



TB 278-2017

Roth DWT Lube Tanks-Manifold Tank Fill Systems

Product: Roth DWT Double Wall Storage Tank

Date: October 5, 2017

This bulletin is to provide technical guidance and manufacturer recommendations for fabrication of manifold tank filling systems for used oil recovery and similar applications. Care must be taken in simultaneous filling multiple top connected tanks to insure that they fill equally fill to avoid overflow/spill events.

Pressure filling

Pressure filling with a pump is a requirement to simultaneously fill multiple top connected tanks.

Fill manifold design

The fill manifold for filling multiple tanks may be field fabricated, Roth recommends that the number of interconnected tanks be limited to 2 or 3. Care must be taken to match the manifold leg length between the flow splitting point and the tank connection points, check valves must be used at the manifold connection to each tank (see Fig 1 & 2). Manifold filled tanks must be the same size and installed on a common level surface. Outdoor tanks must be protected from the elements with a constructed shelter or cover. The Roth Weather Cover may NOT be used on manifold filled tanks.

Pump out

Roth recommends the use of field fabricated dip tubes installed in pump-out connections to insure that the same volume of residual liquid remains in each tank after pump out operations (see Fig 3)

Fill monitoring/alarming

Roth recommends the use of an overflow alarm on each tank to protect against overflowing any tank in the fill manifold system. The following are two examples of suitable tank level alarm equipment.

Husky BJE Oil and Lube Products

007670 Sentry 007 High or Low Battery Operated Tank Alarm with Built-in 103 dB Siren, 9VDC

<http://www.husky.com/bje/tank-monitors-gauges> 1-800-325-3558

Morrison Bros. Co.

918--92406 AK- 6" Brass adjustable level sensor with alarm, 90 dB audible, lithium batteries

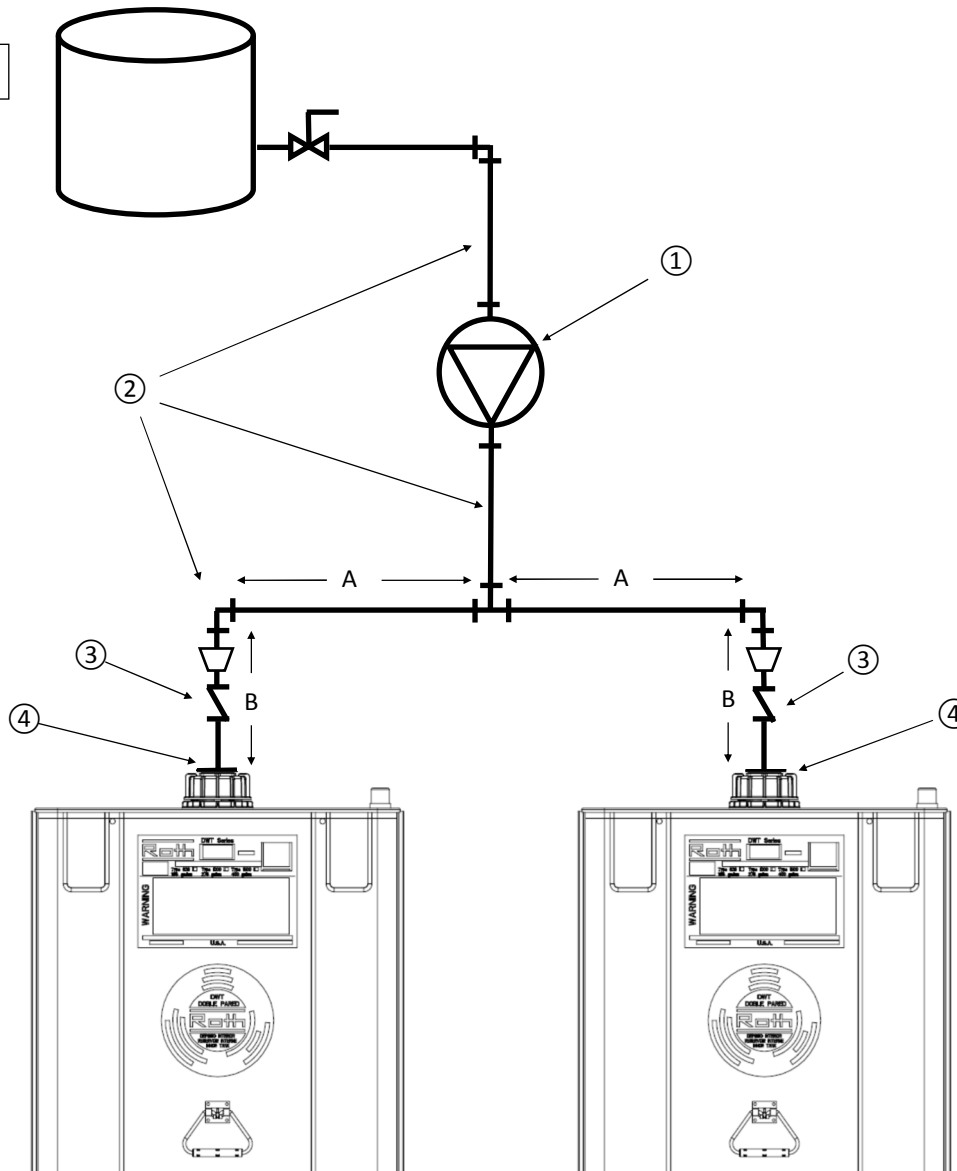
<http://www.morbros.com/products/gauges-and-alarms-0> 1-(563) 583-5701

