EVENPRODUCTS

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incorporating

Logic Irrigation Limited

Evenproducts Limited

steel cover erection manual





GALVANISED STEEL ROOF 2.74m to 14.63m (9’ to 48’)

Parts List

A

B

C

D

E

F

G

H

I

J

K

L

M

Ref:	Description
A	Segment Sheet
B	Segment Sheet c/w Hatch
C	Purlin
D	Adjusting Pole
E	Top Hub Plate
F	Ball Valve Support
G	Base Plate
H	Tie Strip Assembly
I	Centre Pole with Base Plate
J	Flat Apex Cover
K	Box Edging c/w Water Inlet
L	Box Edging c/w Overflow Vent
M	Box Edging

Quantities Required per size of Steel Cover

Size	A	B	C	D	E	F	G	H	I	J	K	L	M
9’ (2.74m)	7	2	9	1	1	1	1	9	1	1	1	2	6
12’ (3.65m)	10	2	12	1	1	1	1	12	1	1	1	2	9
15’ (4.57m)	13	2	15	1	1	1	1	15	1	1	1	2	12
18’ (5.48m)	16	2	18	1	1	1	1	18	1	1	1	2	15
21’ (6.40m)	19	2	21	1	1	1	1	21	1	1	1	2	18
24’ (7.32m)	22	2	24	1	1	1	1	24	1	1	1	2	21
27’ (8.23m)	25	2	27	1	1	1	1	27	1	1	1	2	24
30’ (9.14m)	28	2	60	1	1	1	1	30	1	1	1	2	27
33’ (10.06m)	31	2	66	1	1	1	1	33	1	1	1	2	30
36’ (10.97m)	34	2	72	1	1	1	1	36	1	1	1	2	33
39’ (11.89m)	37	2	78	1	1	1	1	39	1	1	1	2	36
42’ (12.80m)	40	2	84	1	1	1	1	42	1	1	1	2	39
45’ (13.71m)	43	2	90	1	1	1	1	45	1	1	1	2	42
48’ (14.63m)	46	2	96	1	1	1	1	48	1	1	1	2	45

The erection of this tank roof is divided into two parts:

1. The construction of the superstructure
2. The cladding of the superstructure

Construction of the Superstructure

1. Place the butyl mat at the centre of the tank

2. Assemble base plate lower pole section and hub plate near the edge of the tank and carry the completed assembly to the centre. Position the base plate and lower pole section on top of the butyl mat and fit the top plate hub and adjustable pole section.

3. Adjust the height of the pole section by turning the threads on the adjustable pole section, as indicated in the following table: (approx. half way down the thread).

Tank Diameter	Roof Pitch	Pole Over-height (Above tank height approx)
2.74m (09')	10°	0.250 metres
3.66m (12')	10°	0.320 metres
4.57m (15')	10°	0.300 metres
5.49m (18')	10°	0.480 metres
6.40m (21')	10°	0.560 metres
7.32m (24')	10°	0.640 metres
8.23m (27')	10°	0.725 metres
9.14m (30')	10°	0.800 metres
10.06m (33')	10°	0.890 metres
10.97m (36')	10°	0.970 metres
11.89m (39')	10°	1.056 metres
12.80m (42')	10°	1.138 metres
13.71m (45')	10°	1.219 metres
14.63m (48')	10°	1.300 metres

4. The centre pole section is stabilised by bolting 4 of the primary purlin sections onto 4 opposing spokes of the top plate hub using the M8 bolt and washer provided in the captive nut on the purlin. (Adding a roof tie to each will prevent purlin ends entering the tank).

NOTE: On Steel covers 30' and above the Purlin comes in 2 sections. These are bolted together using the supplied M12 bolts.

5. Adjust the position of the base plate on the mat until the 4 primary purlins are evenly overlapping the circumference of the tank.

6. Bolt the remaining primary purlins into place on the hub plate spokes evening out the purlin positions around the tank circumference so that each purlin is positioned directly above a bolt on the uppermost ring of the tank steel itself. this will ensure that when a roof tie strip is bolted to the purlin it will be in line with the tank steel bolts.

