

SPECIFICATION RT57-03-03-01

6,000 LITER WATER TANKER BODY – CONSTRUCTION

An approximately 6,000-liter elliptic tanker body of robust construction, fitted with a PTO driven hydrostatic system, complying to the following is required:

TANK

For construction purposes the tank shell should be constructed of suitable steel not less than 4.5mm thick.

1. DIMENSIONS:

Tenderers must offer the best body length to suit their chassis without chassis alterations, taking correct mass distribution, appearance and additional equipment at the rear into account.

Supply actual dimensions of body (LxWxH) _____mm x _____mm x _____mm

Particulars of offer: _____

2. ENDS:

Tank shell must have dished ends, constructed of same steel as body and not less than 6mm thick.

Particulars of offer: _____

3. BAFFLES:

Longitudinal:

One longitudinal vertical baffle running the full length of tank shall be fitted.

Edges shall be stiffened by being flanged or by means of extra stiffening members.

Transverse:

Three or more evenly spaced transverse, vertical baffles shall be fitted.

Edges shall be stiffened by being flanged or by means of extra stiffening members.

Openings must be available in order for inspection to be carried out inside the tank.

NB. No bolt-on baffles will be accepted.

Particulars of offer: _____

4. MANHOLE:

A manhole complete with watertight cover shall be provided on top of tank.

Size of manhole, minimum of 500mm, shall allow for internal inspection of the tank.

Mechanism used to hold cover down shall preferably be an adjustable over-centre cam / spring action type fitting. Manhole must be easily accessible.

Particulars of offer: _____

5. OUTLETS AND INLETS:

For the inlet, an 80mm pipe with a butterfly valve must be fitted at the top rear end of the tank.

For the outlet, an 80mm pipe with a butterfly valve must be fitted at the bottom rear end of the tank.

A drain outlet must be fitted at the bottom of the tank for the draining and/or cleaning of the tank.

Particulars of offer: _____

6. MOUNTING OF TANK:

Tank shall be mounted with a 75mm decline towards the rear end of the truck.

Mountings shall be used to prevent the transfer of stresses from chassis to the tank shell.

Tank mountings shall be suitable and allow for the removing and / or remounting of the tank.

Tank to be positively located at front and rear to prevent tank from moving in relation to chassis.

Method of location shall however still allow the tank to be flexibly mounted on chassis.

Details of mountings (must be supplied).

Particulars of offer: _____

7. TREATMENT OF TANK SURFACES:

All inside and outside surfaces of tank and baffles shall be thoroughly cleaned. Fixtures welded to tank shall be seal welded all round to obviate any crevices. Tank and accessories shall be free from:

- welding slag and cavities in weld
- burrs caused by screwing, tapping, punching, drilling and machining
- paint or other coating that is not removable by alkaline cleaning or acid pickling

Particulars of offer: _____

8. PLATFORM:

A working platform of chequer plate/mesh grid at the rear approximately 1,000mm long x 2,000mm wide complete with a **bolt-on** tubular handrail 900mm high fitted at the back and off-side of the platform is required.

A non-slip access step is to be fitted on the kerb side.

Robust access ladders shall be securely fixed to the tank for easy access to the manholes.

Full length trays (side platforms) with fasteners, shall be fitted along both sides of the tank for the storing of hoses.

Particulars of offer: _____

9. LEVEL INDICATOR AND BREATHER:

A fluid level indicator which must indicate in 2,000 liter markers shall be fitted.

Particulars of offer: _____

A suitable breather must be fitted and protected to prevent the ingress of dirt.

Particulars of offer: _____

10. REAR PANEL:

A recessed rear panel manufactured from mild steel of not less than 2mm over the full width of the body to house a chevron, number plate and rear light assemblies is required.

At the rear an underrun protection device in accordance with SANS 1055:2007 specification is to be fitted. The underrun protection, could be incorporated in the rear panel.

Particulars of offer: _____

11. MUDGUARDS:

Sturdy, firmly braced steel mudguards, full size, must be fitted over the rear wheels with mud flaps behind the wheels.

