec.	1800 lbs. (816 kg)	46 in. x 45 in. x 9.5 in. (1.2 m x 1.2 m x 2.4 m)
twa900/100	900 lbs. DC 100 gal. AFFF	900 lbs. (409 kg) Purple K 1000 lbs. (454 kg) Sodium Bicarbonate 100 gal. (378 L) 3% AFFF premix	manual QO remote actuator truckside actuator	3-300 cu. ft. (8.5 m <sup>3</sup> )	1-100 ft. (30.5 m) twin hose 1-150 ft. (45.8 m) twin hose	1- manual reel 1-electric reel	Squeeze-Grip nozzle Handgun nozzle	4.5 lb./sec.(DC), 60 GPM (AFFF) 8.0 lb./sec.(DC), 95 GPM (AFFF)	200 sec./100 sec. 112 sec./63 sec.	2300 lbs. (1043 kg)	60 in. x 48 in. x 93 in. (1.5 m x 1.2 m x 2.4 m)
twa1500/200	1500 lbs. DC 200 gal. AFFF	1500 lbs. (681 kg) Purple K 1667 lbs. (757 kg) Sodium Bicarbonate 200 gal. (756 L) 3% AFFF premix	manual QO remote actuator	5-300 cu. ft. (8.5 m <sup>3</sup> )	1-100 ft. (30.5 m) twin hose 1-150 ft. (45.8 m) twin hose fixed piping manifold for optional turret application	1- manual reel 1-electric reel	Squeeze-Grip nozzle Handgun nozzle manual turret	4.5 lb./sec.(DC), 60 GPM (AFFF) 8.0 lb./sec.(DC), 95 GPM (AFFF) (engineered for particular hazard)	333 sec./200 sec. 178 sec./126 sec.	4175 lbs. (1893 kg)	68 in. x 94 in. x 98 in. (1.7 m x 2.4 m x 2.5 m)

\*"Discharge Time" equals "Nominal Capacity" of agent container divided by flow rate using one operator.

\*\*For full shipping weight, add weight of dry chemical choice and AFFF premix (8 lb./gal) needed to fill unit (see "Agent Container Assy." Capacities column).

\*\*\*"Width" and "Depth" are skid unit dimensions

## Description

Your choice of unit specifications should follow a thorough hazard analysis. At a minimum, this includes a full definition of your:

- fire hazard** - the type of fuel, potential hazard size, and likely burning configuration factors like fuel pressure, obstacles, fires in 3 dimensions, etc.;
- protection objective** - the relative importance of code compliance, fire extinguishment vs. controlling fire spread, and your escape/rescue mission;
- agent choice, discharge time and flow rate** - match agent with fire class, and define necessary agent discharge characteristics suitable for likely fire configuration;
- unit capacity and components required** - allow a minimum 30 second agent discharge per application point (longer if possible), and address manpower/environmental considerations;
- training and ongoing support needed** - conduct a full assessment of fire fighter skills, and acquire maintenance/recharge supplies for both periodic training and fire emergency response.

### Notes:

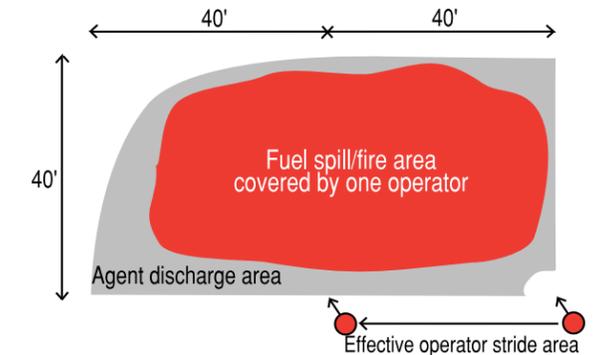
- Coverage representations are based on agent application by trained operators.
- Large fires will require multiple operators with overlapping coverages.
- The presence of obstacles in a fire may require at least two simultaneous operators.
- Maximum coverage and nozzle range depend on factors such as obstacles, wind conditions, agent type and operator experience, among others.

### One Operator (overhead view)

Surface area coverage: approximately 3000 sq. ft. (914 sq. m) using 450 lb. (204 kg) and 100 gal. (378 L) AFFF in 60 sec. (max.) discharge.

(single trained operator applying 450 lb. of Purple K at 4.5 lb./sec.)

**Note:** Operator should approach fire with wind at back.



Effective stride area: approximately 40 ft. (path taken fire perimeter to optimize range of agent application)