PRESSED STEEL SECTIONAL PANEL TANK

Water storage for food & factory production, air conditioning make up, fire services, rural water reticulation supply, raw water, sedimentation and other general water storage purposes.
PROJECTS:
Burj Khalifa, UAE
Petronas Twin Towers, Malaysia
Doha’s Sport City Tower
Zig Zag Tower, Doha
The King’s Palace, Thailand
MAJOR PROJECTS

With our experience, expertise and ability to provide world-class quality, we and our team have successfully supplied and commissioned prestigious projects worldwide.

AFGHANISTAN
Kabul International Airport
3 units x 1,635m³ HDG type

AUSTRALIA
Perth
1 unit x 91m³ SS316 type

BRUNEI
Terumbong, Bandar Seri Begawan
24 units x 48m³ & 2 units x 400m³
SS316 type

BURMA
Rangoon Airport
1 unit x 160m³ HDG type

CAMBODIA
Fraser & Neave Phnom Penh
1 unit x 220m³ HDG type

CHINA
Nansha G E Plastic, Guangzhou
1 unit x 600m³ & 1 unit x 245m³ HDG type

CYPRUS
Larnaka International Airport, Limassol
1 lot x 900m³ SMC/FRP type

HONG KONG SAR
Chek Lap Kok International Airport
6 units x 228m³ HDG type

INDONESIA
South Sulawesi
1 unit x 262m³ HDG type

IRAN
Ahvan
2 units x 9000m³ HDG type
1 unit x 2500m³ GRP type

IRAQ
Ministry of Interior Water & Sewerage, Baghdad
10 units x 36m³, 2 units x 458m³ & 1 unit x 355m³ HDG type + Steel Tower

JORDAN
Aqaba
2 units x 1,330m³ HDG type

LAOS
Vientiane Airport
1 unit x 228 SS316 type

MALE
Maldives Island Resort
3 units x 700m³ SS316 type

MOZAMBIQUE
Le Beira
1 lot x 250m³ HDG type + Steel Tower

MALAYSIA
• BP Castrol Lubricants, Port Klang
  1 unit x 660m³ HDG Type
• Motorola Semi Conductor, Selangor
  1 lot x 3,500m³ HDG type
• S.E.H. Malaysia, Ulu Klang
  2 units x 3,140m³ HDG type
• Kuala Lumpur International Airport
  1 lot x 1,700m³ HDG type
• FGP Plant, Kuantan
  1.3 million gallons HDG + Epoxy type
• Philip Morris, Senawang
  1 unit x 2,000m³ HDG type

NIGERIA
• Reliance Hospital Abuja
• Shell Petroleum
• Ido-Ar Ondo State
• Otta-Ikoshi
  1 lot x 5,500m³ HDG type + Steel Tower

PHILIPPINES
Motorola, Carmona Ind. Park
1 lot x 1,309m³ HDG + Epoxy type

QATAR
Siemen Sub-Stations & Sports City Tower, Doha
1 lot x 2,500m³ gallons
HDG + HDPE type

SINGAPORE
• Police Dog Unit
• DBS Bank
• Shangri-La Hotel
  1 lot x 853m³ SS316 type

THAILAND
• Chakri Throne Room, The King’s Palace
  1 lot x 363m³ HDG + HDPE lining type
• The Embassy of Japan, Bangkok
  1 unit x 228m³ SMC type

U.A.E.
Burj Khalifa, Dubai
Level B2, 17, 40, 73, 109 & 135
1 lot 500m³ SS316L type
Level 40, 41, 74, 110, 137 & 160
SS316L lining to 14 units Reinforced Concrete (R.C) tanks

