



MIDWEST FIRE®

**PT2 1200 Tanker-Pumper
Specifications**

Prepared for:

Stock 2196

Date: 12/15/10

901 Commerce Road
Luverne, MN 56156
1-800-344-2059

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PT2 Series
1200-Gallon Polypropylene-"T" Style Tanker-Pumper
Specifications

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STANDARD

Section 1: Booster Tank

1.00

The 1200 gallon tank shall be "T" style in design and constructed of polypropylene sheet stock. This material shall be non-corrosive, stress relieved thermoplastic, and U.V. stabilized for maximum protection. The tank shall be of a special configuration and is so designed to be completely independent of the body and compartments. The top of the tank is fitted with removable lifting eyes designed with a 3 to 1 safety factor to facilitate easy removal.

1.01

The tank shall be constructed of 1/2" thick polypropylene sheet stock. For appearance, the tank heads and sides shall be constructed of 3/4" thick Poly sheet stock.

1.02

The booster tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. The top of the booster tank is fitted with removable lifting eyes designed with a 3 to 1 safety factor to facilitate easy removability. The transverse swash partitions shall be manufactured of 3/8" poly and extend approximately 4" off the floor to just under the cover. The longitude swash partitions shall be constructed of 3/8" Poly and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air hole to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are welded to each other as well as to the walls of the tank. This baffling system shall be fully compliant with NFPA and the Department of Transportation regulations.

The Tank Shall Carry a Lifetime Warranty from Its Manufacture

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1.03

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum dimension of 16" square. The tower shall be located at the left front of the tank, and centered left & right. The tower shall have a 1/4" removable Poly screen and a polypropylene hinged-type cover. Inside the fill tower shall be fastened a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 Poly pipe with a minimal I.D. of 6" that is designed to run through the tank with deflector shield.

1.04

There shall be one (1) sump. The sump shall be constructed of 1/2" polypropylene. There shall be a minimum 3" NPT threaded outlet on the bottom for a drain plug.

1.05

The polypropylene tank shall rest on the body cross members in conjunction with such cross members, spaced at a distance that would not allow for more than 530" square of unsupported area under the tank floor. The tank shall be isolated from the cross members through the use of hard rubber strips. Additionally, the tank shall be supported around the entire bottom outside perimeter and captured front and rear as well as side-to-side to prevent tank from shifting during vehicle operation.

Section 2: Booster Tank Piping, Fills, & Gauges

2.00

Flanges, there shall be one (1) 2 1/2" NPT tank flange opening and plug located under the tank.

2.01

Direct fill, one (1) 2 1/2" direct fill with NST female swivel fitting, and gated with a 2 1/2" Class 1 stainless steel valve with integral 30 degree stainless steel elbow shall be provided at the rear of the apparatus and on the left side of the rear dump valve. The direct fill shall be equipped with a 2-1/2" chrome plated plug holder, plug, and chain.

2.10.2

One (1) Innovative Controls, SL Series 14 LED light tank level gauge will monitor the water tank level and be located on the driver's side pump panel. The tank level gauge shall indicate the water level on an easy to read LED display and show increments of 1/8 of a tank.

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2.10.3

One (1) additional Innovative Controls, SL Series 14 LED light tank level gauge will monitor the water tank level and be located on the rear of the apparatus. The tank level gauge shall indicate the water level on an easy to read LED display and show increments of 1/8 of a tank.

2.10.4

One (1) Innovative Controls, SL series "Mini" five LED light tank level gauge will monitor the water tank level and be located in the chassis cab. The tank level gauge shall indicate the water level on an easy to read LED display and show increments of 1/8 of a tank.

2.11

Spanner and hydrant wrenches, there shall be one (1) adjustable hydrant wrench, two (2) spanner wrenches, and holder installed per customer instructions.

Section 3: Dump Valves & Chutes

3.01.4

Rear swivel dump valve, (1) Stainless Steel Newton 10" square swivel Kwick-Dump valve shall be provided at the rear center of the tank. The swivel dump shall have the ability to dump water from the driver's side or the passenger's side and any point in between. The swivel dump shall have a telescoping extension and can be retracted when the dump is not in use. The dump shall have the ability to be stowed on either the driver's side or the passenger's side of the truck. There shall be no less than a 34 inch clearance from level ground to the bottom of the dump to ensure that there is adequate clearance for the swivel dump to offload into all portable drop tanks. The dump shall meet NFPA requirements for water delivery on three sides of the vehicle.

