

ODIS

IRRIGATION EQUIPMENT LTD.

FERTILIZER TANKS SERIES 6000

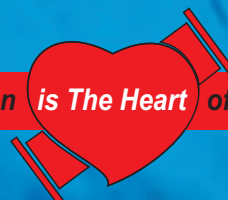
APPLICATIONS

- Designed specifically for fertigation in agriculture
- Simple, efficient and trouble free operation.
- Standard models apply fertilizer on the quantitative principle.
- Proportional models apply fertilizer maintaining a constant concentration of applied nutrients.



THE STANDARDS INSTITUTION OF ISRAEL

ODIS Filtration *is The Heart* of Every Irrigation System



DESCRIPTION

A fertilizer tank specifically designed for fertigation in agriculture.

Two types of fertilizer tanks are offered:

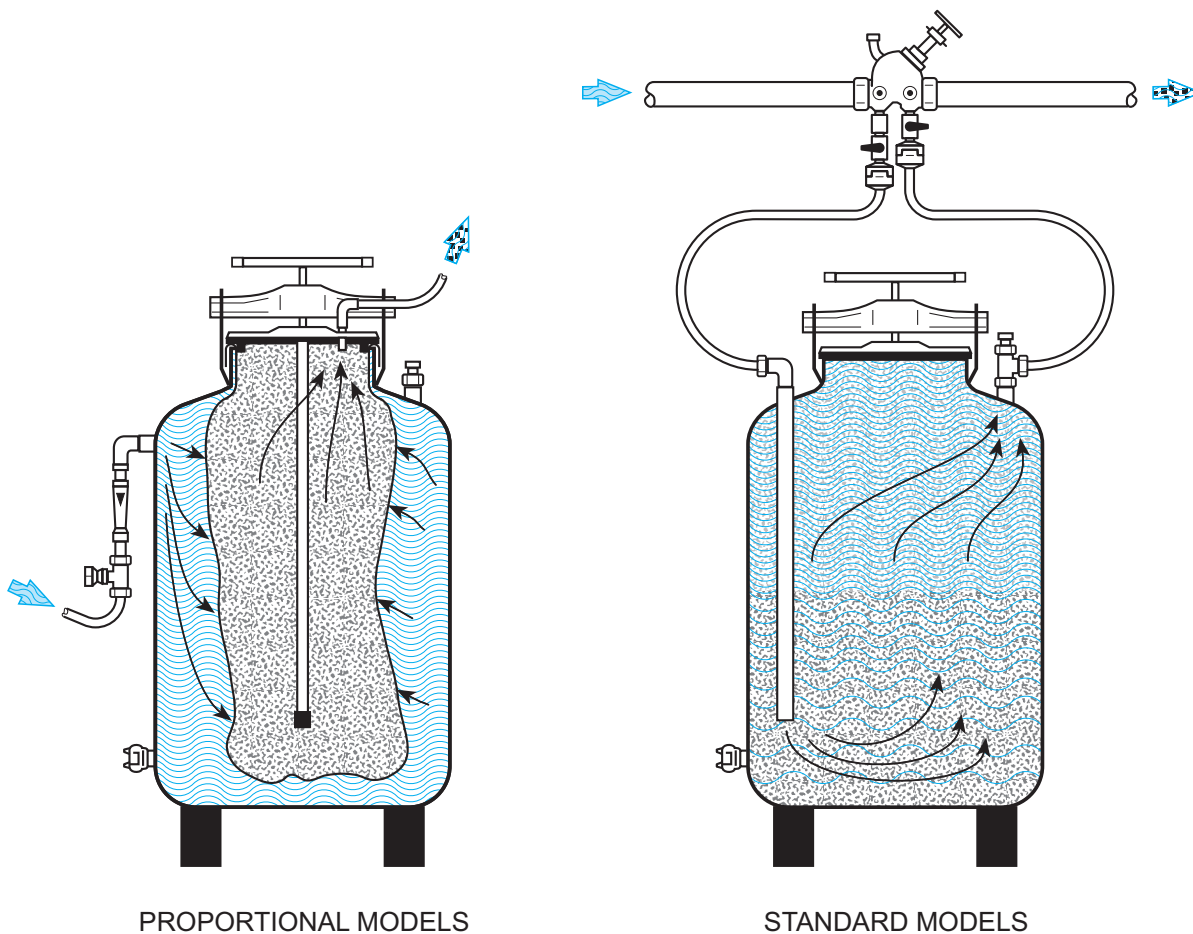
- A. Quantitative models available in the following volumes:
5, 30, 60, 90, 120 liters (vertical tanks);
120, 220 liters (horizontal tanks).
- B. Proportional models with flexible liner available in the following volumes:
10, 120, 220, 300 liters (vertical tanks).

