

SPECIFICATIONS FOR ONE (1) SPECIAL SERVICE FIRE APPARATUS



DEMONSTRATION

An authorized representative of the manufacturer shall provide demonstration of the completed vehicle. Two (2) days of orientation shall be provided and performed by a qualified representative of the manufacturer.

TERMS AND CONDITIONS OF PAYMENT

Full payment shall be paid upon completion and delivery acceptance.

TESTING AND CERTIFICATION

The completed vehicle shall be tested and labeled to N.F.P.A. 1906 standards, 2016 edition by an independent third party certification organization.

The third party organization shall be accredited for testing systems on fire apparatus in accordance with ISO/IEC 17020 or ISO/IEC Guide 65.

The certification organization shall not be owned or controlled by manufacturers or vendors of the apparatus being tested.

The certification organization shall be primarily engaged in certification work and shall not have a monetary interest in the product's ultimate profitability.

The certification organization shall witness all test and shall refuse to certify any test result for a system if the components do not pass the testing required by this system.

There shall be no conditional, temporary, or partial certification of test results. Appropriate forms of data sheets shall be provided and used during testing.

Manufacturer's certification **is not** acceptable. (**Mandatory Requirement**)

The manufacturer shall be certified to ISO 9001

The completed vehicle shall undergo, prior to delivery, a two (2) hour road test with all applicable emergency equipment activated. A certification shall be provided to the purchaser outlining the results of this road test.

CARRYING CAPACITY PLATE

A warning label shall be provided in the cab within sight of the driver stating the seating capacity of the cab/crew cab.

Another warning label shall be provided in the cab within sight of the driver that the occupants must be seated and belted.

DIELECTRIC VOLTAGE TESTING

The wiring and permanently connected devices and equipment shall be subject to a dielectric voltage withstand test of 900 volts for one minute. The testing shall be performed after all body work has been completed. The electric polarity of all permanently wired equipment, cord reels, and receptacles shall be tested to verify that wiring connections have been properly made.

WARNING LABELS

A plate visible to the driver shall show the height, length & GVWR of the completed vehicle.

FLUID CAPACITY AND TYPE LABEL

A permanent label shall be provided and shall state the type and quantity of the following fluids used in the vehicle:

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Drive Axle Fluid
- Pump Gear Case
- Primer Lubricant (If Applicable)

CHEVRON STRIPPING

There shall be 6" chevron stripping decals applied to the rear face of the apparatus. The chevron decals shall be made of high visibility Reflexite™ material that is red / yellow in color and shaped to form an "A" style pattern. A minimum of 50% of the rear body shall be covered with Chevron.

ENGINEERING DRAWINGS

Engineering drawings shall be submitted to the purchaser prior to commencement of the manufacturing process.

These drawings shall show at a minimum the front, left, right and rear views of the vehicle, as it will look at the time of completion.

A copy of this drawings shall be signed and returned to the apparatus manufacturer and become part of the vehicle contract.

There shall be additional "As built electrical" layout drawings of the body shall be supplied upon delivery of the completed unit. These drawings only apply to the wiring layout of the manufacturer's body.

BODY MANUAL - CD & HARD COPY

Two (2)DVD and printed hard copy of the manual(s) shall be provided on operation of the complete apparatus. The manual(s) shall include a troubleshooting guide complete with a recommended daily, weekly and annual maintenance procedures.

Chassis operations, Part and service manuals will be supplied for the engine, transmission and the chassis.

The apparatus manufacturer shall supply a complete wiring diagram for the color coded wiring harness.

CHASSIS SPECIFICATIONS

A Customer Supplied International two door chassis shall be supplied with the following modifications;

Mid point tie downs

Front and rear glad hands hooked to air system for towing

Front and rear licencplates mounts.

Tow Strap for chassis

Recovery Strap for chassis

Battery jumper stud disconnect switch.

All upper lighting will have brush guards coated in Line X

CHASSIS PREPARATION

The chassis shall be carefully inspected for compliance to the required specifications and to assure that it is ready for apparatus construction.

Any components that require relocation or modification shall be done at this time.

WARD NO SMOKE 2

One (1) Ward No Smoke 2 System will be insalled as per DND Specification on the ehaust system before truck is completed at FGFT.

CHAINED IGNITION KEY

The key utilized for the ignition shall be securely chained to either the steering column or the cab dash to prevent loss or removal of the ignition key.

TRANSPORTATION ROAD SAFETY KIT

One (1) standard First Aid Kit shall be provided.

There shall be reflective striping applied to the interior chassis cab doors of the apparatus. The reflective stripe shall be a 3M Scotchlite product.

BUMPER EXTENSION CHECKPLATE APRON

An aluminum checker plate apron shall be installed between the front of the cab and the extended front bumper. This apron shall be trimmed as required to fit the contour of both the cab and the bumper.

Both the front bumper and the checkerplate Apron will be coated in Line X.

FRONT WINCH

The apparatus shall be provided with a heavy-duty winch installation. The winch shall be a Warn model number M12000, 12,000 lb. 12 volt type.

The winch shall be equipped with 100 feet of 3/8" synthetic rope.

The winch shall come with stainless steel fairlead rollers

The control for the winch shall be with a plug-in remote control unit. The unit shall have 25 feet of remote control cable, with forward, neutral, and reverse dead man type hand control. A removable Neoprene winch cover will be supplied.

REMOVEABLE WINCH CARRIER

There shall be a removable winch carrier for the 12,000lb Warn Winch. The winch carrier basket shall have the same weight rating as the winch.

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RECEIVER HITCH - CLASS V

There shall be a receiver hitch installed on the rear of the apparatus. The receiver hitch shall be rated at 12,000 lbs.

RECEIVER WINCH POWER HOOKUP

There shall be a winch quick connect plug installed at each of the side receiver locations. The quick connect plug shall have a weather proof cover.

Each winch connection point shall be tied to the chassis battery with a minimum 2ga. 200 amp rated battery cable.

WINCH CARRIER RECEIVER

There shall be one (1) receiver hitch(s) installed on the side of the apparatus as per the fire departments specifications. The receiver hitch shall be rated at 12,000 lbs.

RECEIVER WINCH POWER HOOKUP

There shall be a winch quick connect plug installed at each of the side receiver locations. The quick connect plug shall have a weather proof cover.

Each winch connection point shall be tied to the chassis battery with a minimum 2ga. 200 amp rated battery cable.

EXHAUST SYSTEM

The vertical exhaust system shall be provided from the chassis supplier. The exhaust system shall be clear back of cab.

EXHAUST SYSTEM HEAT SHIELD

Where the chassis exhaust piping passes under or near a body compartment, the exhaust piping shall be shielded to prevent compartment exposure to radiant heat.

CHASSIS WHEELS

The chassis wheels shall be painted to match the color of the completed vehicle.

FRONT AND REAR MUD FLAPS

Four (4) heavy duty rubber rear mud flaps shall be provided and installed on the apparatus. The mud flaps shall be installed behind the front and rear wheels.

CONSOLE - FGFT PAINTED

There shall be a console installed in the chassis cab with an angled design making it easier to access vital emergency controls. The top of the console shall be easily removable for maintenance and service. The console shall have a 16"W x 17"L x 12"D storage bin with a grey painted finish.