Section 4: Portable Tank Carrier

4.01

Tip-down portable tank carrier, one (1) tip-down portable tank carrier for loading/unloading of a folding water tank shall be located on the passenger's side and above the catwalk. The tank carrier shall be designed to fold down over the body side. When in the up position the tank carrier shall be secured with heavy duty locking DeStatco latches. The tank carrier shall be made of 1 1/4" 14-gauge stainless steel square tubing. The tank carrier shall be

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large enough to hold at least a 1500-gallon size folding water tank. To help keep the wind from entering the folding water tank when in the traveling position, there shall be a wind deflector shield made of 1/8" polished aluminum Tread-Brite installed on front of the portable tank carrier. There shall be one (1) vertical grab rail installed on front of the portable tank carrier. The grab rail shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

4.02.1.99

Portable tank, there shall be one (1) 1500-gallon red Foldatank® portable tank and aluminum frame supplied. Liner to be made of 23 oz. durable nylon coated material.

Section 5: Apparatus Body and Components

5.00

Apparatus construction shall include a dedicated body & tank support cradle to be constructed primarily of welded 2.0" x 4.0" tubular steel. Cradle is to be designed to undergird the body structure and to provide maximum support for the weight of the body structure and all stored equipment. Body design shall be enclosed on all sides and will incorporate closed wheelwells and finished storage compartments per the specification.

The entire apparatus body shall be constructed of 12 and 14-gauge galvanized steel for maximum corrosion resistance. The apparatus body and the water tank shall be removable as two separate units. The first unit shall consist of the tank and the second unit shall consist of the apparatus body and the cradle.

10-YEAR WARRANTY ON PAINTED BODY PARTS

5.01

Fenders shall be integral with the side of the body. Fender wells shall be constructed with full circular inner liners for ease of cleaning and maintenance.

5.02

There shall be bright polished aluminum fenderettes installed on the wheel wells to prevent splash and to give the body a pleasing appearance. The fenderettes shall extend approximately 1" beyond the body side. The fasteners shall not be exposed to the exterior of the fenderettes.

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5.03

The bottom edge of the entire apparatus shall have an extruded aluminum rub-rail installed to give the body a pleasing appearance.

5.04.1

Tow eye, there shall be one (1) tow eye located above rear step and attached directly to the frame on the right side of the rear dump valve.

Section 6: Apparatus Body Compartments

6.00

Compartment, one (1) "sweep out" style compartment shall be provided on the driver's side and ahead of the rear wheels. The compartment shall have approximated inside dimensions of 57" wide by 34" tall by 27" deep. The compartment shall have a 45" ROM Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains. The interior of the compartment shall be sprayed with white Speedliner bed coating and spatter painted the exterior color of the apparatus.

6.01

Compartment, one (1) "sweep out" style compartment shall be provided on the passenger's side and ahead of the rear wheels. The compartment shall have approximated inside dimensions of 57" wide by 34" tall by 27" deep. The compartment shall have a 45" ROM Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains. The interior of the compartment shall be sprayed with white Speedliner bed coating and spatter painted the exterior color of the apparatus.

6.03.99

High side compartments, two (2) "sweep out" style compartments constructed of polypropylene/polyethylene material shall be provided on the driver's side above the catwalk. Each compartment shall have approximate inside dimensions of 68" wide by 34" tall by 15" deep. Each compartment shall have a 50" Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains.

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6.05

Compartment, one (1) "sweep out" style compartment shall be provided on the driver's side and behind the rear wheels. The compartment shall have approximate inside dimensions of <31"> wide by 36" tall by 21" deep. The compartment shall have a <27"> Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains. The interior of the compartment shall be sprayed with white Speedliner bed coating and spatter painted the exterior color of the apparatus.

6.06

Compartment, one (1) "sweep out" style compartment shall be provided on the passenger's side and behind the rear wheels. The compartment shall have approximate inside dimensions of <31"> wide by 36" tall by 21" deep. The compartment shall have a <27"> Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains. The interior of the compartment shall be sprayed with white Speedliner bed coating and spatter painted the exterior color of the apparatus.