The fertilizer tanks have a large opening port, this facilitates the filling of the tanks and prevents spilling over of its nutrients.

The physical shape of the opening port and neoprene gasket ensures hermetic sealing and long life service. Moreover, the neoprene gasket is not affected by adverse environmental conditions or by chemicals, used in agriculture.

Rubber coated metal legs isolate the filter from the ground to prevent corrosion and damage to the protective coating.

The fertilizer tanks have a 100 micron protective coating of extra durable polyester applied electrostatically and oven cured on a zinc-phosphate layer for maximal anti-corrosion protection.



PROPORTIONAL MODELS

STANDARD MODELS

Dimensions & Weight

Metric Units

Model	Capacity	D	H	A	Weight
	liters	mm	mm	mm	kg
6005	5	225	380		8
6010 *	10	225	450	330	9
6015	15	324	500		18
6030	30	390	600		24
6060	60	390	800		31
6090	90	480	800		38
6120	120	480	950		44
6121 *	120	480	750	700	45
6221 *	220	480	750	1100	59
6301 *	300	610	860	1000	75
6512**	120	480	1000		48
6522**	220	750	900		87

* Horizontal models.

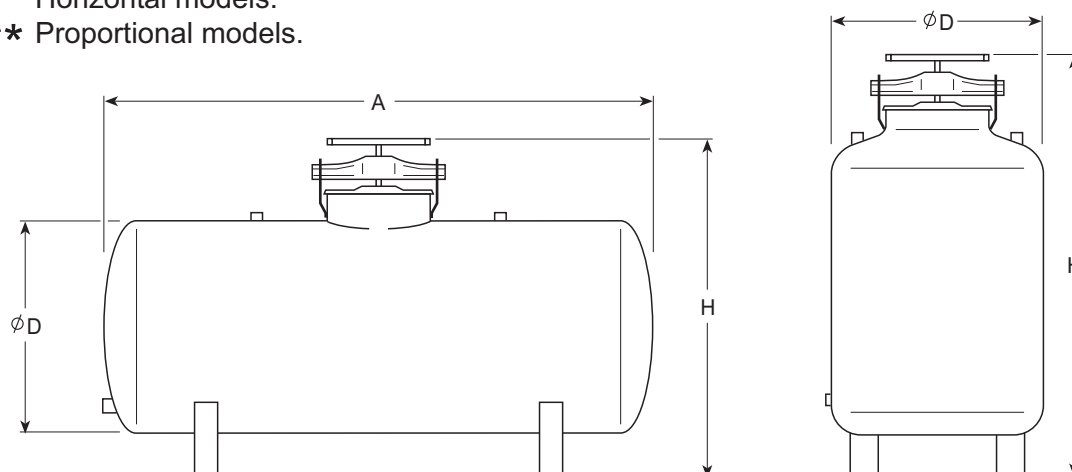
** Proportional models.

U.S. Units

Model	Capacity	D	H	A	Weight
	U.S. gallons	inch	inch	inch	lbs
6005	1.3	9	15		18
6010 *	2.6	9	18	13	20
6015	4	12	20		40
6030	8	15	24		53
6060	16	15	32		68
6090	24	19	32		84
6120	32	19	38		97
6121 *	32	19	30	28	99
6221 *	58	19	30	43	130
6301 *	79	24	34	39	165
6512**	32	19	39		106
6522**	58	30	36		192

* Horizontal models.

** Proportional models.



ILLUSTRATED PARTS BREAKDOWN
Catalog Numbers - Fertilizer Tank

Model		6005	6010*	6015	6030	6060	6090	6120
Capacity (Liters)		5	10	15	30	60	90	120
Capacity (U.S. Gallons)		1.3	2.6	4	8	16	19	32
Part No.	Description							
1	Handle	E000101	E000101	E000100	E000100	E000100	E000100	E000100
2	Tightening Bracket	E000014	E000014	E000216	E000218	E000218	E000218	E000218
3	Cover	E999240	E000240	E000260	E000280	E000280	E000280	E000280
4	Neoprene Cover Gasket	E001340	E001340	E004365	E004380	E004380	E004380	E004380
5	High Pressure Hose	E600502	E600502	E600501	E600501	E600500	E600500	E600500
6	P.V.C. Pipe	-	-	-	-	-	-	-
7	Air Valve (Vacuum Breaker)	E000910	E000910	E000910	E000910	E000910	E000910	E000910
8	Flexible Liner	-	-	-	-	-	-	-
9	Flow Meter	-	-	-	-	-	-	-
10	Regulating Valve	-	-	-	-	-	-	-
11	Quick Connection Stopper (Plug)	-	-	H200005	H200005	H200005	H200005	H200005
12	Quick Connection	-	-	H200008	H200008	H200001	H200001	H200001
13	Rubber Legs	-	-	E004367	E004367	E004367	E004367	E004367
14	Annular Gasket	-	-	-	-	-	-	-
15	Fertilizer Tank Body	A6005	A6010	A6015	A6030	A6060	A6090	A6120

* Horizontal fertilizer tank.