The console will be used to control the CAFS with built in engine information and automatic throttle control system to control CAFS bumper turret discharge as per the DND tender specification.

One (1) divider shall be installed in the console bin.

One (1) six point power bar shall be provided and installed on the interior of the console bin. The power bar shall be connected to the chassis shoreline.

There shall be two (2) 12V DC "lighter plug" outlets with attached cap installed in the console.

AIR INLET CONNECTION - AUTO EJECT

There shall be a Kussmaul 091-28 auto-eject air inlet shoreline installed at the left cab door area and connected into the chassis air brake system. When the vehicle is started the Air Eject automatically disconnects the airline thus preventing the vehicle from being driven away with the line connected. The Air Eject is supplied with the mating airline connector and check valve. A Kussmaul 091-28AK weatherproof adapter kit shall be installed to protect the air eject from the elements.

BATTERY CHARGER PACKAGE - 18AMP

The following components shall be installed:

Battery Charger - Kussmaul - Pump Plus 1000 PLC

A Kussmaul Pump Plus1000 Series Model #091-215-12-PP, 15 amp battery charger and 3 amp Battery Saver shall be installed.

The Pump Plus 1000 with Parasitic Load Compensation (PLC) is a compact, microprocessor controlled, completely automatic, single channel battery charger designed for vehicles with a single battery system. The PLC charger is designed to withstand the shock and vibration encountered by vehicle mounted equipment. The Battery Saver component shall eliminate drain on vehicle's battery system when vehicle is not in use. The system shall automatically disconnect auxiliary vehicle loads from battery when the charger is energized. Parasitic Load Compensation feature is designed especially to meet the heavy duty requirements of emergency vehicles. Parasitic load compensation allows you to input the total number of parasitic load amps on the vehicle. Then the charger will shift the absorption stage set point so the battery voltage will drop to the float voltage when the desired current is reached. This will lead to a longer battery life and no overcharging or overheating.

The charger shall have the following operational specifications:

- a) 120 volts AC input at 3.5 amps
- b) Battery Charger: 12 volts DC output at 15 amps
- c) Battery Saver: 3 amps 12 volt DC output
- d) 8 Pin Selector Switch on front panel
 - a. Battery Type: Lead-Acid, Gel Cell, AGM or Odyssey
 - b. Float / 3-Step
 - c. Battery Saver ON/OFF
 - d. Parasitic Load Compensation
- e) AC power applied light on front panel
- f) System LED Status Indicator on front panel

g) Dimensions of: 9.35” high x 5.9” wide x 4.725” deep and weighs 11 lbs.

Air Compressor - 12V - 100 PSI

The compressor shall be a Kussmaul P/N 091-9-12V 12 volt compressor.

The Auto Pump 12 volt driven air compressor shall ensure that the air brake system is properly pressurized for immediate response of the unit. A pressure switch shall regulate operation and shall automatically sense low air pressure in the brake system and restore the proper pressure. The unit shall have no interference with the vehicle mounted air compressor. The compact compressor shall have sealed bearings and a 15 amp circuit breaker installed in pressure switch assembly.

The air compressor shall have the following ratings:

- 1) 100 PSI maximum rating
- 2) Pre-set at 75 PSI “ON” and 95 PSI “OFF”
- 3) Adjustable differential range of 20 PSI to 100 PSI
- 4) Output:
 - 0.30 SCFM @ 80 PSI
 - 0.35 SCFM @ 60 PSI
- 5) Rating: 12 volt at 11 amps

Shoreline Inlet - Kussmaul Super Auto Eject - 20 Amp

A Kussmaul Super Auto Eject Model #091-55-20-120, 20 amp 120 volt shore power assembly, cover, solenoid input wire, power cord, and plug shall be installed. The 12 volt solenoid shall eject the shore power cord away from vehicle path upon sensing engine start; after ejection, the weatherproof cover snaps into position over inlet. The unit shall sequence energizing of an Auto Eject, eliminating terminal arcing when connecting and disconnecting power cord.

The unit shall have a waterproof back enclosure with watertight cable fittings, which protect mechanism from road contamination. A pre-wired 3 foot AC electrical cord and starting sense wire (side wired) shall be installed.

The assembly shall have the following dimensions: 6.17” high x 4.08” wide x 2.8” deep with 4 lb. weight.

Cover color to be yellow.

Other colors available, please specify if otherwise: red, blue, white, gray, black.

Battery Charger Remote Digital Display

The charger shall include a Model #091-199-001 single bar remote digital display.

GOOSE NECK MAP LIGHT

A flexible Federal Signal LED Littlite "Goose Neck" map light shall be provide in the cab and wired into the chassis 12 volt electrical system. This light shall have an integral on/off controls switch.

LIGHTED FRONT BUMPER POLE/GUIDE LIGHTS

Two (2) lighted front bumper Guide Lights (pole lights) shall be installed at the outer front most portion of the front bumper, one (1) each side. These lights shall be connected into the chassis parking light circuit.

CROSS CONTROL MANSAYER BARS

Fire Research Mansaver bars shall be installed at each end of the cross control pump operator's panel. These bars shall pivot inward to allow easy access into the walkway area.

An low fuel level light and buzzer shall be installed on the pump panel and wired to the chassis fuel system.

WATEROUS MODEL DND TOP MOUNT CAFS UNIT

A modular compressed air foam unit shall be provided as described herein. It shall be designed and constructed to discharge water, foam solution or compressed air foam from specified discharge ports. In addition, the consistency of the compressed air foam (expansion ratio) from each discharge shall be individually adjustable.

Skid:

A steel frame weldment shall be provided to support and contain the CAFS unit, constructed of steel tubing. The frame shall be sufficient to support the weight of the module while on the apparatus and for loading and unloading.

Prior to the installation of any system components, all steel structural members shall be sand blasted to remove all rust, cale and surface impurities. The frame shall be finished with a scratch and impact resistant medium gloss black urethane powder coat which is electrostatically applied, and heat cured.

A portion of the top of the unit that must be left open for cooling air for the engine. The drains may be located on a remote mounted panel. All fastening hardware used in the construction of the unit shall be Grade 5, Grade 8 or Stainless steel as deemed necessary by the manufacture. Front panel shall be constructed of .125" smooth aluminum plate with a scratch and impact resistant non-glare, wrinkle black polyester powder coat finish with spring latches for easy removal and install. Floor pan provided with hole locations to be determined per OEM. Panel shall be .063" smooth aluminum and shall be secured with double back adhesive tape.

Provisions made for holes with Riv-Nuts for Man Saver mounts and grab handles locations to be determined.

Performance:

The compressed air foam system shall be capable of developing a minimum of 160 gallons per minute of water

at 125 PSI and 80 cubic feet of air at 125 PSI simultaneously NFPA rating). The unit shall also be capable of pumping water or air independently. With the air compressor operating in the "unload" mode, the following pump performance ratings shall be achievable:

150 GPM @ 200 PSI
220 GPM @ 100 PSI

The unit shall also be capable of producing 80 CFM of air at 125 PSI independently.

