Newsletter

June, 2007

What's New with the Flush Tank and Haul® System?

Cowater Alaska Inc. has been working since 1990 to develop the Flush Tank and Haul® System. This system uses innovative and appropriate technologies to provide water and sanitation services to homes in small, remote Alaskan villages. We continue to make improvements to the system and develop new products.

Here are some new things we've been working on.

1. **Metal Roof for Sewage Holding Tank**
   See Photos 1, 2 and 3 attached. We now supply precut and prefabricated roofing components which include the plywood roof panels as well as the metal roof and trim. Photo 1 shows the finished metal roof. Photo 2 shows the plywood panels on the tank Photo 3 shows the plywood panels collapsed down for shipping. Premanufacturing these components saves erection time, saves shipping excess material and produces a consistent top quality job. Colors available are red, green and blue. The price of our sewage holding tanks now includes the new metal roof.

Photo 1: Sewage Holding Tank with metal roof. Note also the metal clad sewage discharge pipe and electrical conduit coming from the building. The hold down cables are used in flood risk locations

Photo 2: Premanufactured plywood roof panels installed.

Photo 3: Plywood roof panels before shipment to the village.

2. **Roll-on Skis**

This is shown in Photos 4, 5, 6 and 7. It consists of two separate skis which are tied together with a tow bar at the front. The tow bar hooks on to the tow vehicle (see Photo 7) and then the haul tank is rolled on to the skis from the back and hooked to the ball on the skis tow bar. It is a very fast and easy hook-up. Photo 5 shows the sewage haul tank on the skis behind a snowmachine while Photo 6 shows the water tank at work. One set of skis can serve both water and sewage haul tanks.

The skis are made from welded aluminum with a heavy 'teflon' base bolted to the aluminum skis. The skis have 'pockets' for the wheels with tie-downs which strap over each wheel. The skis are gently curved at the front and back to function effectively in deep snow. This unit has taken time to develop but we are very pleased with the result.

Photo 4: Roll-on Skis ready for shipment.

Photo 5: Roll-on Skis at work with sewage tank mounted. The sewage vacuum blower is mounted on the platform in front of the sewage tank.

Photo 6: Roll-on Skis with water tank mounted. The water blower is mounted on the platform in front of the water tank

Photo 7: Easy hitch set-up for Roll-on Skis. Two simple ball hitches is all it takes to connect. The first one connects the skis to the tow vehicle. The second one connects the trailer to the tow bar of the skis.

3. **Sewage Vacuum Blower**

About four years ago we converted our sewage evacuation from a pressure system to a suction system using our Sewage Vacuum Blower. This is detailed in the Cut Sheet attached at the end of this newsletter. It is also shown in Photo 5 mounted on the front of the sewage haul tank. The Sewage Vacuum Blower is essentially a powerful 'shop vac'. It works by putting a vacuum on the sewage haul tank which in turn 'sucks' the sewage from the sewage holding tank. The benefit of this system is that it eliminates the need to open and close the valves on the sewage holding tanks. These valves have given trouble over the years and we are very pleased to be able to eliminate them from all new installations. For older units with the valves, we just leave the valves open all the time. Otherwise no change. The vacuum blower is designed and built by us to be very robust and suitable for village use.

4. **Made in Alaska Permit**

Most of the components of the Flush Tank and Haul® system are fabricated in Alaska. Cowater Alaska has now been authorized to use the Made in Alaska logo for the FTH® system.

5. **New HDPE Rotomolded Water Tank**
   See the cut-sheet attached at the end of this newsletter. This 120 gallon fresh water tank is made of NSF approved MDPE material. It has separate hinged lid which allows the tank to be nested for shipment. The bottom slopes to a drain pocket with a drain valve for easy cleaning. The tank sits on a 4" high base which accommodates the drain pocket and a drain pan. This new tank will make it easier for homeowners to clean and disinfect this water tank.

6. There are now more than 800 FTH® installations in over a dozen villages. Several (Nunapitchuk, Napaskiak and Mekoryuk) have over 100 installations each. We continue to make improvements on every project.

Cowater
Sewage Vacuum Blower

Description:
Cowater's Sewage Vacuum Blower is specially designed and fabricated by Cowater to function efficiently with Cowater's Sewage Haul Tank to evacuate sewage holding tanks at the home.The unit is essentially a powerful "shopvac" which has a suction port as well as a blower port.On the suction side it contains a stainless steel reservoir to collect any moisture coming into the unit.