6.07.99

Compartment, one (1) Back Pac "sweep out" style compartments constructed of polypropylene/polyethylene material shall be provided at the rear and above the catwalk. The compartment shall have approximate inside dimensions of 70" wide by 33" tall by 36" deep. The compartment shall have a 40" Roll-o-matic anodized aluminum roll up door, two (2) door activated LED compartment lights, corrosion resistant vents, black Turtle Tile plastic dry decking, and floor drains.

6.11

SCBA Brackets, there shall be four (4) Zico, model #KD-UN-6-SF, SCBA brackets mounted in the high side compartments on the driver's side catwalk.

Section 7: Running Boards, Catwalks, & Rear Step

7.01

The catwalks shall be located above the left and right compartments. The Catwalks shall be made of polished aluminum Tread-Brite and bent at a 30-degree angle to provide a drip rail.

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7.02

For a safer walking surface, the rear step shall be NFPA compliant and made of Diamondback® deck plate. The outside edge of the rear step shall have a 3" by 1" polished extruded aluminum rub-rail installed to give the step a pleasing appearance. The rear step shall be 12" deep with a 4" tall "kick" plate.

Section 8: Grab Rails & Foot Steps

8.00

Grab rails, there shall be two (2) 20" vertical grab rails provided at rear of tank, one each side. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.00.2

Grab rails, there shall be two (2) horizontal grab rails provided one on each side, above the pump control panels, and below the cross lays for ease of loading and unloading the hose cross lay. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.00.3

Grab rail, there shall be one (1) horizontal grab rail provided on the upper front, drivers side of the tank for ease of loading and unloading hose cross lays. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.00.4

Grab rail, there shall be one (1) horizontal grab rail provided on the upper front, passenger side of the tank for ease of loading and unloading hose cross lays. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.00.99

Grab rail, there shall be one (1) horizontal grab rail provided at rear of tank, above the hose bed. The grab rail shall be made of 1 1/4" diameter stainless steel tubing.

8.01

Foot steps, per NFPA 1901 standards, there shall be two (2) large chrome plated, illuminated folding steps with a minimum of 35" square of surface and polished stainless steel kick-plates

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provided at rear of body, one (1) each side, for access to the catwalk area.

8.01.99

Foot steps, per NFPA 1901 standards, there shall be two (2) large chrome plated, illuminated folding steps with a minimum of 35" square of surface and polished stainless steel kick-plates provided at rear of the tank, one (1) each side, for access to the hose bed area.

8.01.1

Foot steps, there shall be three (3) large chrome plated, illuminated folding steps with a minimum of 35" square and polished stainless steel kick-plates provided at front of body one (1) on the passenger side and two (2) on the driver's side, for access to the hose bed area and tank fill tower.

Section 9: Electrical Equipment

9.00

Battery master switch, a single "on/off" position master battery switch shall be mounted in the cab. When in the off position, all electrical power to the apparatus shall be disconnected. There shall be a green pilot light, visible to the driver, which illuminates when the master switch is activated.

9.00.1

The body and chassis shall be wired as independent modules and connected as a completed unit at the final assembly via electrical connectors located in the electrical compartment. Seals shall be provided on each individual wire and the assembly as a whole. All wiring for the apparatus body shall be within a temperature resistance harness. All wires in each harness shall be color-coded. Wiring shall be run along structural rails and tied in a neat and orderly manner.

9.00.2

The electrical junction box for all apparatus connections, relays, circuit breakers, etc., will be located in the face of the forward passenger side compartment. It shall be of polished aluminum Tread-Brite construction with an aluminum hinge. The apparatus circuits requiring load protection shall utilize sealed relays and automatic reset circuit breakers.

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9.01.2

LED Clearance lights with stainless steel guards, there shall be a total of nine (9), seven (7) red LED lights installed at the rear of the apparatus, and two (2) amber LED lights installed on the front left and right of the apparatus.

9.02

Reflectors shall be installed per Department Of Transportation specifications.

9.03.3

Two (2) Whelen model 600 Series, LED Quad-Cluster combination red LED stop/tail, clear halogen backup light, amber LED arrow type turn signal, and red LED warning light assemblies shall be supplied and installed on the rear of the apparatus. Individual lights shall measure 6 1/2" wide by 4 1/8" tall. Light assemblies shall be provided in chrome plated housing. Each light assembly shall be installed using a gasket between the housing and body.