Please forward any questions regarding this document to the Roth Technical Department at the address below.

Fig 1 Tank Fill Manifold- 2 Tanks



Collection Tank/System



- ① Pump-
- Pneumatic Diaphragm
 - Pneumatic Piston
 - Electric Centrifugal
 - 10-15 GPM Max

- ② Manifold and piping
- 3/4" Black iron pipe (1/2" between reducer and tank connection)
 - Threaded conn.
 - A's equal length
 - B's equal length

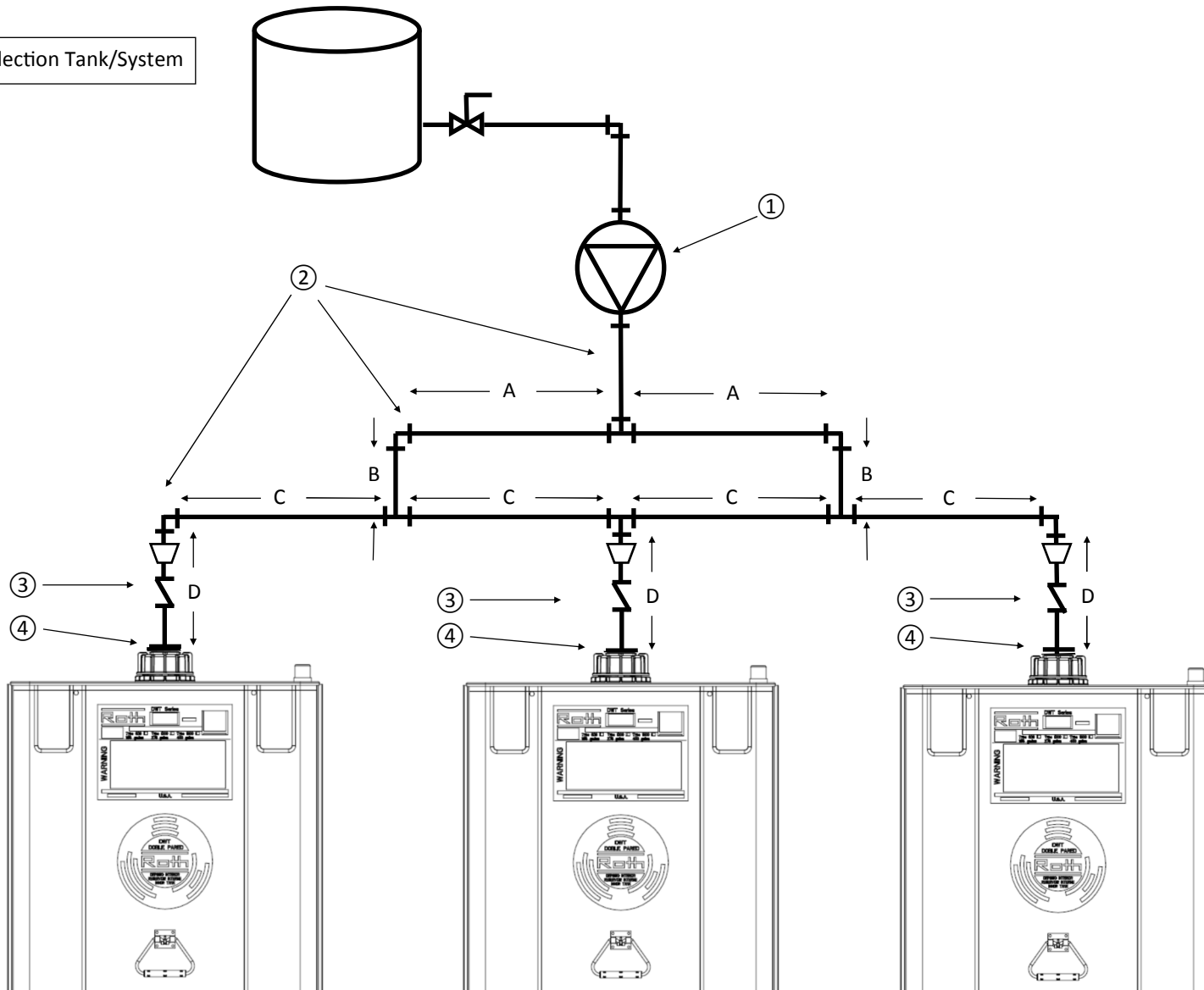
- ③ Check valves-
- (1) per tank
 - 1/2 NPT in-line type,
 - Brass, , 0.3 –1 PSI
 - cracking pressure
 - Specialty MFG PN CHK BRS 850 8F8F B 1/2" FNPT
 - Grainger Item# 4DHR1