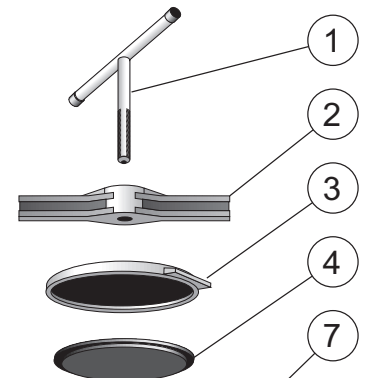
■ **When ordering, please specify tank capacity.**

■ ODIS can manufacture to order special size fertilizer tanks up to 1000 liters (265 US gallons).

■ Aimed at continued improvement, ODIS reserves the right to change specifications without prior notice.

Catalog Numbers - Fertilizer Tank

Model		6121 *	6221 *	6301 *
Capacity (Liters)		120	220	300
Capacity (U.S. Gallons)		32	58	79
Part No.	Description			
1	Handle	E000100	E000100	E000100
2	Tightening Bracket	E000218	E000218	E000218
3	Cover	E000280	E000280	E000280
4	Neoprene Cover Gasket	E004381	E004381	E004381
5	High Pressure Hose	E600500	E600500	E600500
6	P.V.C. Pipe	-	-	-
7	Air Valve (Vacuum Breaker)	E000910	E000910	E000910
8	Flexible Liner	-	-	-
9	Flow Meter	-	-	-
10	Regulating Valve	-	-	-
11	Quick Connection Stopper (Plug)	H200005	H200005	H200005
12	Quick Connection	H200001	H200001	H200001
13	Rubber Legs	E004389	-	-
14	Annular Gasket	-	-	-
15	Fertilizer Tank Body	A6121	A 6221	A 6301

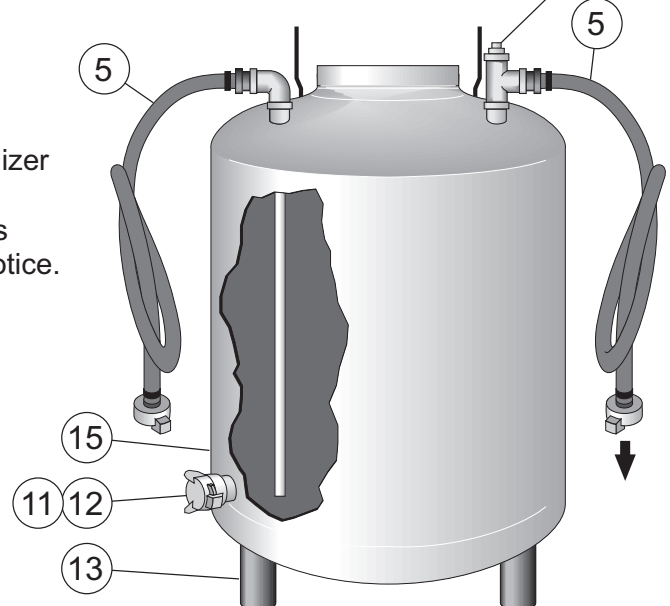


* Horizontal fertilizer tank.

■ **When ordering, please specify tank capacity.**

■ ODIS can manufacture to order special size fertilizer tanks up to 1000 liters (265 US gallons).