9.06

Compartment "door ajar" warning light, there shall be a "red" pilot light that is visible to the driver and it shall illuminate when a compartment door is open.

9.07.2

Rear view camera, there shall be one (1) model Rear View Safety®, rear view camera system installed. Camera system shall include a wide angle rear mounted camera and 7" monitor.

9.08

Illuminated license plate bracket, there shall be one (1) illuminated license plate bracket installed at rear of the apparatus.

Section 10: Emergency Siren & Lighting Equipment

10.00

Control Center, all accessory and emergency lighting shall be controlled at a master control center in the cab. The control center shall contain lighted rocker switches and shall be heavy duty rated to service the maximum imposed electrical load. The control center shall have lighted identification plates on a non-glare panel face that clearly identify each switch and its function. The control center shall control all warning lights, scene lights, and include the "Master On" and "Open Door" indicator lights.

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10.01.3

Light bar, the upper level warning package shall be fully NFPA compliant and shall be certified by the lighting component manufacture to meet all requirements. The front and front side zones shall be covered by one (1) Whelen model JE2NFPA Justice Series, Super-LED low-profile 56" light bar mounted on the cab roof. The light bar shall have four (4) linear corner modules with nine (9) Super-LED light heads per module, and six (6) CON3 modules with three (3) CON3 Super-LED light heads per module. Activation of the light bar shall be via the control center located in the cab.

10.02.1

Siren, one (1) Whelen model 295SLSA1, 100 watt, six function Class A electronic siren shall be mounted in the chassis cab in a location convenient to the driver. The electronic siren shall include "hands-free" operation, full function, 17 Scan-Lock siren tones, and hard wired microphone. The siren control head shall be lighted for easy night operation.

10.03.1

Speaker, one (1) Cast Products 100-watt polished aluminum siren speaker shall be "flush" mounted through the chassis front bumper.

10.04.3

LED Flashing lights, the lower level warning package shall be fully NFPA compliant. The front zone shall be covered by two (2) Whelen model LINZ6 Series, flush mounted red LED flashers with chrome plated bezels. These lights shall be 4" wide by 2" tall and be mounted at the front of the chassis. The rear zone shall be covered by two (2), Whelen model 600 Series, flush mounted red LED flashers. These lights shall be 6 1/2" wide by 4 1/8" tall and be mounted on the rear Whelen model 600 Series, Quad-Cluster combination red stop/tail, clear backup light, and amber arrow type turn signal assemblies.

10.05.8

Beacons, the upper level warning package shall be fully NFPA compliant and shall be certified by the lighting component manufacture to meet all requirements. The rear and rear side zones shall be covered by two (2) Whelen model B6LED 360 degree Series, beacon with red lenses. The two (2) rotators shall be positioned on stanchion brackets at the rear corners of the apparatus. Activation of the rotators shall be via the control center located in the cab.

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10.06.5

LED Intersection lights, the lower level warning package shall be fully NFPA compliant and shall be certified by the lighting component manufacture to meet all requirements. There shall be three (3) Whelen model LINZ6 Series, flush mounted red LED flashers with chrome bezels shall cover each of the side zones. These lights shall have approximate dimensions of 4" wide by 2" tall. One of the lights shall be mounted at the rear of the body, one shall be mounted midway, and one shall be mounted on the front corner of the chassis for use as an intersection style light.

10.07.1

Scene lights, there shall be four (4) Whelen, 50-watt internal optic scene lights mounted two (2) 508 series at rear, one (1) 810 series on rear drivers side, and one (1) 810 series on rear passenger side. The lights shall be controlled from three (3) individual switches on the control center located in the chassis cab.

10.08

Backup alarm, there shall be a backup alarm installed. Alarm shall be energized automatically when the chassis is placed into reverse.

10.09

Ground lights, there shall be four (4) ground lights installed to illuminate the area below the apparatus. Two (2) lights shall be installed below left and right front body, and two (2) lights shall be installed below left and right rear step area. Grounds lights shall be activated when parking brake is applied.

10.11.1

Arrow Stik, there shall be one (1) Whelen, 47" wide, 8-lamp LED Arrow Stik model #TAL-85, supplied. Arrow Stik shall be mounted on the upper rear of the tank and shall be activated by a control head in the cab.