- ④ Tank Connections-
- Roth Duplex Bushing
 - 1/2" size (1) per tank
 - ROTH PN 2350000027

Fig 2 Tank Fill Manifold- 3 Tanks



Collection Tank/System



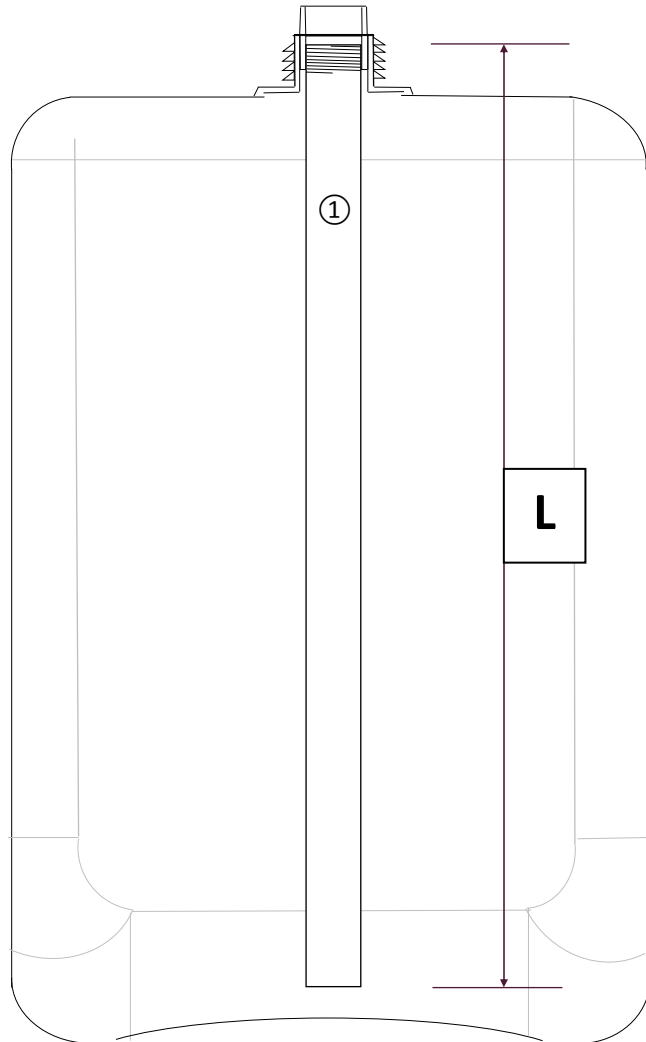
- ① Pump-
- Pneumatic Diaphragm
 - Pneumatic Piston
 - Electric Centrifugal
 - 10-15 GPM Max

- ② Manifold piping
- 3/4" Black iron pipe (1/2" between reducer and tank connection)
 - Threaded conn.
 - A's & C's equal length
 - B's equal length
 - D's equal length

- ③ Check valves-
- (1) per tank
 - 1/2 in-line type, Brass, , 0.3 –1 PSI cracking pressure
 - Specialty MFG PN CHK BRS 850 8F8F B 1/2" FNPT
 - Grainger Item# 4DHR1

- ④ Tank Connections-
- Roth Duplex Bushing
 - 1/2" size (1) per tank
 - ROTH PN 2350000027

Fig 3 Tank Fill Manifold-Pump Out Dip Tubes



- ① Dip Tube
- 2 in sch 40 black iron pipe
 - MPT one end
 - Length per table below, cut dip tubes to exactly the same length.
 - Install in the same opening in each tank
 - Use petroleum rated thread sealant between the dip tube and the NPT adapter.
 - Dip tube to bottom clearance-1.25 in

Tank Model	Dip Tube Length "L" *
DWT 400L	39.00
DWT 620L	55.50
DWT 1000L	55.50
DWT 1000LH	48.50
DWT 1500L	66.75

*Length overall, includes threads