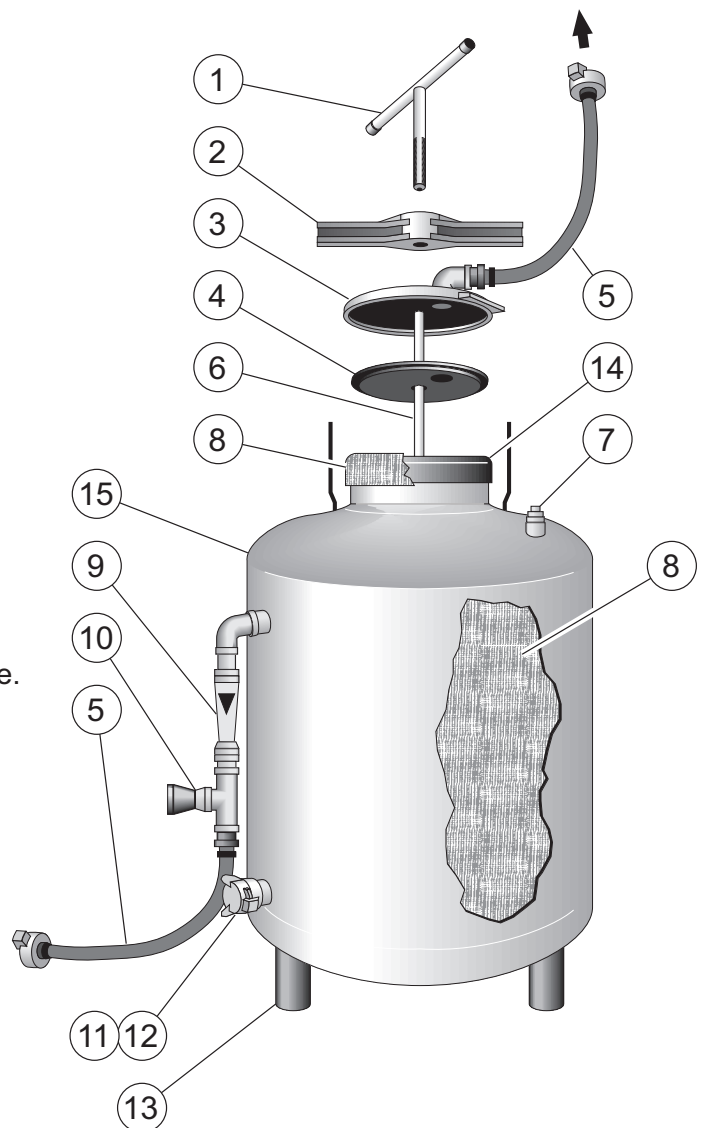
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ILLUSTRATED PARTS BREAKDOWN
Catalog Numbers - Proportional Fertilizer Tank

Model		6512	6522
Capacity (Liters)		120	220
Capacity (U.S. Gallons)		32	58
Part No.	Description		
1	Handle	E 000 100	E 000 100
2	Tightening Bracket	E 000 218	E 000 218
3	Cover	E 000 288	E 000 288
4	Neoprene Cover Gasket	E 006 380	E 006 380
5	High Pressure Hose	E 600 500	E 600 500
6	P.V.C. Pipe	E 600 800	E 600 800
7	Air Valve (Vacuum Breaker)	E 000 910	E 000 910
8	Flexible Liner	E 600 990	E 600 991
9	Flow Meter	N 512 008	N 512 008
10	Regulating Valve	P 200 022	P 200 022
11	Quick Connection Stopper (Plug)	H 200 005	H 200 005
12	Quick Connection	H 200 008	H 200 008
13	Rubber Legs	E 004 367	E 004 367
14	Annular Gasket	E 006 388	E 006 388
15	Fertilizer Tank Body	A 6512	A 6522

- **When ordering, please specify tank capacity.**
- Aimed at continued improvement, ODIS reserves the right to change specifications without prior notice.



TECHNICAL DATA

Two types of fertilizer tanks are available:

- Standard models apply fertilizer on the quantitative principle.
- Proportional models apply fertilizer maintaining a constant concentration of applied nutrients.

- Max. recommended working pressure: 8 bar (120 psi)
- Max. pressure: 10 bar (150 psi)
- Very large opening port facilitates filling of tank and prevents spilling of fertilizer.
- Neoprene gasket ensures hermetic sealing and long life service.
- The neoprene gasket is not affected by adverse environmental conditions or by fertilizers used in agriculture.
- Vacuum breaker (kinetic air valve) installed at tank outlet.
- Fertilizing can be performed continuously during irrigation or controlled (by controller or computer) as required, or manually operated.
- Standard models contain:
 - P.E tube to increase the efficiency of fertilizer mixing.
- Proportional models contain:
 - Flexible liner for fertilizing at constant concentration during fertilizing cycle.
 - Flow-meter with regulating valve for easy and accurate application of nutrients.
- Rubber coated metal legs isolate the filter from the ground to prevent corrosion and damage to the protective coating.

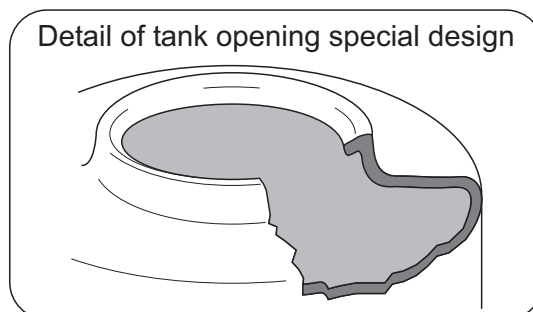
Protective Coating

100 micron extra durable polyester, applied electrostatically and oven-cured on a zinc-phosphate layer for maximal anti-corrosion protection.

Pressure Relief Valve

A pressure relief valve must be inserted before the fertilizer "head" if pressure is not controlled effectively.

