# Section 8 Storage Tanks & Equipment













### **Section 8**

## **Storage Tanks & Equipment**

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## Aboveground Horizontal UL-142 Tanks and Support Systems





Aboveground Horizontal UL-142 Tanks Highland aboveground steel tanks provide superior structural strength, product compatibility and durability for all your storage tank needs. Highland offers a variety of industry-proven designs with single and double wall options. Each tank is backed by Highland Tank's team of professionals in design, engineering, fabrication, delivery and service.

Highland aboveground horizontal tanks are available with or without supports to meet your requirements.

Highland tanks are constructed to be compatible with the full range of petroleum products including those with higher methanol and ethanol contents.

Each tank is constructed, tested, and labeled in accordance with Underwriters Laboratories Standard for Safety for the Aboveground Storage of Flammable and Combustible Liquids UL-142.

The UL Storage Tank Standards provide a long history of construction dependability. In addition, Highland's tanks meet or exceed the Federal Environmental Protection Agency's regulations for aboveground storage tanks for petroleum and chemical products.

#### Standard Construction



#### **UL-142 Single-wall Construction**

Highland single-wall storage tanks consist of a single sheet of steel meeting ASTM specifications, constructed to UL-142 standards. Material thicknesses range from 12 gauge to 3/8" of mild-carbon or stainless steel. Superior "ribbed" strength is achieved with lap joints employing a minimum 1/2" overlap.



#### **UL-142 Double-wall Construction**

Double-wall tanks consist of a primary steel tank wrapped by an exterior steel shell that may be in direct contact with the primary tank creating a full 360° double-wall tank. The interstice can be monitored for an unlikely leak using the 2" monitoring pipe. Both inner and outer tanks are supplied with emergency vent fittings.

With Highland Tank, you get historically proven steel design and construction that provide secure, dependable storage. In addition, you have the flexibility of customizing tanks to suit your needs.

#### Standard Construction Features

- · Flat-flanged heads
- · Continuous exterior fillet welds on all joints
- · Threaded fittings (see schedule)
- · Lifting Lugs
- UL-142 label
- · 5 psi factory air test and seam inspection.
- · Primer coating

Options include: Compartment bulkheads, manholes, flanges, enamel, epoxy or urethane exterior coatings, and special interior linings for aviation fuel, potable water and other liquids.

#### **Emergency Vent Fittings**

All Highland UL-142 tanks are supplied with an emergency vent fitting adequately sized to accomodate the intense increase in vapor pressure in the event of fire exposure Emergency vents are available as an option.