Operation:
To evacuate sewage from the holding tank into the sewage haul tank, the vacuum blower is connected to the haul tank, thereby creating a vacuum in the haul tank and drawing the sewage from the holding tank. For dumping, the blower port may be used to produce pressure in the haul tank to assist in expelling the sewage at the dump station.

Specifications:
Blower motor: Ametek 3 stage blower Model 116765-13
Power: 120 Volt, 13.5 max amps.
Vacuum: 137.1 inches H_2O (4.7 psi.)
Casing: Dimensions: 22`` H x 12`` Dia.
Construction: PVC and UHMW blower housing.
Stainless steel reservoir with hold-down latches.
Air Hose: Standard 1 1/4`` vacuum hose connectable with either camlock or friction fittings, length 7 ft.

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May, 2004

Cowater
120 Gallon Round Polyethylene Water Holding Tank

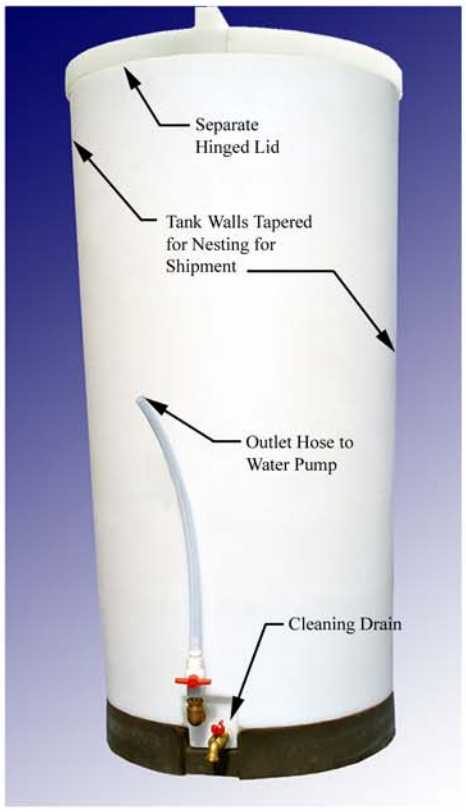
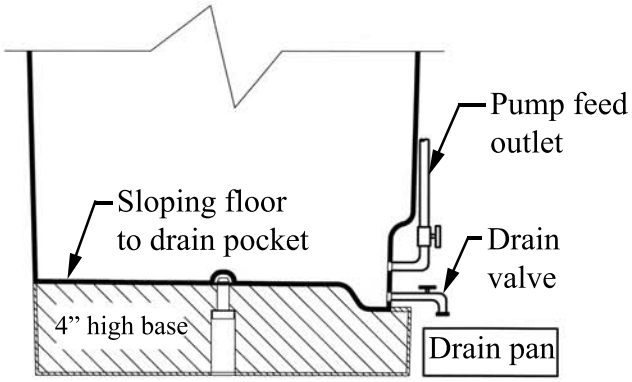


Photo of tank showing base and recessed outlets



Cross section through tank bottom showing drain pocket

Close-up photo of recessed outlets

Description:
Polyethylene water tank with separate hinged lid for access for cleaning and filling by bucket. Sound insulated pump cover. Fill and overflow pipes to be installed on site are not included with basic tank. Tanks and base are slightly tapered to allow nesting for shipment.

Tank Size	Total Volume	Effective Volume
120 gallons	120 gallons	110 gallons

Specifications:

Material:	MDPE (Medium density polyethelene) rotomolding resin. NSF listed for standards 14, 24, 61. Superior whiteness.
Material Thickness:	Tank walls, bottom and lid 3/16". Pump cover 1/8".
Tank Lid:	Detachable. Hinged to allow filling by bucket and ice blocks.
Pump Cover Complete with:	1" foam sound insualtion. 1/2" plywood pump base. 1/2" neoprene insulation under pump base.
Outlets:	3/4" spin weld fittings for clean-out drain and water pump feed.

Dimensions:

	Tank	Base	Lid	Pump Cover
120 Gallon Tank	28" (top) x 25" (bot.) x 52" high	4" high	28 3/4" dia. x 1 1/2"	16" x 13" x 8"

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