VIETNAM
• Hanoi Petroleum Centre
• Cong Ty Phan Co Dien Lanh
• Franco Hospital Ho Chin Minh City
• Hung Young Plaza Ho Chin Minh City
• Gemadept, Tan Binh Dist
  Ho Chin Minh City
• 1 lot x 400m³ SMC/GRP type
**MANUFACTURING SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Standard</th>
<th>SUNNIK pressed steel sectional water tanks constructed with hydraulically pressed external flanged panels at an angle of 45° and 90° to face of panel conforming to British Standard 1564:1975.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>The mild steel used in the manufacture of the panels, stays, cleats and pads is of BS EN 10025:2004 Grade S275 or its equivalent.</td>
</tr>
<tr>
<td>Tank Panels</td>
<td>Tank panels of 1.22m x 1.22m or 1.0m x 1.0m square and other dimension of panels are available upon special request.</td>
</tr>
<tr>
<td>Tank Roof Cover</td>
<td>Tank covers of 1.5mm and 3.0mm thick are hydraulically pressed to 1.22m x 1.22m or 1.0m x 1.0m square; pitch or dome shape roof covers can be supplied upon request.</td>
</tr>
<tr>
<td>Stays &amp; Cleats</td>
<td>The sides and ends of tank interior are supported by angle stays of similar finish at the junction of two or more plates; other additional finishes can be supplied upon request. Angle Stays are connected from sides to bottom, ends to bottom and/or horizontally sides to sides and ends subject to manufacturer’s design and details.</td>
</tr>
<tr>
<td>Bolts &amp; Nuts</td>
<td>Bolts, nuts and washers are conform to BS 4190 or equivalent where necessary as determined by manufacturer.</td>
</tr>
<tr>
<td>Sealing Materials</td>
<td>Where necessary, non-toxic sealant and compound or equivalent are supplied for all tank panel joints.</td>
</tr>
<tr>
<td>Manholes &amp; Vent</td>
<td>Lockable access manhole 600mm square are provided for each tank or compartment with 100mm Ø insect proof air vent.</td>
</tr>
<tr>
<td>Ladders</td>
<td>Hot dipped galvanised, aluminium or equivalent type are provided for both internal and external of tank. Safety cages can be supplied upon request.</td>
</tr>
<tr>
<td>Level Indicator</td>
<td>Standard mechanical mild steel level indicator or equivalent are provided. Galvanised type or other finishes are available on request.</td>
</tr>
<tr>
<td>Packing</td>
<td>Each bundle with markings is palletised and with colour coated strapped (where applicable).</td>
</tr>
<tr>
<td>Compliance</td>
<td>BS 1564 : 1975 (Revised) with 1983 amendments for storage of liquids density of 1.0 at ambient temperature (30°C) and pH level 6 – 8:</td>
</tr>
<tr>
<td>Material Thickness</td>
<td>Tanks 1.22M Height: Bottom, sides and ends – 5.0mm thick Tanks 2.44M Height: Bottom, sides and ends – 5.0mm thick Tanks 3.66M Height: Bottom, sides and ends – 5.0mm thick Tanks 4.88M Height: Bottom and 1st tier of sides and ends – 6.0mm thick 2nd, 3rd and top tiers of sides and ends – 5.0mm thick Tanks 1M, 2M, 3M &amp; 4M Height: Thickness subject to manufacturing standards</td>
</tr>
<tr>
<td>Finishes</td>
<td>Hot Dipped Galvanised (HDG) HDG + High Density Polyethylene Geomembrane (HDPE) Stainless Steel Epoxy Primer Coated</td>
</tr>
</tbody>
</table>

**Notes**
- Manufacturing specifications are subject to change without prior notice.
- Manufacturing specifications can be customised to buyer’s requirement subject to manufacturer’s approval and safety compliance.
- SUNNIK tank recommended to be installed by its appointed or approved skilled installers only.
- SUNNIK tank recommended to be checked and certified by its technician upon complete installation and prior filling of water to ensure performance otherwise warranty shall be revoked automatically.
- SUNNIK Warranty is issued upon complete sales and commissioning of tank.
- Installation Manual and Tank Operation & Maintenance Handbook are provided for SUNNIK tank product on request.
### CAPACITY TABLE: 1.00 METER X 1.00 METER PANEL (STAINLESS STEEL)

Table of sizes, approximate weights and nominal capacity of tanks with external flanges-B.S. 1564:1975 (revised)

#### 1,000MM Deep

<table>
<thead>
<tr>
<th>Length x Breath</th>
<th>Nominal Capacity**</th>
<th>Approx. empty tank Wt. MT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mm</strong></td>
<td>Plates*</td>
<td>M**</td>
</tr>
<tr>
<td>2000 x 1000</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>3000 x 1000</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>4000 x 1000</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>5000 x 1000</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>6000 x 1000</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>7000 x 1000</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>8000 x 1000</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>9000 x 1000</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>10000 x 1000</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>11000 x 1000</td>
<td>29</td>
<td>11</td>
</tr>
<tr>
<td>12000 x 1000</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>13000 x 1000</td>
<td>33</td>
<td>13</td>
</tr>
</tbody>
</table>