10.12

Telescoping lights, there shall be two (2) 12 volt, 100 Watt, Extenda-Lites, model #E-12V1, installed in the cross-lay area. Extenda-Lites to have individual switches and chrome guards.

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Section 11: Painting, Lettering, Striping, and Signs

11.00

All components shall be back-primed prior to assembly.

11.01

The entire tank, body, and components will be sanded, cleaned, etched with PPG DX1787 and primed with PPG NCP270 direct to metal primer filler.

11.02

The apparatus body will be hand sanded and be painted one (1) color with PPG Deltron base coat/clear coat paint to match the chassis paint color. A two (2) ounce container of touch-up paint, with applicator brush, shall be supplied for each color of the finished apparatus body paint upon completion of the apparatus.

11.03

Compartments, the interior of the compartments shall be sprayed with grey Speedliner bed coating and spatter painted the exterior color of the apparatus.

11.04

Striping and decals, 1/2" wide gold leaf vinyl striping with a top and bottom 1/8" black border, and graphic corner decals shall be installed where applicable on the chassis and apparatus to give it a pleasing appearance. Clear protective vinyl shall be installed on all gold leaf vinyl striping and corner decals.

11.05

Gold leaf vinyl lettering with a black back shadow shall be provided on the chassis doors per customer instructions. Clear protective vinyl shall be installed on all gold leaf vinyl lettering.

11.05.2

Gold leaf vinyl lettering with a black back shadow shall be provided for the customer unit number on the left and right chassis fenders. Clear protective vinyl shall be installed on all gold leaf vinyl lettering.

11.06

White reflective striping, the body and chassis shall have a 4" wide and a 1" wide white reflective stripe on each side and front of the apparatus per NFPA 1901 standards. The stripe shall be in a Z-shape pattern on the body sides.

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11.06.2

Retro-reflective material, per NFPA 1901 standards any door of the apparatus designed to allow persons to enter or exit the apparatus shall have a minimum of 96 square inches of retro-reflective material affixed to the inside of the door.

11.07

Per NFPA 1901 standards, 50 percent of the rear of the apparatus shall include **red and yellow** Chevron retro-reflective striping a minimum of 6" wide.

11.20

There shall be a permanent plate located in the chassis cab with the following information:

- Quantity and type of fluids used in the vehicle. This plate shall include engine oil, engine coolant, chassis transmission fluid, pump transmission fluid, drive axle lubrication fluid, air conditioning refrigerant, air conditioning lubrication oil, and power steering fluid.
- Front and rear cold tire pressures.
- Number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.
- Height and length of the vehicle in feet and inches
- Gross vehicle weight rating (GVWR) in pounds

Section 12: Rust Proofing & Mud Flaps

12.00

Corrosion protection, to protect from corrosion, the cradle, underside of the body, and all exposed inner surfaces of the body will be coated with Durethane® 2-part urethane Mastic. To further protect the wheel area, the wheel well liners will be coated with Speedliner® truck bed liner.

12.01

All fasteners used in securing components on or to the body shall be stainless steel.

12.02

Mud flaps, there shall be two (2) mud flaps installed on rear of apparatus behind the rear wheels.

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Section 13: Pump & Plumbing

13.00

Pump compartment, the apparatus shall be equipped with a transverse mounted pump compartment 36" wide housing the water pump. The pump compartment superstructure frame shall be fabricated from .125" wall X 2.00" square type 304 brushed 4B finish stainless steel tubing. The front and rear of the pump compartment shall have type 304 brushed 4B finish stainless steel sheets to enclose the perimeter of the water pump. The street and curb sides of the pump compartment shall be equipped with side running boards. The running boards shall extend along the width of the pump compartment from the rear of the chassis cab to the forward end of the body module with extruded aluminum rub rail extending the length of the running boards. The running boards shall be constructed of Diamondback® deck plate. The step surfaces shall be in compliance to applicable sections of NFPA 1901 requirements.

13.17

The pump shall be a Darley, model PSM 1250, single-stage construction, mid-ship mounted pump, and shall comply with all applicable requirements of the latest standards for automotive fire apparatus of the National Fire Protection Association and shall have a rated capacity of 1250 GPM. Pump features include helical design and precision-cut gears to reduce noise and minimize wear, double seal ring design solid bronze impeller, stainless steel pump shaft and maintenance free mechanical seal.