- Each fertilizer tank is designed and manufactured to achieve the highest standard of quality and finish.



GENERAL INSTRUCTIONS

Irrigation with fertilizer is generally recommended during the first two thirds of irrigation time. This ensures proper flushing of irrigation system and minimizes clogging of the emitters by the chemicals.

Operating Instructions for Standard Models (QUANTITATIVE)

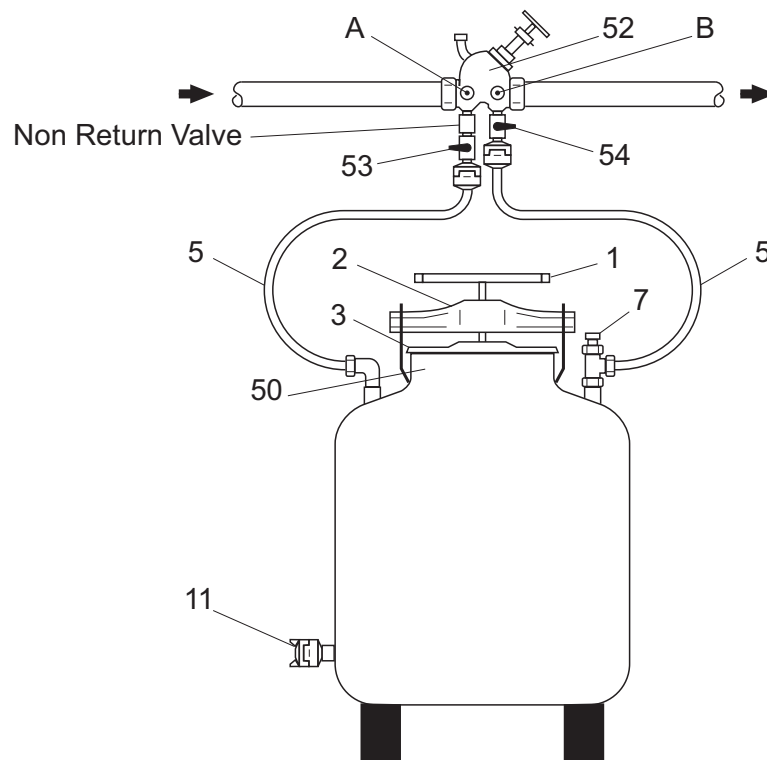
Irrigation can be performed in one of two ways:

1. Irrigation without fertilizer:

- Close valves (53), (54) then
- Open valve (52)

2. Irrigation with fertilizer:

- Fill the tank with the required fertilizer through the top filling port (50). The maximum level should not exceed 2/3 of the tank height.
- Close the filling port (50) with the cover (3) and the tightening bracket (2) and tighten properly with handle (1).
- Rinse thoroughly with clean water externally.
- Verify drain plug (11) is closed.
- Open main valve, then partially open the fertilizing head valve (52).
- Open inlet (53) and outlet (54) valves completely.
- Regulate the fertilizer head valve (52), according to the required fertilizing times (see table), and measure pressure loss between A and B by inserting pressure gauge with needle into pressure testing ports (A,B).



Approximate Fertilizing Times (Hours)

Pressure Loss Inlet / Outlet		Tank Capacity				
		60 Liters 16 U.S. Gallons	90 Liters 24 U.S. Gallons	120 Liters 32 U.S. Gallons	220 Liters 58 U.S. Gallons	300 Liters 79 U.S. Gallons
(bar)	(psi)	(2)	(3)	(4)	(5)	(6)
0.05	0.7	1 - 1 ¹ / ₄	1 ³ / ₄ - 2	2 - 2 ¹ / ₂	3 ³ / ₄ - 4 ¹ / ₂	5 ¹ / ₂ - 6 ¹ / ₂
0.1	1.5	³ / ₄ - 1	1 ¹ / ₄ - 1 ¹ / ₂	1 ¹ / ₂ - 2	2 ¹ / ₂ - 2 ³ / ₄	3 ³ / ₄ - 4 ¹ / ₂
0.2	3	¹ / ₂ - ³ / ₄	³ / ₄ - 1	1 - 1 ¹ / ₂	1 ³ / ₄ - 2 ¹ / ₄	2 ³ / ₄ - 3 ¹ / ₄
0.4	6	¹ / ₃ - ¹ / ₂	¹ / ₂ - ³ / ₄	³ / ₄ - 1 ¹ / ₄	1 ¹ / ₄ - 1 ¹ / ₂	1 ¹ / ₂ - 1 ³ / ₄

The fertilizing times are **for general use only**, and for fertilizers easily soluble in water. Actual times may be altered according to field conditions.

