



Diesel-Meister

ABOVE GROUND DIESEL TANKS

2200 TO 110000 LITRES

Storage options and project catalogue 2026

Horizontal | vertical | single wall | secondary containment

DRIVING INDUSTRY FORWARD

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Diesel storage range and catalogue guide

Diesel-Meister is the above-ground diesel tank range of STT Engineering Solutions. We welcome enquiries for stationary above-ground diesel storage tanks, fabricated tank components and agreed dispensing packages. The range in this catalogue starts at 2200 litres and extends to 110000 litres, with custom capacities available for enquiry.

Family	Tank arrangement	Specify on enquiry
DM-H	Horizontal cylindrical	Capacity, support arrangement and access
DM-V	Vertical cylindrical	Capacity, diameter, height and foundation
DM-SW	Single wall configuration	Separate secondary containment arrangement
DM-DW	Double wall configuration	Outer containment, monitoring and maintenance
DM-PK	Storage and dispensing package	Tank, pump, meter, filtration and controls
DM-CU	Custom configuration	Site envelope, interfaces and required storage

Capacity and ordering basis

Catalogue capacities are nominal total internal tank volumes for enquiry. They are not guaranteed usable storage capacities or approved fill limits. The released drawing defines geometric volume, maximum permitted fill, operating reserve and usable delivery volume. If you need 2200 litres of usable diesel, specify that requirement so a larger total volume can be selected where necessary.

Codes and dimensions are planning references rather than stocked or certified models. The quotation confirms the design standard, material, wall construction, supports, fittings, containment, tests, delivery and installation responsibilities.

Scope

This catalogue covers stationary diesel storage. Petrol, pressurized storage and road tanker service require different design and approval scopes. The exact stored fuel and its safety data sheet are part of the enquiry.

Tank capacity schedule

Select a nominal total capacity below, or request a custom size. Arrangement suggestions are for project planning; the final horizontal or vertical configuration depends on the site, design basis, fabrication and transport.

Enquiry code	Nominal total litres	Volume m³	Planning arrangement
DM-002200	2,200	2.2	Horizontal option
DM-005000	5,000	5	Horizontal option
DM-010000	10,000	10	Horizontal option
DM-015000	15,000	15	Horizontal option
DM-020000	20,000	20	Horizontal option
DM-030000	30,000	30	Horizontal option
DM-040000	40,000	40	Vertical or horizontal review
DM-050000	50,000	50	Vertical or horizontal review
DM-060000	60,000	60	Vertical or horizontal review
DM-080000	80,000	80	Vertical or horizontal review
DM-100000	100,000	100	Vertical or horizontal review
DM-110000	110,000	110	Vertical or horizontal review

Custom capacity and configuration

Provide the required usable storage, delivery batch size, consumption rate and site limits. A custom tank can be considered between listed capacities or with a different diameter, height or length. Final geometry, fill allowance and containment are confirmed during design.

Enquiry example

Diesel-Meister DM-020000 | diesel | 20000 litres nominal total volume | horizontal | single wall with external bund | pump and meter package | site drawing supplied. If 20000 litres usable storage is required, state that separately rather than relying on the nominal code.

Horizontal diesel tank options

Horizontal tanks can be considered for ground-level stationary storage with designed saddles or other approved supports. The tank, supports and foundation form one structural system.

Feature	Options and details to confirm
Shell and ends	Cylindrical shell; end geometry and material by design
Supports	Saddles, base frame or approved support arrangement
Filling	Fill connection, delivery hose access and spill control
Withdrawal	Outlet or suction arrangement with isolation
Inspection	Manway, cleaning access and safe maintenance provision
Level indication	Compatible gauge or electronic measurement
Containment	External bund or engineered double wall system
Finish	Surface preparation and exposure-appropriate coating

Planning geometry for horizontal tanks

Total volume litres	Internal diameter m	Calculated cylindrical length m
2,200	1.20	1.95
5,000	1.60	2.49
10,000	2.00	3.18
15,000	2.20	3.95
20,000	2.40	4.42
30,000	2.60	5.65

Geometry only: $\text{volume m}^3 = \pi \times \text{internal diameter}^2 \times \text{cylindrical length} / 4$. Values assume a simple full cylinder and exclude dished-end volume, internal displacement and fittings. They are not overall transport dimensions, released manufacturing dimensions or approved tank proportions.

Support loads must include the tank, maximum fuel contents, fittings and applicable wind, uplift and other actions. Wall thickness, saddle geometry and spacing are not determined by volume alone.

Vertical tanks and larger storage options

Vertical tanks can be considered where the project favors a smaller footprint or larger storage volume. Foundation, anchorage, shell stability and roof arrangements require the selected tank design basis.

Total volume litres	Planning internal diameter m	Calculated cylindrical height m
40,000	3.50	4.16
50,000	4.00	3.98
60,000	4.00	4.77
80,000	4.50	5.03
100,000	5.00	5.09
110,000	5.00	5.60

Geometry only: the full cylinder volume equals the nominal total volume shown. Roof geometry, bottom details, internal displacement, fill allowance and nozzles are excluded. The table does not confirm shell thickness, safe fill level or permissible diameter-to-height proportions.