Power Unit:

A water-cooled Kohler diesel four-cylinder, four cycle diesel developing 74 horsepower at 2600 RPM shall power the water pump and air compressor. The engine shall be of industrial power unit design, electric start, 12-volt electrical system with 80-amp alternator, spin-on oil filter, spin-on fuel filter and exhaust muffler/catalyst. Tier 4Final The engine shall draw its fuel from the chassis fuel tank. Chassis battery shall be utilized for engine electric start.

An extension hose shall be installed on the engine oil drain with a valve located at the oil pan and a plug installed in the end of the hose to facilitate oil changes. A drain valve shall be provided in the lowest point in the cooling system. Exhaust outlet location to be determined.

Power Transmission:

The water pump and air compressor shall be driven by a dry Poly Chain synchronous belt drive power transmission. The drive system shall utilize 8mm pitch sprockets and belts, sized to handle the speed and horsepower requirements of the water pump and air compressor. The power transmission shall be capable of operating in ambient temperatures of -65 degrees F to +185 degrees F. The transmission shall have sufficient power handling capacity to allow extended operations at full load while maintaining acceptable operating temperatures and component life.

Electrical System:

All electrical equipment installed by the manufacturer shall conform to current automotive electrical system standards and the requirements of the applicable N.F.P.A. Apparatus Standard. In addition, the completed unit shall not produce any RFI emission. Wiring shall be individually and permanently color coded. The insulation shall meet SAE Standard J1128 in its latest edition for GXL or SXL temperature rating. All exposed wiring shall run in loom with a minimum 280-degree Fahrenheit rating. All wiring looms 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.

An electrical harness quick disconnect shall be provided for engine electrical connections.

Electrical connections shall be made using heat shrink or weatherproof connections. Circuits shall be protected with automatic reset circuit breakers. An electrical connection plug shall be provided in the pump module to allow for truck builder to connect for in cab warning lights and a power supply for engine control.

Water Pump:

A Waterous CPD-2 single stage centrifugal water pump shall be utilized. It shall utilize a high tensile aluminum case, vertically split, balanced bronze impeller, ball bearings, wrap-around wear rings, mechanical seal, 3" suction inlet and 2" discharge outlet.

A 3/8" line for cooling water from discharge plumbing shall be routed to the tank fill connection with an inline check valve to allow water flow during pump operations and not interrupt drafting operations.

Pump Primer:

A Waterous VPO/VAP 12v electric oil-free priming system shall be utilized that is capable of priming the water pump through 20 feet of 2.5" hard suction hose with a 10-foot lift. Primer controls shall be mounted on the operator's panel.

Air Compressor System:

The air compressor shall be an oil flooded rotary screw type, sized to supply a minimum of 80 SCFM of useable air in installed configuration. The compressor input shaft speed shall be approximately that of the water pump impeller shaft speed. The system shall be designed to produce the compressor's rated output when the water pump is developing 130 to 140 PSI in a "no flow" state. The air compressor shall be capable of maintaining prolonged pressures from 100 to 175 lbs. per square inch throughout the service life of the compressed air foam system.

A pneumatic modulating inlet valve mounted on the air end inlet shall control the compressor. This controller shall sense air pressure and control the air delivery of the air end while maintaining constant pressure. An automatic balancing system shall be provided to maintain the air pressure within plus or minus 5% of the water pump pressure, throughout the pressure range. A Waterous Auto Sync controller shall be provided on the pump operator's panel with the following settings:

AUTOMATIC: Air pressure matched to water pressure.

FIXED: Air pressure defaults to manual setting on compressor mounted control valve.

UNLOAD: Air pressure reduced to around 40 PSI for standby or water/solution only pumping operations.

All compressor system oil shall be routed in wire braid reinforced hose conforming to SAE 100R1 standards for hydraulic hose. Air control hoses shall be color coded to simplify troubleshooting. The compressor system sump/pressure vessel shall be constructed in compliance with ASME standards and shall bear an ASME

certification plate, affixed to the outside of the vessel. The sump shall have a sight window installed for oil level monitoring, a threaded oil fill cap and a drain valve located in the lowest point. The air compressor system shall incorporate a spin-on, full-flow oil filter module to the cooler. A modular air/oil separator unit with spin-on element shall be provided and installed within close proximity to the sump/pressure vessel. Replacement elements shall readily available.

The air compressor system shall be cooled by an air-to-oil heat exchanger constructed of aluminum. It shall incorporate a 12-volt DC electric cooling fan controlled by a thermostatic switch. The air compressor cooling system shall be capable of maintaining recommended operating temperatures throughout the full operational range in ambient temperatures up to 115 degrees Fahrenheit.

A dry cartridge type air intake filter shall be provided on the compressor air inlet, mounted on top of the CAFS module. Replacement air filters shall be readily available.

NOTE:

The compressor Auto Sync can only be controlled from one location. The control for the Auto Sync shall be located on the main control panel. If the system has in cab controls that are utilized then the Auto Sync can be switched to

Automatic.

The Auto Sync switch can stay in the Automatic mode if desired for ease of CAF operation. Compressor System Protection A warning system shall be provided to alert the operator to high temperature conditions. A red warning light and an audible alarm shall be mounted on the pump operator's panel.

Foam Proportioner:

A Waterous Aquis 1.5 automatic foam proportioner shall be provided and installed to inject foam concentrate into the foam discharge manifold. The proportioner shall automatically meter the correct percentage of foam concentrate, based on current flow, into the water stream utilizing a microprocessor controller. Flow shall be measured with a 1.5" x 2" paddlewheel sensor. An Akron waterway check valve shall be provided ahead of the foam injection point to prevent back-flow. A 12-volt electric positive displacement plunger pump with brass body shall be rated to flow 1.5 gallons per minute and pressures up to 250 PSI. The proportioner control head shall be mounted on the pump panel.

Inlet Plumbing:

Pump inlet piping shall be 3" stainless steel schedule 10 with a Akron tank to pump valve which is electrically controlled at the pump panel and includes a provision for remote in-cab control. Flange on valve for tank connection 3" approximately 3.5" outside diameter to allow for hump hose connection to tank. An overboard pump inlet with 2.5" Akron valve and 2.5" Storz connection with cap shall be provided on the RH curb side of the unit. This valve shall have a swing-type control located on the valve. Victaulic type couplings shall be utilized in the pump inlet plumbing for flexibility and improved serviceability.

Direct Tank Fill:

A 2.5" direct tank fill shall be mounted on the RH side panel of the module with panel connection 2.5" STORZ. A 2.5" Akron valve with swing control through panel with 2.5" VIC connection on elbow behind panel.

Discharge Plumbing:

Discharge plumbing shall include a stainless-steel distribution manifold and welded stainless steel pipe Schedule 10. Discharges shall be extended from the manifold with wire braid reinforced hydraulic hose with stainless steel connections. Victaulic type couplings shall be utilized in the discharge plumbing for flexibility and improved serviceability. A 2" tank fill line shall be provided.

Two (2) 1.5" discharge water/foam solution/CAF discharges outlets with NPSH male connections with top-mount panel controls and manual air valves on operator's panel shall be provided on the lower left and right side of the pump module.