This completes the building of the superstructure.

Cladding of the Roof Superstructure

1. Begin by placing the box edging base with water inlet, above the location of the rising main using the M8 bolts/bolt washer provided, which are inserted vertically into the cap/nuts on the purlins – only tighten the right inner bolt at this stage. We suggest that the box-edging base with slots be placed adjacent to the water inlet as an overflow.

2. Going clockwise, add the next box section and loosely fix using an M8 bolt and washer on the inner of the roof purlin captive nuts. Make sure the new edge goes under the preceding one. Now loosely add the roof tie strap to the outer M8 captive nut. DO NOT TIGHTEN.

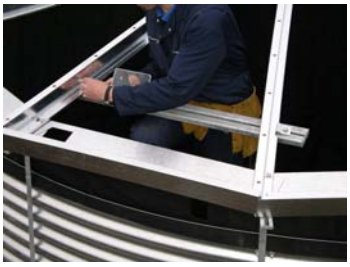
3. Continue going clockwise; add the next box section in the same way.

4. Return to the previous section and add the roof spacing pattern to the first captive nut on the top of the adjacent purlins. Tightening the inner purlin bolt fix the purlin spacers to that of the spacing pattern. Move the spacing pattern clockwise to the next pair of purlins and continue to process up to the last segment.

5. Add the last box section to the final space. This will indicate whether the centre pole requires raising or lowering to accommodate it. Adjust the pole height to allow a slightly wider space for the last box section. Add the box section and fix on one side. Use the spacing pattern fixed to one purlin, adjust the centre pole height until the M8 hole coincides with the captive nut. Tighten the inner box section nut. (Each segment has now been fixed using the spacing pattern).

6. Adjust the roof tie straps and tighten. Add the anchor bracket and adjust the tensioning bolt. (If the roof tie straps are not exactly in line, the roof can be moved now whilst the roof is still light).

7. Fit the Ball Valve/Float switch bracket to the purlins associated with the water inlet edging base.



8. Remove the access hatches from their associated sheets and place one over the segment designated for water inlet. You will notice that the segment sheets are folded along the left hand edge and that the holes on that side are slotted. Position the sheet and place two M8 bolts in the right hand holes to keep it in position.

   Working in a clockwise direction, add another sheet, position and add M8 bolts and washers to the right hand sheet holes. The right hand sheet holes always overlap the slotted left hand holes of the previous sheet. Continue adding sheets until you return to the first sheet, remove the two bolts and lift the first sheet to

overlap with the last sheet, so that the slotted holes are underneath the round holes. If lower and upper segment sheets are present, these should be added as a full segment before proceeding clockwise. The upper segment sheet overlaps the lower.

9. The structure is completed by the addition of the disc apex cover to the top hub plate, securing it into position with the bolt provided.

Ensure that all bolts and nuts are well tightened.

UK WATER REGULATIONS FOR IRRIGATION STORAGE TANKS

Water regulations require that a sufficient overflow is available on water storage facilities.

A-A Air Gap

A type A-A air gap is created by ensuring that the ball valve position is twice the inlet pipe's bore above the top of the water tank. In order for the required height to be achieved a ball valve bracket with 150mm lift is used. The water would then flow over freely.

A-B Air Gap

The Evenproducts galvanised roof complies with Type A-B air gap requirements. In this case the ball valve bracket is adjustable, running up adjacent roof purlins to gain the necessary height above the tank. If the bracket is set 1 metre from the edge of the tank, with a 10° pitch to the roof, the bracket would be 176mm above the top of the tank, see Appendix 7.

The roof does not seal the top of the tank, but in order to create a sufficient air gap the addition of an overflow weir is required. This weir comes in the form of a slotted panel with 81 holes, each hole being 15mm x 35mm, giving an overflow area of 400 sq cm.

Each roof is supplied with one slotted panel as standard. However with larger inlets it may be deemed necessary to create a larger overflow. This is easily achieved with the use of additional slotted panels, which are available on request.

TOOL LIST

Speed bit complete with 13mm socket

19mm socket for centre bolt

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