Larger tank project fields

Field	Required project information
Site envelope	Available footprint, height and access clearances
Foundation	Ground information, settlement and support requirements
Tank system	Shell courses, bottom, roof, openings and anchorage
Fabrication route	Workshop-built sections or site assembly as agreed
Access	Inspection, maintenance and cleaning provisions
Delivery	Route, loads, unloading and lifting constraints

Custom geometry

A 110000 litre total-volume cylinder at 5.00 m internal diameter has a calculated cylindrical height of approximately 5.60 m. A different diameter changes height and design demands. Confirm the final tank proportions, roof, supports and maximum fill level on the released drawing.

Single wall double wall and containment

Secondary containment is selected for the complete installation, including fuel transfer points. A tank wall configuration does not by itself establish fire protection, spill management or site approval.

Configuration	Design and operating requirements
Single wall with external bund	Tank integrity plus a designed liquid-tight containment area
Double wall	Defined outer containment volume and monitored interspace
Tank within containment unit	Supports, drainage, access and retained liquid volume
Multiple tanks	Shared or separate containment with tank displacement considered

Containment capacity

Required containment capacity follows the applicable project requirements and authority conditions. Calculate net retained volume after displacement by tanks, supports and other equipment. Include rainfall allowance, drainage control and transfer spills where relevant. A fixed percentage is not assigned to every site in this catalogue.

Illustrative calculation

If a project specification requires net containment equal to 110 percent of a 20000 litre tank, the target is 22000 litres. This is an arithmetic example only. A bund with 25 m² unobstructed internal plan area would need 0.88 m effective retained depth before any additional allowance. Tank displacement, rainfall and freeboard can increase the required geometry.

Inspection and drainage

Provide access to inspect tank walls and containment surfaces. Interspace leak detection, external bund integrity and drainage arrangements must be documented. Any drainage release requires controlled handling of potentially contaminated liquid.

Tank connections venting and instrumentation

Connection sizes and positions follow the filling rate, withdrawal duty, inspection needs and tank design. Provide the full operating and transfer arrangement before final nozzle selection.

Connection or instrument	Specification focus
Fill connection	Delivery rate, hose interface, isolation and spill handling
Normal vent	Breathing demand, fill and withdrawal rates and suitable discharge
Emergency vent provision	Design basis and applicable abnormal conditions
Outlet or suction	Flow, isolation, pump arrangement and usable reserve
Drain and water removal	Controlled drainage and contamination handling
Manway	Inspection and cleaning access with designed reinforcement
Level gauge	Range, installation and tank geometry
High level protection	Alarm, shutdown function and delivery response
Leak detection	Interspace or containment monitoring as applicable
Identification	Fuel, capacity basis, serial and operating instructions

Venting and overfill

An atmospheric tank must operate within its permitted pressure and vacuum limits. Vent sizing and arrangement require the filling, withdrawal, thermal and emergency design conditions. Do not treat a nominal vent connection size as a completed vent design.

Overfill controls must be coordinated with delivery procedures and the available ullage. Level alarms, shutdown devices and gauges require function checks and documented operating responses.

Connection drawing

The general arrangement identifies each nozzle, elevation, flange or thread, function and access clearance. Pumps and pipework must not impose unreviewed loads on the tank shell or nozzles.

Dispensing pumps meters and accessories

A dispensing package is selected for the fuel, required flow, power supply and operating environment. Confirm whether the duty is vehicle fueling, bulk transfer or generator supply.

Package item	Information to specify
Pump	Required flow, duty, fuel compatibility and power supply
Meter	Flow range, accuracy requirement and intended use
Filter and water separator	Fuel compatibility, flow and service requirement
Hose and nozzle	Fuel-approved assembly, length, pressure and delivery interface
Valves	Isolation, non-return and any required safety functions
Control system	Authorized access, recording, alarms and shutdown
Electrical equipment	Site assessment, suitable equipment and installation scope
Spill equipment	Transfer-point containment and response provision
Generator supply	Feed, return, day tank and control arrangement

Transfer time planning

Delivery volume litres	Ideal time at 50 L/min	Ideal time at 100 L/min
2,200	44 min	22 min
10,000	200 min	100 min
20,000	400 min	200 min
50,000	1000 min	500 min
110,000	2200 min	1100 min

Time = volume / flow. These are constant-flow arithmetic examples, not recommended filling rates or pump performance guarantees. Actual flow depends on suction conditions, pipework, filters, meter, nozzle and pump characteristics.

Fuel management

Specify vehicle or user identification, transaction records and stock reconciliation where required. Any metering intended for trade must have its applicable requirements assessed separately.

Site foundations installation and approvals

The installation layout must suit the site, stored fuel, delivery vehicles, surrounding activities and required approvals. Complete the site review before committing to tank manufacture or placement.