One (1) 1.5" water outlet with globe-type adjustable discharge valve to provide supply for under truck spray nozzles, terminating in a 1.5" NPT female for OEM extension. The OEM must provide hose or flexible connection from valve to prevent damage to plumbing. One (1) 2.5" water/foam solution/CAF solution discharge for right rear shall be top-mount panel and manual air valves on operator's panel and terminate in a 2.5" Victaulic for OEM extension to the discharge location. Discharge control to be top-mount panel actuated. One (1) 2" NPT male connection shall be provided to supply water/foam solution/CAF to front turret. The front turret supply shall also include a 1/2" electric air valve installed on the air manifold with toggle switch for cab console mounting to for CAF operation.

Two (2) 1.5" water/foam solution/CAF discharges to supply hose reels with top-mount panel controls and manual air valves on operator's panel, these shall terminate 1.5" NPT female x 2" VIC for OEM extension to the reels.

Discharge valves are to be Akron brand. All discharge plumbing shall be schedule 10 and shall be designed and tested to a minimum 500 PSI burst pressure.

Drains:

Drain valves shall be provided to drain water from the water pump and all water/foam plumbing located inside the module.

Air Plumbing:

All air plumbing components shall be rated to a minimum of 250 PSI. Stainless steel or brass check valves shall be provided at all air injection points to prevent water back-flow into the air hoses. All hoses shall be routed in a neat and orderly fashion, secured to the frame with insulating clamps and located away from any heat sources.

Pump Panel:

The top mount pump panel shall be constructed of .125 smooth aluminum plate with a scratch and impact resistant non-glare, wrinkle black polyester powder coat finish, applied to a thickness of 1.5 to 3 mils. The following controls and instruments shall be provided on the panel:

Engine control panel supplied with engine.
Shielded pump panel LED strip lights and switch
2.5" master pump pressure gauge, 0-300 PSI / 0-2000
KPA liquid filled
2.5" master intake pressure gauge -30-300 PSI /-0-2000
KPA liquid filled 2.5" master air pressure gauge, 0-300 PSI / 0-2000 KPA
liquid filled
Air compressor temperature gauge with light and alarm
Engine oil pressure on engine control display
Engine temperature on engine control display
Hours on engine control display
Volts on engine control display
Engine ignition/start switch
Engine throttle control
Auto Sync compressor controls and instruction plate
Aquis foam proportioner control head and instruction plate
Innovative Controls top-mount valve controls
Priming system controls and instruction plate
Quarter-turn compressed air discharge control for all
CAFS discharges, located next to the
respective water valve control
Auxiliary compressed air outlet and valve control on side panel
Electric tank to pump valve control
Tank fill valve control
FRC LED water level
FRC LED foam level
Labels/Tags to be supplied and installed by truck builder. No labels provided.

Top Mount Valve Controls:

Top mount valve controls shall be Innovative Controls brand which use an ergonomically designed T-handle that unlocks when squeezed and locks when released. This provides reliable, smooth and safe operation as well as optimal incremental flow control for enhanced CAF operations.

FoamFill:

A Waterous FoamFill foam tank refill system shall be installed in the pump module. With pickup connection and controls on either the right or left side panel of system. The FoamFill shall utilize a ¾" brass quick-connect and pickup wand capable of delivering a minimum of 10 GPM flow of most class-A foams.

Cab Controls (Ship Loose)

The following items shall be shipped loose for OEM installation on the cab console: Secondary Engine control panel supplied with engine.

Remote FRC mini water level display head with pressure transducer

Remote FRC mini foam level display head with pressure transducer

Tank to pump valve remote controller, Akron

Toggle switch for front turret air valve

Compressor temperature warning light and connector

Engine oil pressure on engine control display

Engine temperature on engine control display

Hours on engine control display

Volts on engine control display

Engine ignition/start switch

Engine throttle control

2.5" water pressure gauge, 0-300 PSI / 0-2000 KPA

2.5" air pressure gauge, 0-300 PSI / 0-2000 KPA

Remote Aquis foam system on/off control and 6-meter cable

Other items to be shipped loose:

(1) Foam tank low level switch (side mount)

(2) Foam fill switches (side mount)

(1) Pick-up wand and hose with connector for FoamFill

(2) 1.5" NPSH cap & chain

(2) STORZ adapter Screen intake installed

(2) STORZ cap

(1) Q-2410132 CHK VLV FXF for front turret

Manuals:

Two (2) copies of operation and maintenance manuals shall be provided to the purchaser with the unit. Manuals shall include detailed instructions in the operation and maintenance of the overall unit, engine, water pump, air compressor and foam proportioner.

Warranty

The Waterous modular compressed air foam system shall be warranted by Waterous for a period two (2) years. A copy of the Waterous limited warranty shall be provided.

PLUMBING AND PIPING

All plumbing for discharge outlets and suction inlets shall be heavy duty Stainless Steel Schedule 10, or heavy duty, high pressure, wire reinforced flexible hose with stainless steel couplings.

Victaulic couplings shall be used on the plumbing lines to take tension off piping and to permit flexing and movement without damage to the pump and its components.

Heavy duty U-bolt clamps and bracing shall be used on all plumbing lines and connections were required for firm vibration free installation.

UNDER TRUCK DISCHARGES

There shall be a 1.5" air operated, cab discharge & valve plumbed to four (4) ¾" ground spray nozzles. These discharges shall have a 1.5" cab air operated valve, ¾" plumbing and nozzles to both sides and front of the truck, they will be plumbed into the CAF System engine and pump.

2.5" REAR DISCHARGE - RIGHT

One (1) 2.5" gated discharge shall be provided at the rear of the apparatus body, offset to the right side. This discharge shall be provided with a 2.5" 1/4 turn ball valve with replaceable ball, seals and "O" rings.

This discharge valve shall be installed behind the pump panel and controlled at the pump operator's panel.

This discharge shall be equipped with a chrome 30 degree adapter, chrome plated rocker lug cap, and retaining chain.

MONITOR - FIREFOX™ ELECTRIC REMOTE CONTROLLED

An Akron FireFox™ electric remote controlled 500 gpm rated monitor shall be supplied and installed. The monitor shall have a single waterway constructed of lightweight Pyrolite. The monitor shall have cast-in turning vanes in each elbow and a fully enclosed 12 volt motor / gears with manual overrides for both horizontal and vertical rotation that can be operated simultaneously. The monitor is not to exceed 11 ¾" high and 11 ½" wide. The vertical travel shall be from 45° below to 90° above horizontal with adjustable stops at -20° and +45°. The horizontal rotation shall be 320° with adjustable stops at +- 90°. The logic box shall include coated, solid state components to resist water corrosion. Each control box shall control the vertical and horizontal rotation of the monitor, and the pattern of the nozzle.

A joystick shall be supplied to operate the FireFox™ monitor. The joystick shall control the electric valve, monitor nozzle direction and flow pattern of the nozzle. The joystick shall incorporate an automatic oscillation on/off feature and automatic stow button.

An Akron FireFox™ 12V electric operated Pyrolite monitor nozzle (#3293) shall be supplied with the monitor. The monitor nozzle shall have spinning teeth for an effective fog pattern complete with a flush feature to eliminate debris build-up. The nozzle shall have an adjustable baffle with the capacity to flow 30-60-95-125gpm of water. The monitor will also come with a smooth bore tip for CAFS operation.

An Akron 2" electric valve shall control water flow from the pump to the monitor.