Column 1: Indicates the pressure difference between inlet A and outlet B of the fertilizer head.

Columns 2 - 6: Indicate the time in hours, of fertilizing (until concentration becomes negligible). Usually, fertilizing times are determined according to type of fertilizer, crops and experience.

NOTE:

The fertilizing time is determined by the pressure loss.

Installation

- Install the fertilizer tank in place.
- Connect the fertilizer assembly to the tank:
 - a. Connect the fertilizer head (combination valve) (52) after the main valve of the water supply line/pipe.
 - b. Connect the inlet and outlet (5) flexible hoses ($\frac{1}{2}$ ") to the fertilizer head.
- A pressure relief valve must be inserted before the fertilizer "head" if pressure is not controlled effectively.
- Maximal operational pressure should not exceed 8 bar (120 psi).
- Fertilizer tank is designed to withstand a maximum pressure of 10 bar (150 psi).

Periodic Cleaning

Clean the tank at the end of fertigation and before storage.

Cleaning the Tank

- Verify that outlet valve (54) and fertilizer head (52) are tightly closed.
 - Open drain plug (11) (*).
 - Open inlet valve (53) and main valve, and let the water flow rinse the tank (*).
 - Rinse thoroughly with clean water the interior of the tank and make sure no fertilizer remains inside.
 - Rinse thoroughly with clean water the exterior of the tank and make sure there are no remains of fertilizer.
- * The small tanks (models 6005, 6010, of 5 ,10 liters) have no drain plug and can be rinsed under a tap or with separate hose.

Maintenance

- Apply a layer of grease to the thread of the handle (1) once a year.
- Any damage to the protective coating must be repaired without delay. Prior to the application of the protective paint, clean thoroughly the damaged spot with wire brush.

Operating Instructions for Proportional Models

Irrigation can be performed in one of two ways:

1. Irrigation without fertilizer:

- Close valves (53), (54) then
- Open valve (52)

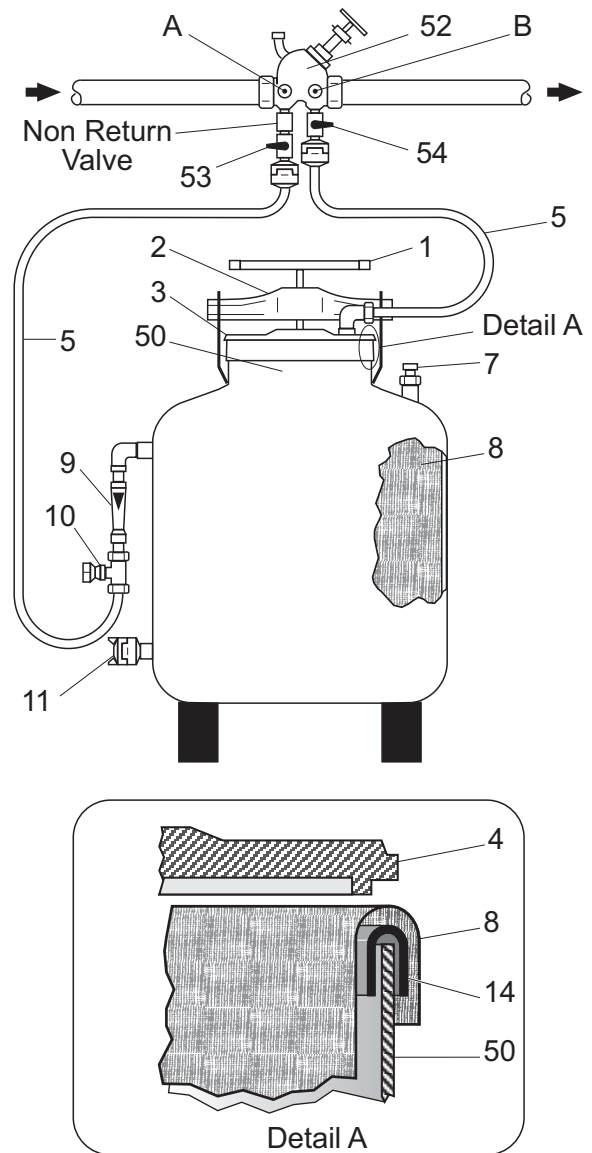
2. Irrigation with fertilizer:

- Fill the tank (into the flexible liner) through the top filling port (50) with fertilizer and water to the required concentration. Concentration is determined in accordance with fertilizer manufacturer's instructions and according to the crop.
(When mixing acid, add it to the water in the tank according to the acid manufacturer's instructions, not the other way round).
- Mix carefully.

NOTE:

Do not use a rod with sharp ends for mixing, as sharp edges might damage the flexible lining.