| Genera                | al Tank Info         | rmation                     |                           | Tank Weigh            | t Information           |                       | Sur                    | port Systems We              | ight Informat         | ion                       |
|-----------------------|----------------------|-----------------------------|---------------------------|-----------------------|-------------------------|-----------------------|------------------------|------------------------------|-----------------------|---------------------------|
| Capacity<br>(Gallons) | <b>Dim</b><br>Diamet | <b>ensions</b><br>er Length | Thickness<br>Primary Tank | Single-wall<br>(lbs.) | Thickness<br>Outer Tank | Double-wall<br>(lbs.) | Saddles<br>Each (lbs.) | BDH Supports<br>Total (lbs.) | Skids<br>Total (lbs.) | Stabilizer<br>Total (lbs. |
| 185                   | 3'2"                 | 3'4"                        | 12 ga                     | 154                   | 10 ga.                  | 358                   | 45                     |                              | 50                    | 30                        |
| 240                   | 3'2"                 | 40"                         | 12 ga                     | 285                   | 10 ga.                  | 645                   | 45                     |                              | 60                    | 35                        |
| 300                   | 3/2"                 | 5'0"                        | 12 ga.                    | 295                   | 10 ga.                  | 684                   | 45                     | 10                           | 60                    | 40                        |
| 500                   | 4'0"                 | 5'5"                        | 12 ga.                    | 415                   | 10 ga.                  | 948                   | 45                     | 10                           | 115                   | 65                        |
| 500                   | 4'0"                 | 5'5"                        | 10 ga                     | 533                   | 10 ga.                  | 1,050                 | 59                     | 20                           | 115                   | 65                        |
| 500                   | 4'0'                 | 5'5"                        | 7 ga.                     | 711                   | 10 ga.                  | 1,228                 | 59                     | 50                           | 115                   | 65                        |
| 1,000                 | 4'0*                 | 10'9"                       | 10 ga.                    | 958                   | 10 ga.                  | 2.015                 | 59                     | 60                           | 225                   | 100                       |
| 1,000                 | 4'0"                 | 10'9"                       | 7 ga.                     | 1.274                 | 10 ga.                  | 2,300                 | 59                     | 60                           | 118                   | 100                       |
| 1,000                 | 5'4"                 | 6.0.                        | 7 ga.                     | 1,128                 | 10 ga.                  | 2,180                 | 137                    | 60                           | 274                   | 120                       |
| 1,500                 | 5'4"                 | 90"                         | 7 ga.                     | 1,608                 | 10 ga.                  | 2,775                 | 137                    | 60                           | 274                   | 140                       |
| 2,000                 | 5'4"                 | 12'0"                       | 7 ga.                     | 1,988                 | 10 ga.                  | 3,450                 | 137                    | 60                           | 274                   | 512                       |
| 3,000                 | 5'4"                 | 18'0"                       | 7 ga.                     | 2,749                 | 10 ga.                  | 4.885                 | 137                    | 90                           | 411                   | 175                       |
| 4,000                 | 5'4"                 | 24'0"                       | 7 ga.                     | 3,510                 | 10 ga.                  | 6,108                 | 137                    | 120                          | 411                   | 175                       |
| 4,000                 | 6.0,                 | 19'0"                       | 1/4*                      | 4.750                 | 10 ga.                  | 6.914                 | 580                    | (32)                         | 873                   |                           |
| 4,000                 | 8.0*                 | 10'6"                       | 1/4"                      | 4,390                 | 7 ga.                   | 6,650                 | 882                    |                              | 582                   |                           |
| 5,000                 | 6'0"                 | 23'10"                      | 1/4"                      | 5,722                 | 10 gá.                  | 8,625                 | 580                    |                              | 540                   |                           |
| 5.000                 | 8'0"                 | 13'4"                       | 1/4"                      | 5.242                 | 7 ga.                   | 7,758                 | 882                    |                              | 582                   |                           |
| 6,000                 | 6'0"                 | 28'8"                       | 1/4*                      | 6,594                 | 10 ga.                  | 9,993                 | 580                    |                              | 540                   |                           |
| 6,000                 | 8'0*                 | 16'0"                       | 1/4"                      | 5,938                 | 7 ga.                   | 8,815                 | 882                    |                              | 582                   |                           |
| 8,000                 | 8.0,                 | 21'4"                       | 1/4"                      | 7,331                 | 7 ga.                   | 10.954                | 882                    |                              | 873                   |                           |
| 8,000                 | 10'0"                | 14'0"                       | 1/4*                      | 7.272                 | 7 ga.                   | 9,396                 | 1,102                  |                              | 696                   |                           |
| 10,000                | 8'0"                 | 26'8"                       | 1/4*                      | 8,725                 | 7 ga.                   | 9,657                 | 882                    |                              | 873                   |                           |
| 10.000                | 10'0"                | 17'0"                       | 1/4"                      | 8.389                 | 7 ga.                   | 13,982                | 1,102                  |                              | 696                   |                           |
| 12,000                | 8'0"                 | 32'0"                       | 1/4*                      | 10,118                | 7 ga.                   | 15,251                | 882                    |                              | 582                   |                           |
| 12,000                | 10'0"                | 20'6"                       | 1/4"                      | 9,506                 | 7 ga.                   | 15,835                | 1,102                  |                              | 1,044                 |                           |
| 15,000                | 8'0*                 | 40'0"                       | 1/4"                      | 12,209                | 7 ga.                   | 21,435                | 882                    |                              | 1,164                 |                           |
| 15,000                | 10.0,                | 25'6"                       | 1/4*                      | 11,070                | 7 ga.                   | 20.925                | 1,102                  |                              | 1.044                 |                           |
| 20,000                | 10'0'                | 34'0"                       | 1/4"                      | 13.974                | 7 ga.                   | 26,837                | 1,102                  |                              | 1,392                 |                           |
| 20,000                | 10'6"                | 31'0"                       | 1/4"                      | 13,858                | 7 ga.                   | 26,479                | 1:543                  |                              | 1,516                 |                           |
| 25,000                | 10'6"                | 38'9"                       | 1/4*                      | 16,544                | 7 ga.                   | 28,320                | 1,543                  |                              | 1,516                 |                           |
| 25,000                | 10'6"                | 38'9"                       | 5/16*                     | 19,903                | 7 ga.                   | 32,020                | 1,543                  |                              | 1,516                 |                           |
| 30,000                | 10'6'                | 46'6"                       | 1/4"                      | 19,236                | 7 ga.                   | 32,970                | 1,543                  |                              | 1,895                 |                           |
| 30,000                | 10'6*                | 46'6"                       | 5/16*                     | 23,269                | 7 ga.                   | 37.322                | 1,543                  |                              | 1,895                 |                           |
| 40,000                | 12'0"                | 47'6"                       | 3/8*                      | 33,102                | 1/4"                    | 50,725                | 1,800                  |                              | 3,195                 |                           |
| 50,000                | 12'0"                | 59'6"                       | 3/8*                      | 39,729                | 1/4*                    | 59,800                | 1,800                  |                              | 3,834                 |                           |

For Double-wall (Type I) tanks, add 6" to length and 1" to diameter for outside dimensions (includes monitoring pipe). For Double-wall (Type II) tanks, add 7" to length and 3" to diameter for outside dimensions. Two-saddle design available for all horizontal tanks. Tank heads may be fabricated with bracing or 1He" thicker steel, per UL 142.