A combination of 2" heavy-duty Galvanneal piping and Class1 SBR synthetic rubber hose with stainless steel couplings shall be routed from the pump to the remote monitor. The piping shall come equipped with an automatic drain.

THREAD TYPE - STORZ - DISCHARGE 2.5" & 1.5"

The Storz & Camloc threads and caps shall be provided for the 2 x 1.5" Discharges & 1 x 2.5" Discharge and 1 x 2.5" Suction Inlets.

HOSE REEL - HANNAY F-SERIES

A Hannay F-Series hose reel shall be supplied and installed on the fire apparatus. The hose reel shall have the capacity to hold 200' of 1.5" hose. The location of the hose reel shall be at the Fire Departments discretion.

The exterior of the reel shall have an aluminum polished finish.

The hose reel shall have a power rewind via a chain and sprocket drive with a 12V electric 1/3hp motor. An auxiliary back-up manual gear-driven rewind with a detachable handle shall be provided.

The hose reel shall be wired into the chassis battery system and shall be complete with a momentary push button to rewind the reel.

The hose reel shall come with a male 1.5" outlet and special riser and/or a larger drum to prevent "kinking" for Niedner hose.

The hose reel shall have a single outrigger roller and spool assembly to guide the booster hose from and to the reel.

There shall be 200' of Niedner Reeltex hose supplied for the hose reel. The hose shall be a single jacket construction of 100% virgin spun polyester combined with a special helical interior reinforcement. The outside jacket shall be treated with red Encap™ elastomer which shall completely encapsulate the jacket fibers.

INDIVIDUAL FOAM TANK

An individual foam tank shall be provided and installed. This foam tank shall have the following capacities:

20 Imperial gallons
75 liters

The foam tank shall be provided as a stand alone individual tank and shall be located as required for the specific pump/tank/body combinations. This foam tank shall be piped to the foam system. The tank shall have a fill tower with cover labeled "FOAM FILL ONLY".

BOOSTER TANK

The booster tank shall have the following capacities:

1200 US gallons

This tank shall be provided with a 25-year warranty apparatus builder.

The tank shall be low profile in design to allow for easy access to the main hose bed and improved vehicle handling.

The tank shall be constructed of copper alloy corrosion resistant steel.

Copper alloy is an atmospheric corrosion resistant high strength alloy intended primarily for applications requiring durability, reduced weight and maintenance.

Copper alloy has five to eight times the atmospheric corrosion resistance of structural carbon steel (copper content .02%).

Due to the excellent corrosion resistance, these metals may be used unpainted and exposed to harsh atmospheric conditions, as they will develop a tight protective oxide film.

The tank shall be hot dipped galvanized with a five-step process inside and outside. This process provides the tank with a long life corrosion resistant finish.

The tanks shall be manufactured to withstand structural impacts and repeated rapid temperature fluctuations without stress or failure.

The tank shall have a full flush mounted lid. The lid shall be externally fastened around the outside perimeter of the tank. Access to the tank shall be a requirement to perform quick and easy inspection of the entire tank interior without cutting and including costly downtime.

The tank shall be mounted securely to the body frame complete with spring loaded mounting brackets to allow for flexing.

The tank shall be mounted separately from the body and shall be easily removable without disturbing the apparatus body.

A large 9" x 13" hinged covered fill tower with a removable screen shall be provided at the front of the tank.

A 4" diameter over flow shall be routed from the fill tower to the left rear of the body behind the rear axle to permit traction.

The tank water pickup must be designed to use 95 percent of the water in the tank without pump cavitation.

A tank drain shall be installed at the bottom forward section of the tank.

TANK DRAIN

The tank shall have an Akron 1.5" ball valve controlled tank drain installed in the bottom of the tank and accessible from the ground. This valve shall be controlled from the pump operator's panel with a sealed heavy-duty aircraft style cable.

2.5" EXTERNAL TANK FILL - REAR LEFT

There shall be a 2.5" external tank fill provided at the rear left of the apparatus body.

Internally mounted check-type fill valve. Capable of flowing at a rate in excess of 1,000 gallons per minute. Self deflecting, requiring no additional diffusion device. Stainless steel, spring actuated piston-type sealing mechanism to minimize seal wear and provide positive sealing of valve after shutting off at feed source. Valve seal designed to be self-cleaning, utilizing EPDM rubber.

10" NEWTON DUMP VALVE - 180° DEGREE SWIVEL

One (1) 10" Newton "Quick - Dump" with manual valve shall be provided at the rear of the apparatus. This valve shall extend out the center of the rear body with the control lever offset to the left side of the dump valve. The telescopic dump chute shall have a dimension of 8"H x 12.5"W to allow for a maximum dump rate and extend up to 36". The chute shall have the capability of swinging 180° so it can be used on the left, rear and right side of the truck.

A Newton manually operated telescoping extension chute shall be provided for the dump valve. The dump chute shall be painted to match the apparatus color

TANK FILL LINE

A 2" tank fill line shall be installed from the pump to the tank with an Akron 2" 1/4 turn ball valve and controlled from the pump operator's panel.

The plumbing shall be a combination of heavy duty galvanized with high-pressure flexible piping.

APPARATUS BODY

The body shall be fabricated with the highest quality components available, and acceptable to the fire service industry. Only new components shall be in the manufacturing process.

The body shall be engineered and designed to provide a low center of gravity and carry a correct load-distribution.

The entire body superstructure and sub frame shall be constructed of heavy-duty tubular Steel and channels to provide a sub frame body design. The use of tubular Steel and channels shall provide for extreme strength, maximum durability, and maximum resistance to buckling and failure.

Skilled craftsmen shall perform all welding operations on the body. All welding shall be electronically with the highest quality components. Certified welders shall perform all welding. Proof of welder certification shall be provided with the completed vehicle.

BODY SUBFRAME

The body framework shall be assembled on a jig, and shall be clamped together and squared. The framework shall be electronically welded with digital pulse welders forming the integral superstructure.

The body frame rails shall be constructed of Galvanneal Steel, 3" x 3" tubing, with a wall thickness. The front cross member shall be a heavy duty 3" x 3" Galvanneal Steel tubing providing maximum strength and durability.

The rear crossmembers shall be heavy duty 3" x 3" Galvanneal Steel tubing providing maximum strength and durability at the rear section of the body. These body crossmembers shall extend the full width of the body. The crossmembers shall provide support for the body side compartments and rear tailboard section.

The body sub frame and the chassis frame shall be insulated and separated by a rubberized belt. The body shall be mounted to the chassis frame rails with six Grade 8 spring loaded side mounting plates. This shall provide for maximum mounting strength and flexibility.

WHEEL WELLS

The wheel well frame and construction method shall allow for the wheel well fender to be easily removable for servicing of the suspension or axle. The wheel well fender shall be attached to the body sub frame with noncorrosive stain-less steel fasteners and shall be polished stainless steel wheel fenders with heavy duty mud flap mounting locations.

CORROSION PROTECTION

All body components or attachments made from dissimilar metals shall be fastened to the body utilizing an UHMW/Polyethylene material to prevent metal-to-metal contact preventing dielectric corrosion.

All fasteners used in attaching or fastening or aluminum panels shall be installed with stainless steel hardware. Rivets shall not be acceptable.

