



Odin® Hornet Specificationⁱ

This model provides a “self-contained” gasoline powered “slide-in” type Compressed Air Foam System (CAFS). The CAFS shall be designed to fit into the back of a standard length and width pick-up truck or fire service body.

The CAFS shall be designed to discharge water only, air only, foam solution only or compressed air foam from the same discharge outlet. In addition, the consistency of the compressed air foam (expansion ratio), wet/dry shall be fully adjustable.

Engine

The engine shall be a *Briggs and Stratton Vanguard*, 2 Cylinder, 4 Cycle gasoline fueled, pressure lubricated engine. It shall develop 23 hp at 3600 rpm. It shall be of carburetor type fuel system, air cooled with choke operation. It shall have a 16-amp alternator, 12VDC electric start. It shall be equipped with a dry cartridge, air filter and a muffler.

Water Pump

The water pump shall be a *Darley 2BE* single-stage centrifugal pump with a vertically split aluminum case. It shall have replaceable bronze impeller and seal rings on a stainless-steel shaft. The pump seal shall be of a mechanical design.

Air Compressor

The air compressor shall be of the encapsulated screw type, designed and installed to supply a minimum of 40 cfm @ 125 psi (1416 L/min @ 8.6 b) of free air at maximum engine rpm. The compressor air/oil receiver shall be built and designed by the compressor manufacturer.

All air-lines shall be rated to a minimum of 250 psi (17.24 b). All control air fittings shall be of brass or chrome construction. Stainless steel or brass check valves shall be utilized at air injection points to prevent water/solution back-flow into air-lines.

Foam Concentrate Proportioner

The automatic foam proportioner shall be the *Darley Fast Foam 50*. It shall be provided and installed to inject foam concentrate into all foam discharges. The proportioner shall automatically meter the correct percentage of foam concentrate, based on current flow, into the water stream. A check valve shall be provided ahead of the foam injection point to prevent foam solution back-flow. The concentrate pump shall be a 12VDC, electrically driven, positive displacement pump. The concentrate pump shall be rated to flow ½ gpm @ 150psi (1.89L/min @ 10.3b). The proportioner on/off switch, ratio controls, operating instructions and low concentrate warning light shall be mounted on the pump panel.

For sustained operation of the injection system, it may be necessary to operate the vehicles main engine for adequate voltage.

Drive System

The water pump is directly driven off the engine crankshaft. The air compressor is belt driven off the engine crankshaft to the side of the engine. They shall be driven via a dry *Gates Polychain*® drive system. The complete drive system shall have a 2,000 hour rated service life and shall be designed and rated for the imposed speed and load.

Electrical System

All electrical equipment installed by the manufacturer shall conform to current automotive electrical system standards and the requirements of the applicable NFPA apparatus standards. The wiring shall be individually and permanently color and function coded. The installation shall meet SAE Standard J1128 in its latest edition for GXL or SXL temperature rating.

ⁱSpecifications are subject to change and improvements without notice.

® *Gates Poly-Chain* is a registered trademark of the Gates Corporation, dba The Gates Rubber Company.



All exposed wiring shall run in loom with a minimum of 280°F (137.8°C) rating. All wiring loom shall be properly supported and attached to frame members along the entire run. At any point where wire or looms must pass through metal, rubber grommets shall be installed to protect the wire from abrasion.

The main low voltage electrical terminal block and circuit breaker panel shall be provided behind the pump operator's panel in a location providing easy service access.

The electrical connections shall be made using heat shrink and/or weatherproof connectors. All electrical circuits shall be protected with automatic reset circuit breakers or fuses.

Priming System

A *Darley* muffler type air priming system shall be utilized. The primer is capable of priming the water pump through 20' of hard suction hose with a 10' lift. Primer controls shall be mounted on the operator's panel.

Plumbing, Hoses and Lines

All piping shall be stainless steel. Uses of grooved end pipe couplings are required for flexibility and movement of system components on mobile equipment. Hydraulic hoses will only be used for air injection lines and not control air lines. Flexible piping may be used where applicable. Check valves are required throughout the system to maintain integrity and shall be placed so that the air, water foam and foam solution do not inadvertently mix. Drain cocks shall be provided on the water pump to prevent freeze damage.

Tank to Pump

There shall be a brass two piece 2½" tank to pump valve fitted in the module and controlled from the operator's panel.

Inlets

A 2½" NH male suction inlet with cap and lanyard shall be provided on the operator's panel.