## Ultra**&**Containment Sumps<sup>®</sup>

## **Secondary Containment For Fuel Tanks**

#### **ULTRA-275 CONTAINMENT SUMP**

- Eliminate costly spills while storing fuels, oils and other hazardous liquids in 275-gallon oval tanks.
- Rugged, all polyethylene construction will not rust or corrode.
- Optional 3/4" drain fitting allows use with Ultra-Self Bailer (see below).
- Meets Stormwater, SPCC and EPA Container Storage Regulation 40 CFR 264.175.

Pullover Cover option keeps rainwater out, yet allows easy access for pumping and waste collection activities.







#### **ULTRA-550 CONTAINMENT SUMP**

- Economical containment for 500 and 550 gallon fuel and oil tanks.
- 100% polyethylene construction will not rust or corrode; provides superior chemical and weather resistance.
- Optional 3/4" drain fitting available.
- Use with optional Ultra-Self Bailer (Part# 9935) for outdoor containment
   — Self Bailer allows clean stormwater
   to passively drain from sump while
   capturing hydrocarbons.
- Meets Stormwater, SPCC and EPA Container Storage regulation 40 CFR 264.175.



Note: To use Ultra-Self Bailer, Ultra-Containment Sumps WITH DRAIN must be specified when ordering (see page 31 for details).

#### **ULTRA-1000 CONTAINMENT SUMP**

- Contains 1000-gallon fuel tanks.
- 1-piece molded polyethylene design will not rust or corrode.
- Nestable design saves freight and minimizes storage space.
- Optional 3/4" drain fitting available allows use with Ultra-Self Bailer.
- 2" drain fitting also available.
- Use with optional Ultra-Self Bailer (Part# 9935) for outdoor containment — Self Bailer allows clean stormwater to passively drain from sump while capturing hydrocarbons.
- Meets Stormwater, SPCC and EPA Container Storage regulation 40 CFR 264.175.



| ULTRA-275 CONTAINMENT SUMP   | ULTRA-550 CONTAINMENT SUMP   | ULTRA-1000 CONTAINMENT SUMP  |
|--|--|--|
| Part# 2800: no drain • Part# 2801: with drain  | Part# 2823: no drain • Part# 2820: with drain                              | Part# 2830: no drain • Part# 2831: with 3/4" drain • Part# 2832: with 2" drain |
| Outside Dimensions: 84 1/2" x 43 3/4" x 29" (2,147 mm x 1,112 mm x 737 mm)                 | Outside Dimensions: 87" x 62 1/4" x 32 3/4" (2,210 mm x 1,582 mm x 832 mm) | Outside Dimensions: 148" x 63" x 33" (3,759 mm x 1,600 mm x 838 mm)            |
| Inside Top: 80" x 39"; Inside Bottom 73" x 31"<br>(2,032 mm x 991 mm); (1,855 mm x 788 mm) | Inside Bottom: 75 3/4" x 47 3/4"<br>(1,925 mm x 1,213 mm)                  | Inside Bottom: 130 1/2" x 45 1/2" (3,315 mm x 1,156 mm)                        |
| Weight: 90 lbs. (41 kg)  | Weight: 108 lbs. (49 kg)   | Weight: 244 lbs. (111 kg)  |
| Containment Capacity: 360 gallons (1,363 L)  | Containment Capacity: 605 gallons (2,291 L)                                | Containment Capacity: 1,100 gallons (4,164 L)                                  |
| Optional PullOver Cover, Part# 2810; Ultra-Self Bailer                                     | Option: Ultra-Self Bailer  | Option: Ultra-Self Bailer  |

#### **FUEL STORAGE TANK ACCESSORIES**

Loose-seal style cap with hinged cover. For fill port of small storage tanks. Lockable with a padlock. Aluminum or cast iron.

Available with male or female threads.

Used in pipe and tank fitting to reduce or adapt to a connection. Cast iron with NPT threads. The duplex bushing is used to connect 2" pipe to dual /2" or 3/8" lines.



Installed on aboveground storage tanks for the purpose of containing small spills and drips from the fill nozzle. Steel construction, lockable, and powder coated white.



Aluminum T-style Vent used primarily on small fuel oil storage tanks. Outlet ports on either side of the inlet with 20 mesh stainless steel screen keeps debris out of the airway.



"Open" vent used on underground and aboveground tanks for motor fueling. Vent allows tank to "breathe" during filling/dispensing operations. Some sizes are CARB approved.