All fasteners shall be installed in a manner, which shall involve drilling, tapping, and application of non-corrosive grease before the stainless steel bolts are installed. Self-tapping screws or screws without threads shall not be acceptable.

WALKWAY

The walkway shall be manufactured and constructed using heavy duty 2" x 2" x Galvalineal Steel tubing.

A 16" x 4" x steel reinforcement backing plate shall be built into the superstructure, one (1) at each side of the walkway framework. This area is where center access steps shall be attached.

The walkway framework shall be primed and painted prior to final installation onto the chassis frame rails. The rear cab at the walk way will be and Line X lined as per the DND specification.

Isolation tape (UHMW) shall be installed between the walkway floor and the framework prior to installation.

BODY COMPARTMENTS

The body compartments shall be fabricated with 3/16" 5052 marine grade aluminum panels.

These panels shall be non-corrosive, durable, and add strength and integrity to the body construction.

The interior compartment seams shall be sealed and caulked with a permanent, pliable automotive type sealer.

All compartments shall have a 1" drop on the lower edge of the door opening to accommodate the door seal, and to stop moisture from entering the compartment. **(Mandatory Requirement)**

All compartments shall have sweep out floors. All compartments shall be fitted with vinyl matting.

All compartments shall have an aluminum drip molding installed over the top of the compartment doors.

All compartments shall be weatherproof.

AMDOR ROLL UP DOORS

The compartment doors shall be Amdor Roll-Up type doors to include: double wall aluminum box section slats with integral hinge joint and recessed slat seal, reusable end shoes with snap-in securement, double wall aluminum reinforced bottom rail with either Stainless Steel Lift Bar door latching system, aluminum track with

side frame, sill plate, and top gutter with non-marring top seal, side seals, bottom seal, with all wear component material to be Type 6 Nylon.

The slats shall have a true box section with a flat interior surface to prevent equipment hang-up. The slats shall have a face depth of 1.0 inches and a wall thickness of 0.045 inches. Each slat incorporates a recessed slat seal to weatherproof the compartment and reduce rattle between slats.

For every inch of height an integral continuous hinge joint spans the width of the door to provide superior strength.

The door glides on non-interlocked end shoes. Each end shoe is independent and positively secured by an exclusive snap-in device. Door slats can be easily removed and replaced when required.

The Stainless Steel Lift Bar system shall be provided to keep the door securely closed. This system complements the superior strength of the bottom rail with bottom seal and integral reinforcing flange.

Wear components are constructed of Type 6 Nylon to provide maximum strength and durability. Type 6 Nylon is a naturally lubricating material, which provides exceptional temperature characteristics.

Each door is equipped with slat, top, bottom and side seals to keep moisture and dirt on the outside. The non-marring top seal provides a seal without marking the door surface.

The rear interior wall of the cabinets **shall(E)** be provided with foot man loops sized to accommodate two (2) inch wide web straps that will be used to hold stowed items securely within the compartment. The loops **shall(E)** be spaced on 10 inch centres.

Two rows of foot man loops **shall(E)** be provided; one row positioned approx six (6) inches up from the bottom of the compartment and one row positioned approx 16 inches from the top of the cabinet.

LEFT SIDE BODY COMPARTMENTS

The following compartments shall be provided on the left side of the apparatus body as per the DND specification with plywood provisions.

Two (2) compartment measuring 56"W x 38"H x 20"D.

RIGHT SIDE BODY COMPARTMENTS

The following compartments shall be provided on the right side of the apparatus body as per the DND specification with provision for plywood.

Two (2) compartment measuring 56"W x 38"H x 20"D.

COMPARTMENT MATTING

There shall be versatile PVC matting supplied on the all body compartment floors. The matting shall be interlocking and 1" high to allow for air movement.

The compartment door at the L1, L2, R1, R2 location shall be locking Amdor roll up style.

DOOR STRAPS

Four (4) nylon handhold straps shall be installed on the specified compartment doors to assist in closing the door.

BODY HAND RAILS

The body hand rails shall be 1 1/4" in diameter. These handrails shall be extruded aluminum with rubber extruded grips for maximum hand grip and safety.

Each hand rail shall be installed and supported with chrome plated polished cast brackets.

The hand rail brackets shall be provided with an isolation gasket and held in place with stainless steel bolts.

One (1) additional folding step(s) shall be provided and installed as directed.

WALKWAY STEP

Two (2) fixed step(s) shall be provided and installed at the side of body at the walkway as per M0991-M0997

ELECTRICAL SYSTEM

The manufacturer shall design the wiring system for the apparatus in accordance to the SAE, Society of Automobile Engineers.

The manufacturer shall determine the circuit loads and design the system to accommodate these loads with appropriate circuit routings and relays.

All wiring harnesses shall be properly secured and routed. All passages required for routing shall be grommited and sealed as required.

All wiring shall be easily accessible for servicing.

All wiring shall be SAE J1128 and SAE J1292 GXL type wire, as per fire industry standards.

All exposed wiring shall be crimped and heat shrunk for added protection.

The wiring harnesses shall be pre-engineered for correct circuit loading and shall be custom made. The harnesses shall be function, number, and color coded and shall be fitted inside automotive high temperature loom. All connections to the main panel box must be made with waterproof automotive style guided pin locking connectors (NO EXCEPTIONS).

An enclosed main electrical distribution panel that provides protection against dirt, dust, oil, and water shall be installed in the upper section of the pumphouse.

All electrical connections to the panel shall be made through positive locking environmentally sealed connectors. The panel features a solid state power distribution board(s) with visual diagnostics.

All circuits are protected by automatic resetting circuit breakers. All breakers shall be properly sized to the circuit load and are direct plug in sockets.

All wiring shall have a strain pull test on wiring connections of 40 pounds.

One (1) Federal Signal Legend LPX model #LPX53D-NFPA LED lightbar shall be provided.

The lightbar shall be designed to meet the minimum clearing requirements for Zone A, upper and shall be 2.5 in. height” x 52.7 in. length” x 11.2 in. depth”. The lightbar shall incorporate Solaris™ LED reflector technology and ROC™ Reliable Onboard Circuitry. The LPX lightbar shall be NFPA1901 compliant.

The base shall be constructed of aluminum extrusion with polycarbonate domes. All top dome covers for this model shall be clear. The lightbar shall consist of a traditional wire harness.

The lightbar configuration shall be: (4) five-inch reflectors w/4 red LEDs, (2) five-inch reflectors with w/6 white LEDs, (4) four-inch reflectors w/4 red LEDs and (4) two-inch reflectors w/9 red LEDs. (2) two-inch reflectors w/3 red LEDs.

The lightbar model includes 25-foot cable harness and black permanent mount kit.

FRONT EMERGENCY LIGHTING

There shall be two (2) Federal QuadraFlare™ LED red warning lights (model QL64X-R) complete with chrome bezel and mounting gasket shall be installed on the front of the chassis grille. These lights shall have red lenses.

HEADLIGHT WIG WAG FLASHER

The chassis high beam headlights shall be equipped with an alternating flashing , wig wag headlight system. An electronic flasher shall be used to control the lights. A control switch panel shall activate the flashing system.