#### 2,000MM Deep

<table>
<thead>
<tr>
<th>Length x Breath</th>
<th>Nominal Capacity**</th>
<th>Approx. empty tank Wt. MT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mm</strong></td>
<td>Plates*</td>
<td>M**</td>
</tr>
<tr>
<td>2000 x 1000</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>3000 x 1000</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>4000 x 1000</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>5000 x 1000</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>6000 x 1000</td>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>7000 x 1000</td>
<td>39</td>
<td>14</td>
</tr>
<tr>
<td>8000 x 1000</td>
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<td>16</td>
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<tr>
<td>9000 x 1000</td>
<td>49</td>
<td>18</td>
</tr>
<tr>
<td>10000 x 1000</td>
<td>54</td>
<td>20</td>
</tr>
</tbody>
</table>

#### 3,000MM Deep

<table>
<thead>
<tr>
<th>Length x Breath</th>
<th>Nominal Capacity**</th>
<th>Approx. empty tank Wt. MT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mm</strong></td>
<td>Plates*</td>
<td>M**</td>
</tr>
<tr>
<td>3000 x 3000</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>4000 x 3000</td>
<td>54</td>
<td>36</td>
</tr>
<tr>
<td>5000 x 3000</td>
<td>64</td>
<td>45</td>
</tr>
<tr>
<td>6000 x 3000</td>
<td>74</td>
<td>54</td>
</tr>
<tr>
<td>7000 x 3000</td>
<td>84</td>
<td>63</td>
</tr>
<tr>
<td>8000 x 3000</td>
<td>94</td>
<td>72</td>
</tr>
<tr>
<td>9000 x 3000</td>
<td>104</td>
<td>81</td>
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<tr>
<td>10000 x 3000</td>
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<td>90</td>
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<tr>
<td>11000 x 3000</td>
<td>124</td>
<td>99</td>
</tr>
<tr>
<td>12000 x 3000</td>
<td>134</td>
<td>108</td>
</tr>
<tr>
<td>13000 x 3000</td>
<td>144</td>
<td>117</td>
</tr>
</tbody>
</table>

#### 4,000MM Deep

<table>
<thead>
<tr>
<th>Length x Breath</th>
<th>Nominal Capacity**</th>
<th>Approx. empty tank Wt. MT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mm</strong></td>
<td>Plates*</td>
<td>M**</td>
</tr>
<tr>
<td>3000 x 3000</td>
<td>57</td>
<td>36</td>
</tr>
<tr>
<td>4000 x 3000</td>
<td>66</td>
<td>45</td>
</tr>
<tr>
<td>5000 x 3000</td>
<td>75</td>
<td>54</td>
</tr>
<tr>
<td>6000 x 3000</td>
<td>84</td>
<td>63</td>
</tr>
<tr>
<td>7000 x 3000</td>
<td>93</td>
<td>72</td>
</tr>
<tr>
<td>8000 x 3000</td>
<td>102</td>
<td>81</td>
</tr>
<tr>
<td>9000 x 3000</td>
<td>111</td>
<td>90</td>
</tr>
<tr>
<td>10000 x 3000</td>
<td>120</td>
<td>99</td>
</tr>
<tr>
<td>11000 x 3000</td>
<td>129</td>
<td>108</td>
</tr>
<tr>
<td>12000 x 3000</td>
<td>138</td>
<td>117</td>
</tr>
<tr>
<td>13000 x 3000</td>
<td>148</td>
<td>126</td>
</tr>
</tbody>
</table>

Note: *Number of plates does not include partition plates and tank covers. Thickness subject to finishes & type of tank.
**a) Nominal capacity are without allowance for freeboard. (Basing on 6.25 imp. gallon per cu.ft)
**b) To estimate net capacity a reduction from 12.5% on smaller tanks to 2.5% on larger tank should be allowed.

### TYPICAL TANK SUPPORT 1.00M X 1.00M

- All measurement in mm.
- Tank 3M & 4MHL steel capping flats shall be provided by purchaser on top of tank concrete support to ensure proper leveling and uniform distribution load.
- Support shall be effectively supported continuously under each bottom plate's flange in one direction @ 1000mm centres exceeding 150mm the length or breadth of tank. Tolerance of ±6.0mm for level and diagonals between each row of support.
- Min. clearance of 500mm shall be provided all around the outside or underneath of tank for erection and maintenance purpose. Min 750mm clearance at roof top for ease access via 600mm manhole hatch.
### CAPACITY TABLE: 1.22 METER X 1.22 METER PANEL (CARBON STEEL)