- Do not fill the tank more than 90% full.
- Close the filling port (50) with the cover (3) and the tightening bracket (2) and tighten properly with handle (1) after checking that the flexible lining (8) and gasket (4) are seated properly (see detail A).
- Rinse thoroughly with clean water, externally.
- Verify regulating valve (10) and drain plug (11) are closed.
- Open main valve then, open partially the fertilizing head valve (52).
- Open inlet (53) and outlet (54) valves completely.
- Adjust flow rate of fertilizer by opening regulating valve(10) to the required flow rate as indicated by the flow meter (9).
- The flow meter is calibrated to a flow of 40 to 180 liters of fertilizer solution per hour.
- After all the fertilizer is finished (also seen on the flow meter) before refilling the tank, drain all the water surrounding the flexible liner by opening drain plug (11). (Valves (53), (54) are closed).



Installation

- Install the fertilizer tank in place.
- Connect the fertilizer assembly to the tank:
 - a. Connect the fertilizer head (combination valve) (52) after the main valve of the water supply line/pipe.
 - b. Connect the inlet and outlet flexible hoses (5) (1/2 ") to the fertilizer head.
- Verify that the connections are correct:
 - Inlet valve (53) is connected through the flexible pipe to regulating valve (10).
 - Outlet valve (54) is connected through the flexible pipe to the outlet connection in the tank cover.
- Check for leaks.
- A pressure relief valve must be inserted before the fertilizer "head" if pressure is not controlled effectively.

Periodic Cleaning

Clean the tank at the end of fertigation and before storage.

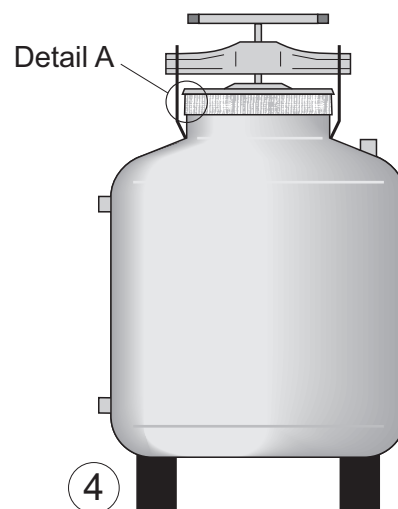
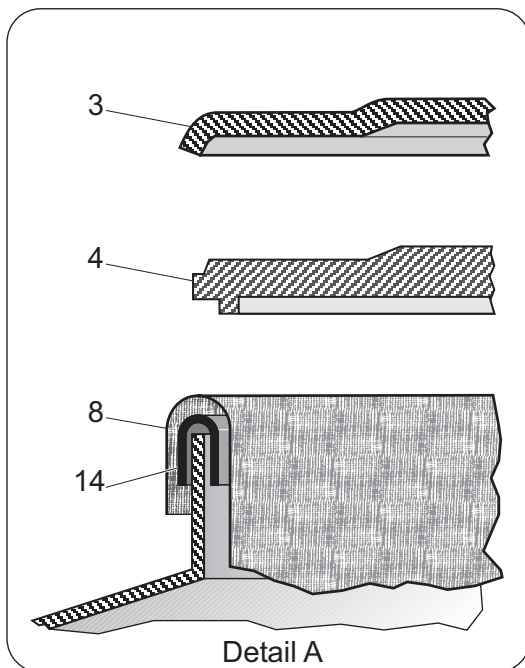
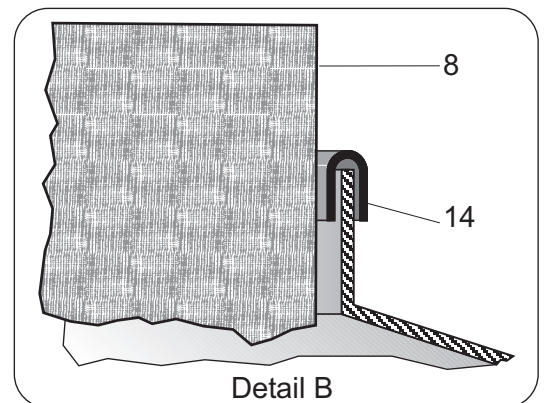
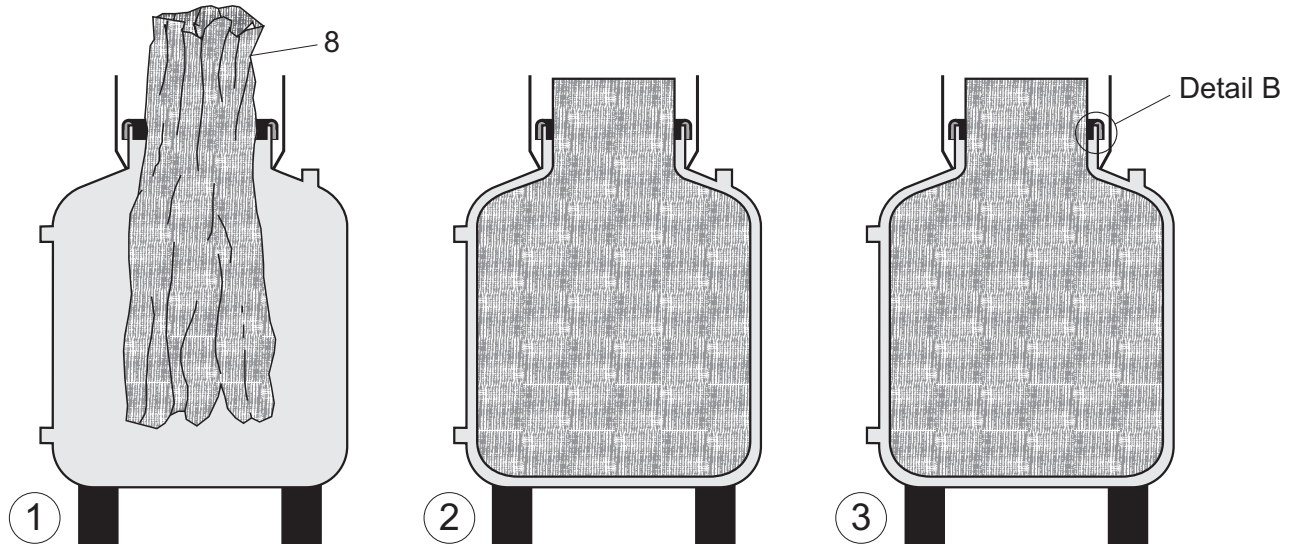
Cleaning the Tank