SIDE EMERGENCY LIGHTING

Four (4) Federal QuadraFlare™ LED red warning lights (model QL64X-R) complete with chrome bezel and mounting gasket shall be installed on the rear fender skirts of the body. The lights shall be located, Two (2) on the left side and Two (2) on the right side.

REAR EMERGENCY LIGHTING - LOWER

There shall be two (2) Federal QuadraFlare™ LED red warning lights (model QL64X-R) complete with chrome bezel and mounting gasket shall be installed on the rear lower portion of the apparatus body. These lights shall have red lenses.

REAR WARNING LIGHTS - UPPER

Two (2) Federal Ultra Star US6 red Strobe beacon lights shall be provided and mounted on the upper rear stanchions, one (1) each side, and controlled by a switch located in the cab. The beacons shall be red in color.

SMARTSIREN PLATINUM

One (1) Federal Signal SmartSiren Model #SSP3000 combination electronic siren and emergency light control system shall be provided. The siren shall be 100/200W/12V, with remote amplifier and control head utilizing Federal Signal Convergence Network. The siren system shall consist of small, remote-mounted compact control/relay unit with SignalMaster control capability and an amplifier. Communication between the control head and the amplifier unit shall be via the Convergence Network. Programming of SSP3000 is done through Microsoft Windows based software provided via CD.

The SSP3000 siren/light control system shall be equipped with a four-position slide switch. Each slide switch position shall be configured to operate any combination of 14 relays, PA, horn ring transfer, and siren enable. The siren shall produce wail, yelp, priority, and hi-lo siren tones, as well as an air horn and manual sounds. A horn ring transfer features shall allow horn ring control of siren tones (Tap II). Public address (PA), with and without common microphone operation, and radio rebroadcast shall be available. The siren shall have for 14 relay outputs for control of light bars, other auxiliary lights, and accessories.

It shall consist of easily accessible external volume adjustment for radio rebroadcast/PA. Visual operation diagnostics shall emulate power supplied to vehicle control system including SM, lightbar, siren activity and data transmission. In addition, 14 auxiliary relay outputs consisting of ten 10-amp active high/low relays and four 3-amp active high relays shall be contained in the amplifier. Fuses for these relays will illuminate if blown for diagnostics. The SSP3000 amplifier shall consist of four programmable inputs to be used with any function (2 high side triggered and 2 low side triggered).

The siren control head shall measure 3.26" high x 6.81" long x 1.62" deep; the amplifier shall measure 4.0" high x 7.58" long x 6.81" deep. The siren shall meet SAE and Class A requirements when coupled with any Federal Signal approved speaker.

MICROPHONE FOR SMARTSIREN

One (1) Federal Signal PA/radio microphone shall be provided. The microphone shall be for use with the SmartSiren system. The microphone shall provide high quality voice reproduction without feedback “squeal”. The PA and radio volume shall be adjustable by means of a front panel GAIN control feature.

* Note: The SmartSiren does not include the Signal Master directional warning light, just the controls for it.

ELECTRONIC SIREN SPEAKER

There shall be a Federal model ES100 / 100 watt electronic siren speaker provided at the front bumper and connected into the electronic siren. The 100-watt speaker shall be of compact design and shall be 5.9” high X 5.5” long x 2.7” deep. The speaker shall be fully encapsulated with no terminals exposed and built to withstand tough conditions. The system shall contain the NS100W driver.

TAIL LIGHTS - LED

There shall be a set of LED tail lights installed the rear face of the apparatus body. These lights shall include brake, turn and clear back up lights installed in chrome trim bezels.

HAND HELD CAB SPOT LIGHT

One (1) SHO-ME 300,000 candle power hand held spot light, with a momentary type control switch, coiled cord, and bracket, shall be provided and mounted on the right side in the cab and wired into the 12 volt electrical system.

CAB SPOT LIGHT – REMOTE CONTROL

Two (2) GoLight(s) Model 2020 White (or Model 2021 Black) shall be fix mounted on the apparatus as per the fire departments specifications. The light shall be a 12V Halogen fixture with a candela power of 225,000. The light shall be capable of a rotation of 370 degrees and a tilt of 135 degrees. A fix mounted remote control shall be mounted on the cab dash or as per the fire departments specifications.

HOSEBED FLOOD LIGHT(S) - LED

There shall be one (1) DTI model DTI-LED-010WX6 12V light(s) provided for hose bed and area lighting. The LED lighting shall be rated for 2700 lumens. The mounting base shall be a stainless steel mount that swivels vertically and horizontally. The lights shall be controlled from the cab and shall come with a shut off switch at the light head.

STEP LIGHTS

All steps on the body shall have adequate LED light for illumination. The rear licence plate holder shall be illuminated.

GROUND LIGHTS - LED

There shall be six (6) Luma Bar H2O 12" LED ground lights with outward facing angle brackets installed underneath the apparatus. The ground lights shall be activated by a switch installed in the chassis cab. Ground lights that are directly underneath a door opening will turn on automatically when the door is opened.

COMPARTMENT LIGHTS - LED

All body compartments shall have Amdor LumaBar™ LED lights activated by a push button switch. The LED compartment lights shall be flush mount and provide a consistent 120 degree wide beam pattern. There shall be a minimum of two strip lights installed in each compartment.

ENGINE COMPARTMENT LIGHT

One (1) 4" clear engine compartment light shall be installed in the engine compartment area and shall be activated by a mercury switch.

DOOR AJAR SYSTEM

A red warning light for the door ajar system shall be provided in the cab. This light shall be activated when a compartment door on the apparatus body is open and the park brake is released.

CLEARANCE AND MARKER LIGHTS - LED

All clearance / marker lights, reflectors shall comply with department of transport motor vehicle safety standards. The clearance / marker lights shall be LED (light emitting diode) type.

LICENSE PLATE ILLUMINATION

A LED light shall illuminate the rear license plate mount. The light shall come with a chrome bezel.

TWO WAY RADIO POWER SUPPLY

There shall be a dedicated 12V power supply line coiled underneath the chassis dash for the future install of a customer supplied two way radio.

ANTENNA MOUNT(S)

One (1) mounts for future antenna installation shall be installed on the chassis cab roof. The antenna leads shall be wired to the chassis cab dash area for future installation of a radio.

REARVIEW CAMERA/MONITOR SYSTEM

One (1) Federal Signal model #CAMSET70-NTSC-4 Camera/Monitor System shall be provided.

The system shall consist of (1) 7.0" Color Monitor, (3) Standard Rearview Camera, (1) 4-input Control Box with keyboard, and (1) 65.5-foot Extension Cable.

Monitor

The monitor shall be a 7.0" TFT-LCD Color Monitor, and is intended for use in vehicle applications utilizing up to four cameras with split screen capability.

The monitor shall incorporate a built-in speaker, and a photo sensor for automatic brightness adjustment for low-light / no-light conditions.

Multi-voltage 12/24 VDC capable

Resolution: 336960 pixels

The monitor dimensions shall measure 7.6" length x 4.9" width x 1.1" depth.

Standard Rearview Camera

The camera shall be a high-resolution Color CCD camera made from an anti-corrosion aluminum alloy housing.

The camera shall feature a photo sensor and (16) infrared LEDs for low-light / no-light conditions, a built-in microphone, and shall have a 110-degree viewing angle.