#### Table of sizes, approximate weights and nominal capacity of tanks with external flanges-B.S. 1564:1975 (revised)

<table>
<thead>
<tr>
<th>Length x Breath</th>
<th>Nominal Capacity **</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mm</strong></td>
<td><strong>Feet</strong></td>
</tr>
<tr>
<td>3660 x 3660</td>
<td>12 x 12</td>
</tr>
<tr>
<td>4800 x 4800</td>
<td>16 x 16</td>
</tr>
<tr>
<td>6000 x 6000</td>
<td>20 x 20</td>
</tr>
<tr>
<td>7200 x 7200</td>
<td>24 x 24</td>
</tr>
<tr>
<td>8400 x 8400</td>
<td>28 x 28</td>
</tr>
<tr>
<td>9600 x 9600</td>
<td>32 x 32</td>
</tr>
<tr>
<td>10980 x 10980</td>
<td>36 x 36</td>
</tr>
<tr>
<td>10980 x 10980</td>
<td>36 x 36</td>
</tr>
<tr>
<td>12200 x 12200</td>
<td>40 x 40</td>
</tr>
<tr>
<td>14640 x 14640</td>
<td>48 x 48</td>
</tr>
<tr>
<td>15860 x 15860</td>
<td>52 x 52</td>
</tr>
</tbody>
</table>

#### Note: * Number of plates does not include partition plates and tank covers.

** a) Nominal capacity are without allowance for freeboard. (Basing on 6.25imp. gallon per cu.ft.)

** b) To estimate net capacity a reduction from 12.5% on smaller tanks to 2.5% on larger tank should be allowed.

### TYPICAL TANK SUPPORT 1.22M X 1.22M

- **A) STEEL BEAM**
  - Joint Support in cross wall
  - Ground Level

- **B) CONCRETE BEAM**
  - Capping flat

- All measurements in mm.
- Tank 3.66mH & 4880mmH, steel capping flats shall be provided for purchaser on top of tank concrete support to ensure proper leveling and uniform distribution load.
- Support shall be effectively supported continuously under each bottom plate’s flange in one direction of 900mm centres exceeding 150mm the length or breath of tank. Tolerance of ±6.0mm for level and diagonals between each row of support.
- Min. clearance of 500mm shall be provided all around the outside or underneath of tank for erection and maintenance purpose. Min 750mm clearance at top for ease access via 600mm manhole hatch.
ISOMETRIC VIEW

Tank Cover
Std 600mm sq. Manhole
External Ladder
Perimeter Angle
Diagonal Stay
Cleats C1 & C2
Cleats B
Tank Support
(RC Plinth/I-Beam) provided upon request
Std Indirect Reading Water Level Indicator
Std 100mm Ø Air Vent
OP Truss
Horizontal Stay
Tank Panel

TYPICAL PIPE CONNECTION
Note: Pipe opening ONLY will be provided. Nozzles portrayed here can be either flanged, welded or screwed type and will be provided upon request by buyer.

Detail of Drain
Threaded Socket Welded into Tank Plate
Detail of Inlet & Overflow flange connection
Detail of Outlet flange connection
Flange Welded to Tank Panel

TANK COMPONENTS

Cleats AL (AL)
Cleats ALY (ALY)
Cleats B (CB)
Cleats C1 & C2 Assembly (CC)

TYPICAL PIPE/NOZZLES

Vortex Inhibitor with pipe
Vortex Inhibitor
Pipe Nozzle with flange (Type: ANSI/PN16/BS)
Nozzle With Socket & ANSI Flange

TYPICAL TANK PANELS & ROOF COVERS

Tank Cover
Tank Panel without Embossment
Tank Panel
Manhole (MH)
CONTACT US

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W www.sunnik.com.my

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43200 Selangor D.E
Malaysia

MEMBER OF:

- Federation of Malaysian Manufacturers
- Construction Labour Exchange Centre Berhad
- Construction Industry Development Board Malaysia

COMPANY CERTIFICATION:

- TÜV SÜD
- NSF National Sanitation Foundation U.S.A
- Span National Water Services Commission Malaysia
- Brunei Water Authority Hong Kong
- SIRIM BS1564:1975
- SIRIM Malaysia
- Lloyd’s Register
- WRAS Water Regulations Advisory Scheme UK

PRODUCT CERTIFICATION:

- Standards Organisation of Nigeria
- State of Qatar Ministry of Interior
- NSF National Sanitation Foundation U.S.A
- SPAN National Water Services Commission Malaysia
- Brunei Water Authority Hong Kong
- SIRIM BS1564:1975
- SIRIM Malaysia
- Lloyd’s Register
- WRAS Water Regulations Advisory Scheme UK

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