- Verify that valves (53) and (54) are tightly closed.
- Open drain plug (11).
- Rinse the interior of the flexible liner in the tank with clean water.
- Remove the flexible liner from the tank carefully.
- Rinse the flexible liner thoroughly with clean water and make sure no fertilizer remains.
- Rinse the tank thoroughly with clean water and make sure no fertilizer remains (interior and exterior).
- Replace the flexible liner (8). Verify that there are no wrinkles and that it is properly located on the annular gasket (14), see detail (A).
- Replace the gasket (4) carefully on the edge of the installed flexible liner before closing the cover (3).

Maintenance

- Apply a layer of grease to the thread of the handle (1), once a year.
- Any damage to the protective coating must be repaired without delay. Prior to the application of the protective paint, clean thoroughly the damaged spot with wire brush.

Correct Installation of Flexible Liner



How To Order Odis Fertilizer Tanks

- Type of tank.
- Catalogue number of tank.
- Capacity.
- Max. Pressure.
- Additional Accessories: Nipples, Valves, Fertilizer Valves, Hoses, Pressure Gauges.
- Other than standard material.
- Special Requirements: Special Coating Requirements, Special Size (*).

* ODIS can manufacture to order special size fertilizer tanks up to 1000 liters (265 U.S. gallons).

PACKING / SHIPPING DATA

Metric Units

Model	Capacity (liter)	Weight (kg)	Length (m)	Width (m)	Height (m)	Gross Volume (m ³)
6005	5	8	0.24	0.24	0.38	0.02
6010 *	10	9	0.33	0.23	0.47	0.04
6015	15	18	0.3	0.3	0.5	0.05
6030	30	24	0.4	0.4	0.6	0.1
6060	60	31	0.4	0.4	0.8	0.13
6090	90	38	0.5	0.5	0.8	0.2
6120	120	44	0.5	0.5	1.0	0.25
6121 *	120	45	0.7	0.5	0.8	0.28
6221 *	220	59	1.1	0.5	0.8	0.44
6301 *	300	75	1.0	0.61	0.86	0.53
6512 **	120	48	0.5	0.5	1.0	0.25
6522 **	120	87	0.8	0.8	0.9	0.58

U.S. Units

Model	Capacity (U.S. gallon)	Weight (lbs)	Length (inch)	Width (inch)	Height (inch)	Gross Volume (cu.ft)
6005	1.3	18	10	10	15	0.71
6010 *	2.6	20	13	9	19	1.41
6015	4	40	12	12	20	1.77
6030	8	53	16	16	24	3.53
6060	16	68	16	16	32	4.60
6090	24	84	20	20	32	7.10
6120	32	97	20	20	40	8.85
6121 *	32	99	28	20	32	9.90
6221 *	58	130	43	20	32	15.55
6301 *	79	165	39	24	34	18.7
6512 **	32	106	20	20	39	8.85
6522 **	58	192	32	32	36	20.50

- * Horizontal models
- ** Proportional models