Particulars of offer: _____

12. FINISH:

All metal shall be thoroughly cleaned and primed and painted with two coats of prime and good quality automotive enamel to match the departments colour spec.

Particulars of offer: _____

13. PARTICULARS OF OFFER:

A detailed sketch or full drawing of the body offered, showing all leading dimensions, must be submitted with tender.

Particulars of offer: _____

14. SUB-FRAME:

The sub-frame cross bearers must be fabricated of not less than 100mm x 50mm rolled steel channels, at 300mm centres. The longitudinal runners must be not less than 152mm x 76mm rolled steel channels.

Particulars of offer: _____

PUMP & PLUMBING

All pipes and equipment must not protrude on the side of vehicle.

1. Pump

A hydraulically (hydrostatic) driven 80mm self-priming centrifugal pump, delivering at least 40m³/h at 6,0m suction- and 6,0m delivery head, must be mounted on platform behind the tank

- 1.1 The hydraulic pump must be driven off the gearbox power take-off of the truck and must be pneumatically controlled from inside the cab.
- 1.2 A large red warning light must be fitted to the dash panel, in clear view of the driver, to indicate engagement of the power take-off.
- 1.3 A speed limiter must be fitted to disengage the PTO when exceeding the speed limit

2. Piping

A three-way piping system is required:

- *Disburse*
- *Sprayers*
- *Filling*

2.1 Connection of tank to pump

The delivery side of the pump must be coupled, via a butterfly valve, which will allow filling of the tank through a 80mm inlet at the top rear end of the tank.

The suction side of the pump must be coupled, via a butterfly valve, to the lowest point of the tank to pump water from the tank.

2.2 Disburse via the pump to an external system/container

The delivery side of the pump must be coupled, via a butterfly valve, to a suitable quick coupling for pumping from the truck to an external system/container. The exit facing towards the left-hand side of the truck. The coupling must be able to connect the 80mm armoured hoses.

2.3 Disburse via Sprayers

The delivery side of the pump must be coupled, via a butterfly valve, to the sprayer system.

2.4 Filling the tank

The suction side of the pump must be coupled, via a butterfly valve, to allow for pumping from an outside water supply in order to fill the tank. The external port must have a suitable quick coupling facing towards the left-hand side of the truck, to connect the 80mm armoured hoses.

2.5 Fitting of taps

One 75mm outlet, on left hand side of tank shall be provided for the fitting of not less than 4 house hold taps.

2.6. Pipes

Two 4,5m lengths of 80mm armoured suction hose, complete with galvanised foot valve / strainer and quick coupling for a total flexible hose of 9,0m must be supplied.

- 2.7 The plumbing must allow for easy removal of valves and components for servicing or replacement.
- 2.8 A 80mm butterfly valve must be fitted between the outlet of the tank and the sprayers to allow for gravity spraying.
- 2.9 Illustrate the schematic layout of the plumbing, including the direction of water flow.
- 2.10 Clear instructions for the operation of the system, by means of colour coding the different valves, be displayed in a convenient position near the pump.
- 2.11 Allowance must be made for the mass of the pumping equipment in the vehicle mass distribution calculations.

3. SPRAYERS (Construction)

The sprayers must be spaced so that a uniform deposit can be achieved over a total width of 5,0m. The spray pattern must not exceed 180°. (Horizontal spray bar or saucer-type sprayers)

Option 1 - Vertical spray bar

3 sprayers fitted in the centre to a vertical bar.

Option 2 - Horizontal spray bar.

Bar fitted with 3 sprayers evenly spread over the full length of the bar.

It must be possible to force feeding the bar type sprayers from the tank.

The bar could be manufactured to act as an under-run bumper.

Option 3 - Saucer-type sprayers

Two saucer-type sprayers, coupled to the system by 80mm pipes, must be mounted reasonably close to the rear wheels at a height which will obviate damage to the sprayers when the truck negotiated rough terrain.

4. DRAWINGS AND DETAIL

Dimensioned drawings as well as full technical details of the sprayers and system must be submitted with the tender.