Water Only Outlet

There shall be one 2½" NH water only discharge with a 2" valve provided on the control panel. The valve shall terminate in NST threads with cap and lanyard.

CAF Outlet

There shall be one (1) CAF mix point. There shall be a 1½" NH Male CAF outlet on the panel, controlled by the single mix point. A master discharge butterfly check valve shall be installed on the mix point to prevent foam from back flowing into the pump. The CAF mix point controls shall be grouped together on the panel with easy to read calibration marks indicated on the panel. The mix point foam solution valve shall be a 1 ½" ball valve.

Direct Tank Fill

A separate valve with a 1½" NH male connection and plug shall be provided and controlled at the operator's panel for "direct tank fill" operations with a pressurized water source.

Tank Refill

A 1" tank refill line with a 1" valve and flexible, reinforced wire-braid, hydraulic hose shall be provided.



Module Frame

The module frame shall be constructed of aluminum and designed for rigorous fire service use. Main structure will use 2” square wall 6061 grade tubing, ¼” thick wall. The structure will be rectangular in shape.

Corrosion Resistance Treatments

Dielectric tape (laminating type UHMW) is used throughout the construction of the module for dissimilar metal contact surfaces. This will include, but not be limited to control panel to frame, engine mounts to frame, and solution injection unit to frame.

All SS screws, which secure the SS panel to the aluminum frame, will be treated with dielectric liquid. The majority of fasteners throughout the module will be SS. All electrical ground connections to the frame will be treated with dielectric silicone compound. Wire ends will have waterproof and corrosion resistant shrink tube, adhesive lined type terminals and connectors. All electrical plugs in the module will be environmentally sealed *Deutsch* type. The entire surface of the electric fuse / connection box will be treated with a urethane seal coat, to seal out moisture.

Control Panel

The control panel shall be precision cut, 16gauge stainless steel cover overlaid with integrated labels. The instruments, indicators and controls that are located on the control panel shall be positioned in a logical manner and clearly marked to provide for simple and easy operation. The following items shall be mounted on the control panel:

1. Pump Panel LED light strip
2. Foam Solution Control Valve (Wet/Dry Foam)
3. Water Only Discharge Valve; 2½” NH Male Outlet
4. Tank to Pump Valve
5. Direct Tank Fill Valve; 1½” NH Male Outlet
6. 2½” NH Male Suction Inlet with Cap
7. Prime Valve Controls
8. Fast Foam 50 control
9. Air Valve control
10. Operating instructions
11. CAF discharge
12. Water Level gauge
13. Foam Level gauge
14. Compressor Alarm
15. Compressor Overheat light
16. 2½” Master Water Pressure Gauge
17. 2½” Master Air Pressure Gauge
18. Engine Throttle
19. Engine Control
 - a. Hour Meter / Tachometer
 - b. Ignition Switch
 - c. Low Engine Oil PSI Light
 - d. Choke

Labels

All controls, inlets and discharges shall be clearly labeled. The labels shall comply with applicable NFPA standards.



Testing

The completed unit shall undergo a manufacturer’s run-in test prior to delivery. The engine, pump and air compressor shall be operated for a minimum period of six (6) hours, during which time the test operator shall monitor and record the functions and performance of each system component. Compressed air foam shall be produced during the test.

This testing shall be performed to ensure proper system operation and performance prior to shipment. The manufacturer shall provide written certifications that the tested unit meets all performance criteria contained herein (NFPA). Water flow performance shall be tested in accordance with NFPA 1911. Airflow performance shall be measured with a temperature and pressure compensated air flow meter.

Manuals

One (1) copy of the *Operation and Maintenance Manual* shall be provided to the purchaser with each unit. This manual shall include detailed instructions in the operation and maintenance of the overall unit, engine, water pump, air compressor and foam proportioner.

Dimensions

Length	32”
Width	40”
Height	24.5”
Weight	450 lbs

Performance

Water Pump	140 gpm @ 110psi 200 gpm @ 50 psi
Air Compressor	40 cfm @ 125 psi
Simultaneous Flow	80 gpm & 40cfm @ 100 psi
Engine Horsepower	23hp @ 3600 rpm

Warrantyⁱⁱ

Engine	1 year
Compressor	1 year
Water Pump	3year/3000 hours
Chemical Injector	1 year

All fabrication and materials are warranted for a period of two (2) years barring accidents, abuse or negligence. Excluding from warranty are all consumables and parts subject to routine replacement. We will repair or assist in the repair or replacement of the product in its entirety.

ⁱⁱ Covered by the original manufacturer’s warranty.