Project input	Information required
Site	Address, survey, levels and property layout
Fuel	Diesel grade, safety data sheet and operating temperature
Storage	All tanks, capacities, usable requirement and deliveries
Surroundings	Buildings, boundaries, public areas and ignition sources
Ground	Geotechnical and foundation information
Access	Delivery route, vehicle maneuvering, lifting and maintenance
Drainage	Stormwater, containment and spill discharge prevention
Protection	Impact barriers, signage and access control
Approvals	Responsible professionals and relevant authority requirements

Design and approval basis

The project team must confirm the current applicable tank and installation standards, local authority and fire requirements, and any environmental or other approvals relevant to the site. SANS 10131 is a South African reference for above-ground petroleum storage; applicability depends on installation scope and total storage, not only one tank size. Current editions and requirements must be checked for the project.

This catalogue does not assign separation distances, foundation sizes, universal plate thicknesses or approval exemptions. Those details depend on the final installation and its design basis.

Foundation and loading

Provide design reactions, maximum contents mass, anchorage, settlement limits and support details to the foundation designer. Vehicle impact protection and safe tanker access require coordination with the tank arrangement.

Fabrication inspection and delivery records

Tank manufacture requires an approved design and inspection plan. Dimensions and capacity codes alone are insufficient to authorize fabrication.

Stage	Required agreement or record
Design release	Standard, geometry, material, thickness and connection details
Materials	Traceability and agreed material certificates
Welding	Specified procedures, welder qualifications and inspection
Dimensional checks	Shell geometry, supports, nozzles and access
Inspection and testing	Methods, coverage, acceptance criteria and test conditions
Coating	Preparation, system, cure and inspection records
Identification	Serial, capacity definitions and design particulars
Dispatch	Mass, lifting points, transport and protection
Handover	Drawings, test records and operation and maintenance information

Tests and tank integrity

The test method and pressure, where applicable, follow the selected tank design and inspection procedure. An atmospheric tank must not be subjected to an improvised pressure test. Record the agreed leak or integrity testing and acceptance results for the exact tank.

Lifting and transport

Confirm empty mass, center of gravity, lifting arrangement, transport envelope and site access. Lifting points and supports require design for their intended use. Site assembly and transport permit responsibilities are specified in the quotation.

Certification statements

The quote and handover pack identify the actual design, inspection and certification scope. No SABS mark, standard compliance certificate or approval is claimed merely by listing a tank in this catalogue.

Operation maintenance and storage planning

Operating procedures should control delivery, filling, withdrawal, inspection and emergency response for the installation. Keep the tank identification and approved operating limits available to users.

Routine activity	Record or check
Before delivery	Available ullage, correct fuel, connections and controls
During filling	Attended transfer and agreed overfill response
Tank inspection	Leaks, corrosion, supports and visible damage
Containment	Integrity, retained liquid and controlled drainage
Fuel quality	Water, contamination and filter condition
Instrumentation	Gauge, alarm, shutdown and leak detector function
Vents	Condition and unobstructed approved arrangement
Maintenance	Isolation, access and authorized service procedure

Storage autonomy example

A nominal 20000 litre tank operated with 18000 litres available at the planned fill level and a 1000 litre reserve has 17000 litres available for consumption in this example. At 1000 litres per day, this gives 17 days. The fill level and reserve here are assumptions, not approved limits for a Diesel-Meister tank.

Storage days = usable fuel above reserve / daily consumption. Include delivery lead time, consumption peaks and fuel quality management when deciding capacity.

Inspection and service scope

Agree periodic inspection, cleaning and any repair procedure for the tank and accessories. Tank entry, hot work and major repairs require appropriate isolation and specialist procedures. Keep inspection findings and any design changes in the asset record.

Tank enquiry sheet and contact

Send the required storage and site information below for an above-ground diesel tank quotation. State whether your litre requirement means total volume or usable operating storage.

Enquiry field	Information to supply
Client and site	Name, contact, address and location
Capacity	2200 to 110000 litres or custom; total or usable basis
Arrangement	Horizontal or vertical preference and space limits
Construction	Single wall, double wall or containment proposal
Fuel and duty	Diesel safety data sheet, consumption and delivery batch
Equipment	Pump flow, meter, filtration, nozzle and controls
Installation	Foundations, bund, pipework and electrical responsibilities
Access	Delivery route, crane access and height restrictions
Documents	Site drawing, design and approval requirements
Commercial	Quantity, timing, inspection and quotation scope

Technical references

South African Government Standards Act notice, Government Gazette 42323, 15 March 2019: identifies SANS 10131 for above-ground petroleum storage. Historical reference to the standard scope, not confirmation of the current edition or site approval.

https://www.gov.za/sites/default/files/gcis_document/201903/42323gen152.pdf

UK Health and Safety Executive, HSG176 The storage of flammable liquids in tanks: supporting bulk-storage engineering guidance. It does not replace South African project requirements.

<https://www.hse.gov.uk/pubns/books/hsg176.htm>

Contact and issue

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Diesel-Meister tank catalogue issue 2 | 2 October 2026. The Word document is the editable master and the PDF is the matching customer issue. Final capacities, design, approval and supply scope follow the released project documentation and quotation.