Pixel resolution of the camera shall be 510(H) x 492(V)

The camera shall be IP68 rated for water and dust protection.

Multi-voltage 12/24 VDC capable

The camera dimensions shall measure 2.9" height x 3.1" width x 2.4" depth.

Extension Cable

The camera-to-monitor Extension Cable shall be 20 meters (65.5 feet) in length with waterproof connector.

4-Input Control Box

The camera system control box shall consist of inputs for up to four cameras with independent trigger wires for each input.

An individual keyboard is included for mode selection (individual camera view or split-screen multiple camera view).

Multi-voltage 12/24 VDC capable

The Control Box dimensions shall measure 6.2" length x 3.6" width x 1.4" depth.

FINISH AND PAINTING - PPG

The painting shall be done in accordance with automotive practices using Delfleet® Evolution FBCH high solids polyurethane paint with the PPG painting process.

All painting shall be baked at 160 degrees F. for a minimum 45 minutes to provide an automotive quality finish.

After assembly, the body substructure and pump house shall be deburred and hand sanded.

All ledges inside and outside shall be cleaned and sealed.

The painting process consists of the following applications:

- a) Wash entire body with DX 440 wax and grease remover
- b) Etch primer, PPG F3963 (0.2 - 0.35 mils dry)
- c) Primer, PPG F3975 (3.0 - 6.0 mils dry)
- d) Wash entire body with DX 330 wax and grease remover
- e) Primer sealer, Epoxy PPG F399x (1.0 - 4.0 mils dry)
- f) Basecoat, Delfleet® evolution PPG FBCH (1.0 - 3.0 mils dry)
- g) Clearcoat, PPG F3906 clear (minimum of 2.0 mils)

All outside seams that are not 100 percent welded shall be sealed and caulked inside and outside before the final paint finish is applied. Only after the entire painting process is completed shall the body structures be installed on the chassis. Only after the body is painted shall the components such as doors, aluminum inlay panels, mounting brackets, handrails, pump panels, and other accessories be installed.

TWO TONE CAB - UPPER

The upper portion of the chassis cab shall be painted in a two-tone paint pattern as required and outlined by the Fire Department.

COMPARTMENT FINISH

The interior of all compartments of the body shall also be sealed and caulked. A natural finish shall be provided with all compartment interiors.

BODY UNDERCOATING - CORASHIELD®

The whole frame / crossmembers / wheelwell area / and inner body of the apparatus body shall be thoroughly prepared and sprayed with Corashield® that will help prevent rust and corrosion. A minimum of 8-10 mils of Corashield® shall be sprayed. The bottom, sides and tops of the crossmembers shall be fully covered.

The Corashield® is a sprayable latex coating designed for use on aluminum, fiber glass, cold rolled steel, galvanized steel, and most metal primers. Corashield® is formulated to give very good corrosion protection. This medium viscosity, sag resistant coating can be easily sprayed onto exposed underbody areas, and into restricted areas such as tubing and "hidden" areas accessible only with spray wands.

Corashield® dries quickly at ambient temperatures and will withstand urethane paint bakes after only 30 min drying at room temperature.

Corashield® provides better protection than any of the competitive products tested without the environmental and safety problems inherent in many of the undercoatings available today.

KROWN RUST INHIBITOR - CHASSIS

There shall be an application of Krown rust inhibitor applied underneath the chassis to provide a protective barrier from corrosion. The Krown rust inhibitor is a petroleum based non-evaporating liquid product that provides corrosion protection in small crevices. An application of Krown rust inhibitor shall be applied in all small crevices underneath the cab and chassis.

LETTERING

Single color lettering with a background outline shading shall be provided on the cab doors as directed by the DND.

6" REFLECTIVE BODY PRIMARY STRIPING - "Z" STRIPE

There shall be a six inch wide reflective stripe applied to the left, right and rear sides of the apparatus. The striping on the left and right sides of the apparatus shall incorporate a "Z" style design layout. The reflective stripe shall be a 3M Scotchlite product.

There shall be a one inch wide reflective stripe applied to the front of the apparatus. The reflective stripe shall be a 3M Scotchlite product. There shall be One (1) two inch wide reflective stripe(s) applied to the apparatus along with the primary reflective stripe. The reflective stripe shall be a 3M Scotchlite product.

1/4" ACCENT STRIPING

There shall be a 1/4 inch accent stripe applied above and below the main gold paint brake stripe on the apparatus.

1/2" ACCENT STRIPING

There shall be a 1/2 inch Gold accent stripe applied on the apparatus at the paint break.

MALTESE CROSS - CUSTOM MADE - MULTI COLOR - NON-REFLECTIVE

There shall be a set of custom made Maltese Cross decals applied to the apparatus. The Maltese Cross shall be made from a multi-color (Gold / Red / Black) non-reflective 3M Scotchlite product. Location for the Maltese Cross shall be at the fire departments discretion.

HARD SUCTION HOSE MOUNTING

Suction hose storage for two (2) lengths of hard suction hose shall be installed above the body compartments. One rack shall be installed above the left side body compartments and the other rack shall be installed above the right side body compartments.

The hose troughs shall be fabricated from polished custom aluminum extrusions. The hose shall be fastened to the tray with heavy duty type Velcro Straps.

HARD SUCTION HOSE

Two (2) ten foot section(s) of 3" PVC lightweight, flexible, hard suction hose shall be provided with lightweight male and female 2.5" storz couplings.

BARREL STRAINER

One (1) 2½" Kocheck BS25 barrel strainer shall be provided and shipped loose with the completed vehicle.

LOW LEVEL STRAINER

One (1) 2½" Kocheck low level strainer with storz connection shall be provided and shipped loose with the completed vehicle.

FLOATING STRAINER

One (1) 2½" Kocheck floating strainer with storz connection shall be provided and shipped loose with the completed vehicle.

SELF SUPPORTING PORTABLE TANK

One (1) 1500 IG / 1800 USG collapsible portable tank shall be provided. The liner includes a 10" quick-drain tube which will empty the tank in seconds.

PULASKI AXE(S)

Two (2) fiberglass handled Pulaski and a drip torch shall be provided.

PICK HEAD AXE(S)

Two (2) 6 pound fiberglass handled pick head axe(s) shall be provided.

CHROME AXE POCKET(S) - HORIZONTAL

Four (4) horizontal chrome axe holder(s) complete with a chrome hook for the axe handle shall be provided. The axe pocket(s) shall be installed in a location as directed by the fire department.

WHEEL CHOCKS

There shall be One (1) Zico aluminum wildland wheel chocks P/N AC-32-W with flat bottoms provided on the apparatus.

WHEEL CHOCK HOLDER

There shall be One (1) Zico aluminum wildland wheel chock holders mounted on the apparatus. The holders shall be secured with stainless steel fasteners that have been pretapped. Self tapping screws are not acceptable.

NOZZLE(S)

Two (2) Akron #1515ZT, 1½" Saberjet® dual shutoff ZeroTorque™ nozzle(s) complete with pistol grip shall be supplied. The nozzle(s) shall be capable of a solid bore, fog or combination stream pattern and have 95 GPM flow settings.

FLASHLIGHT(S)

There shall be two (2) Pelican model 3765 flashlight(s) supplied and wired to the cab with the apparatus.