Emergency Vent (pressure relief only) used on aboveground storage tanks, as a code requirement, to help prevent the tank from becoming over-pressurized and rupturing if exposed to fire. Series also contains flanged adaptor, companion flange, and pipe nipple fittings.



#### **LEAK GAUGE & READ GAUGES**

#### FOR ABOVE GROUND FUEL STORAGE TANKS

AT A GLANCE LEAK GAUGE TYPE K







| Part# | Description            | Part# | Description            |
|-------|------------------------|-------|------------------------|
| D36   | 2" × 36" reading gauge | D59   | 2" × 59" reading gauge |
| D42   | 2" x 42" reading gauge | D260  | 2" x 60" reading gauge |
| D45   | 2" x 45" reading gauge | D64   | 2" x 64" reading gauge |
| D46   | 2" x 46" reading gauge | DGKIT | D-Glass Repair Kit     |

#### TRANSFER PUMPS





**#FR112**ROTARY HAND PUMP



**#FR152** PISTON HAND PUMP



#FR1211 12V DC PUMP W/ METER



**#FR2410C** 24V DC PUMP



#FR701 110V AC PUMP W/ METER



**#FR700** 115V AC PUMP



**#SS415BX731PG** 12V TOTE PUMP KIT



**#SP100-05N-CD-HHH** 1/2" DIAPHRAM PUMP - OIL

#### **DEF PUMPS & ACCESSORIES**





**#KITHA32VMN**DEF HOSE & NOZZLE KIT



#SP100-05N-PP-SS 1/2" NPT DIAPHRAGM PUMP DEF

#### TRANSFER PUMP METERS



#### **3-WHEEL MECHANICAL METERS**



**#807C** 3/4" METER 5-20 GPM



#806C 1" GRAVITY METER W/ STRAINER



3/4" METER 5-20 GPM



#807C1 1" METER 5-20 GPM

#### **4-WHEEL MECHANICAL METERS**



**#901** 1" METER 6-40 GPM



**#901C1.5** 1-1/2" METER 6-40 GPM

#### **FLOW METERS**



#FR118A-10 1" DIGITAL METER 3-26 GPM





#### ROTARY DEF HAND PUMP

PART NUMBER DESCRIPTION
F00332A3P1218 ROTARY DEF HAND PUMP



#### SUZZARABLUE DRUM DISPENSING KIT

| PART NUMBER | DESCRIPTION          | ACCESSORIES                  |
|-------------|----------------------|------------------------------|
| F00201A4    | 120V AUTO DRUM KIT   | PUMP, BRACKET, AUTO NOZZLE   |
| F00201A3    | 120V MANUAL DRUM KIT | PUMP, BRACKET, MANUAL NOZZLE |



#### SUZZARABLUE TOTE DISPENSING KIT

| PART NUMBER | DESCRIPTION      | ACCESSORIES                    |
|-------------|------------------|--------------------------------|
| F00201A1    | 120 VOLT PRO     | PUMP, BASE, METER, AUTO NOZZLE |
| F00201A2    | 120 VOLT BASIC   | PUMP, BASE, MANUAL NOZZLE      |
| F00201A5    | 120 VOLT BASIC + | PUMP, BASE, AUTO NOZZLE        |
| F00201A8    | 12 VOLT PRO      | PUMP, BASE, METER, AUTO NOZZLE |
| F00201A9    | 12 VOLT BASIC    | PUMP, MANUAL NOZZLE            |
|             |                  |                                |



#### THREE25 TOTE DISPENSING KIT

| PART NUMBER | DESCRIPTION          |  |
|-------------|----------------------|--|
| F00101A10   | 12V THREE25 PUMP KIT |  |
| F00101A00   | 120V THREE25 PUM KIT |  |





#### MP AIR-OPERATED DIAPHRAGM PUMP

PART NUMBER DESCRIPTION
F00208P50-MP140 MP PUMP 26 GPM
F00208P60-MP190 MP PUMP 58 GPM



#### SB325 AUTOMATIC DEF NOZZLES

| PART NUMBER | DESCRIPTION                      |
|-------------|----------------------------------|
| F00617000   | SB325 AUTO NOZZLE                |
| F00617010   | SB325 METERED AUTO NOZZLE        |
| F19174000   | SB325 MIS-FILL & MAG ADAPTER KIT |
| R19172000   | SB325 SOUTH KIT W/ MIS-FILL      |
| R19173000   | SB325 SPOUT KIT W/O MIS-FILL     |
| F15165000   | ELAFIX 40 MAGNETIC ADAPTER       |
|             |                                  |



#### MICROMATIC DISPENSE COUPLER

PART NUMBER DESCRIPTION
F1536000 RSV S/S DISPENSER COUPLER









#### \*\*\*FUEL OIL PUMP & ACCESSORIES AVAILABLE\*\*\*