Pump Ratings: 1250 GPM @ 150 PSI
875 GPM @ 200 PSI
625 GPM @ 250 PSI

13.17.2

The curb and street side pump panels and access doors shall be constructed entirely of aluminum and be covered with black protective material. The pump compartment shall have full width vertically hinged access doors located on the upper portion of the curb and street side pump compartment. A "lift & turn" type latch shall be furnished to hold the doors closed and have a retainer attached to prevent over extension of the opened door. The pump operator panels are to be completely "bolted" or hinged in place for ease of removal. A full panel width LED light hood shall be provided to illuminate the curb and street side pump panels. A service light shall be provided to illuminate the interior of the pump compartment. Lights shall be controlled by the operator's panel light switch.

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13.17.3

Gauges, the pump operator's panel shall include:

a. (1) Fire Research "In Control Auto Governor"

Features:

- *Discharge pressure in PSI.
- *Pump adjustment back idle.
- *Engine monitoring of oil pressure, water temperature, battery voltage, and engine RPM.
- *Preset function for instant and reliable operation.
- *Overheat pump protection system.

b. (6) Discharge, "Innovative Controls" 2 1/2" 400# liquid filled stainless steel pressure gauges and control handles.

13.17.4

Color-coded pump panel identification labels shall be provided for all gauges, controls, connections, switches, inlets, and outlets.

13.17.5

Pump shift shall be electric operated and shall incorporate standard automotive shifting mechanism for ease of maintenance. The pump shift switch shall be mounted in the cab and identified as "PTO Engagement". The pump shift assembly shall include an indicating light to show when the PTO has been engaged.

13.17.7

The primer shall be a 12-volt electric, positive displacement, rotary vane type, oil-less primer for 20' to 30' suction lifts. Priming system includes a bronze push-pull valve with electric switch.

13.17.9

Master pump drain, a manifold type drain valve shall be provided with all pump drains connected to it and operate from the pump operators panel so the entire pump system may be drained by one single control.

13.17.9.1

Individual discharge drains, per NFPA 1901 standards all discharges and pre-connects 1 1/2" or larger shall have drains or bleeder valves, having a minimum 3/4" pipe thread connection, for bleeding off pressure from the hose connection to the outlet.

13.17.10

Master intakes, there shall be two (2) 6" NST male intakes located, one (1) on the right and one (1) on the left side pump panel to provide easy connection for drafting or to a fire

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hydrant. The intakes shall have a removable strainer provided and 6" chrome plated long handle caps.

13.17.10.1

Suction(s), there shall be one (1) auxiliary 2 1/2" NST female chrome plated swivel suction located on the left side pump panel. The suction shall have a 2 1/2" Akron Full-Flow swing out valve and be equipped with a 2 1/2" chrome plated swivel adapter with screen, and a 2 1/2" chrome plated plug and chain.

13.17.10.3

Intake suction relief, per NFPA 1901 standards there shall be a suction relief valve installed on the intake side of the pump.

13.17.11

Discharges, there shall be three (3) 2 1/2" NST male chrome plated discharges located, one (1) on the right and two (2) on the left side pump panel. The discharges shall have a 2 1/2" Akron Full-Flow swing out valve and be equipped with a 2 1/2" chrome plated cap and chain. The valves shall be controlled by a "tee" handle control provided on the pump panel.

13.17.12

Tank to pump line, there shall be a 3" tank to pump line provided from the water tank to the pump. The line shall have a 3" Akron Full-Flow swing out valve with 4" galvanized piping and victaulic coupling. The flex connections installed between the pump and water tank shall give the plumbing system flex, thus minimizing stress on the line. The valve shall be controlled by a "tee" handle control provided on the pump panel.

13.17.13.1

Tank fill/pump re-circulating line, there shall be a 2" tank fill/pump re-circulating line provided from the pump to the water tank. The line shall have a 2" Akron Full-Flow swing-out valve with 2" high-pressure flexible hose. The flex connections installed between the pump and water tank shall give the plumbing system flex, thus minimizing stress on the line. The valve shall be controlled by a "tee" handle control provided on the pump panel.

13.17.14

Test ports, per NFPA 1901 standards there shall be pump system test ports mounted on the pump panel.

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13.30.2

Rear discharge, there shall be one (1) 2 1/2" rear discharge, gated with an 2 1/2" Akron Full-Flow, swing out quarter turn, self locking ball valve with chrome plated 2 1/2" NST cap & chain. Discharge shall have an "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauge and control handle.

13.30.10

2 1/2" 30-degree elbow, discharges shall be equipped with a chrome plated 2 1/2" NST male swivel, 30-degree elbow fitting.

13.33.99

Master Stream, one (1) Elkhart, model 8500, Vulcan Single Waterway Monitor shall be mounted above pump compartment. Monitor shall be plumbed with 3" plumbing and shall be gated with a 3" Akron Full-Flow swing out valve. Monitor shall have an "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauge and control handle.

13.33.1

Master Stream Nozzle, one (1) Akron Excel 1000 Nozzle, model 1747, shall be supplied for master stream.

Section 14: Hose Trays, Cross Lays, & Preconnects

14.01

Hose cross-lay, the hose cross-lay above the pump house shall be an area for pre-connected hose cross-lays and/or hose storage. The cross-lay shall be attached to the top of the pump compartment and shall be constructed of a polypropylene/polyethylene floor with integral planking designed to provide drainage and ventilation to the cross-lay area. The front and rear shall be constructed of .188" aluminum.

14.03.1

Hose cross-lay pre-connected, there shall be one (1) 1 1/2" NST swivel male pre-connect gated with a 2" Full-Flow swing out valve. Pre-connect shall have a "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauge and control handle. Cross-lay dividers, the hose cross-lay shall be equipped with two (2) adjustable dividers constructed of .188" aluminum.

14.05.1

Hose bed, there shall be a hose bed that runs the full length and width of the tank. Hose bed shall be approximately 8" tall to accommodate NFPA hose loads. The hose bed shall have two

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adjustable dividers made out of 1/4" smooth aluminum. The floor of the hose bed shall be constructed to provide integral planking designed to allow the loaded hose to drain and allow airflow for ventilation. The hose bed shall be accessed from the rear body folding steps.

14.06.1

Hose cross-lay webbing, there shall be webbing installed on the hose cross-lay ends to secure hose.

14.06.2

Hose bed cover, a heavy-duty flame retardant vinyl hose bed cover shall be supplied and custom fitted to the apparatus hose bed. The cover shall be attached across the front of the hose bed with a rail and bead system to prevent wind from getting under the cover. The rear of the cover shall be provided with a flap to cover the back of the hose bed. The cover shall be attached to the apparatus with a quick release elastic rope and hook system to retain the hose in the bed during travel as required by NFPA. The cover shall be black in color.

Section 15: Hard Suction & Ladder Carriers

15.01.5.99

Hard suction trays, there shall be two (2) 6" X 10' aluminum Tread-Brite hard suction hose trays to be located on driver's side above the high side compartments.

15.05.5

There shall be two (2), 6" X 10', PVC flexible hard suction hoses provided.

Section 17: Chassis Accessories

17.00.2

Hub and lug nut covers, there shall be stainless steel hub and lug nut covers installed on front and rear wheels of single rear axle chassis.

17.01.99

Aluminum chassis overlays, the chassis steps, fuel tank, and battery box shall be overlaid with aluminum Tread-Brite.

17.05

Wheel chocks, there shall be two (2) wheel chocks with holders installed, under body on driver's side of apparatus.

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17.10

Tire pressure indicator, there shall be tire pressure indicators installed to allow for visual inspection of tire pressure at the tire.

17.11

Vehicle data recorder, there shall be a Weldon model #6444 vehicle data recorder installed on the chassis.

17.12

Seat belt monitor, there shall be a seat belt monitor system installed. System shall indicate when someone is seated in a seat and if the seat belt is in use.

17.13

Heat exchanger, there shall be a heat exchanger installed that shall permit the use of water from the pump to cool the engine. The cooling shall be done without mixing the engine antifreeze and the pump water.

17.15.99

Center Console with map holder, a center console with map holder will be provided in the chassis cab to make available additional space for mounting of accessories and control switches.

17.16.2

SCBA Locking Bracket, SCBA seats in chassis cab shall be equipped with remote release locking brackets for positively securing firefighter air packs per department's specifications.

Section 19: Chassis

19.01

Midwest Fire Equipment furnished 2011 Freightliner M2-106 5-man cab per specification attached:

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