

## DOUBLE AND SINGLE FILED TROUGHS

### GENERAL NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. The support should be such that the trough is firmly anchored, both when empty and when full, so that it cannot be disturbed by animals. The fixture should be independent of the attachment of the trough to the water pipe.
3. The water supply should be laid underground, with a depth of cover of at least 750mm, to a point near the trough.
4. A stop valve complying with BS 5433:1975 or an underground plug cock, if permitted by the local water authority, should be provided in the water supply pipe near the trough to control the water supply to the float operated valve.
5. The stop valve/cock should be placed underground, at a depth of at least 750mm and should be placed in a position where it cannot be damaged by animals.
6. The stop valve/cock should be accommodated in an underground chamber of at least 225mm internal diameter, providing sufficient space to permit operation of the crutch-head by hand.
7. The stop valve/cock chamber should be provided with a lid or surface box, incorporating a retaining device to prevent opening or disturbance by livestock or farm vehicles.
8. The whole of the water supply pipe, from the point where it connects with the float operated valve to the point at which it reaches a depth of 750mm below ground, should be lagged in accordance with the requirements of BS EN 806-5:2012 & BS 8558:2015 as a protection against frost damage. The portion of the lagging which is above ground level should be covered externally to protect it effectively from moisture and should be accommodated in a pipe guard or other suitable enclosure. The portion of the lagging which is below ground should be protected against the entry of moisture from the ground. It is recommended that protection from underground moisture be achieved by sleeving the water supply pipe and lagging in heavy duty hose or other flexible pipe, and sealing the annular space between the water supply pipe and the sleeve at each end by means of a brush and a worm-drive hose clip, suitably protected from corrosion.
9. To minimize the risk of frost damage it is recommended that the water supply pipe between the underground stop valve/cock and the float operated valve should be of polyethylene to BS 12201:2011.
10. The float operated valve should be rigidly attached to the service box trough and should be adjusted so that the highest level the water in the drinking compartment can reach is not less than 25mm below its top edge.

11. If a trough is free standing it should either incorporate integral pipe guarding or be fitted with a pipe guard which encloses the supply pipe from all sides and from above to provide protection for the supply pipe and its lagging materials etc., against damage by livestock. The pipe guard should be securely attached to the trough but it may be detachable. It should be as durable as the trough to which it is attached.
12. Where pipe guarding is provided in accordance with 11, it should be of sufficient size to accommodate the supply pipe, the lagging necessary to satisfy the requirements to BS EN 806-5:2015 & BS 8558:2015 and any external covering required to protect the lagging from the entry of moisture. The minimum internal dimensions of the pipe guard should be 100mm diameter.
13. All troughs to be to BS 3445:1992.
14. The minimum internal dimensions are:-
  - (a) Single trough 1.8M long x 0.6m wide x 0.45m deep;
  - (b) Double trough 2.4m long x 0.6m wide x 0.45m deep.
15. The completed installation should comply with the relevant water byelaws or regulations applicable to the area. The recommended dimensions for a type 'A' gap are given in table:-

TYPE 'A' AIR GAP	
NOMINAL SIZE OF SUPPLY PIPE (d)	MINIMUM VALUE OF (S)
Up to and including 14mm	20mm
15mm and up to 21mm	25mm
22mm and up to 41mm	70mm
42mm and over	2 (d)

Dimension (S) is the vertical distance between the lowest point of discharge on the inlet pipe and the spill over level.

16. Troughs to be fitted with drain holes and plugs located at the bottom of the end plate rather than underneath the troughs.
17. Troughs to be sited in a position agreed by the Engineer and landowner and in any case sited away from trees where leaves may contaminate the water.

Rev.	Description	Drawn	Ch'kd	Auth	Date



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Project Status Drawing Title Drawing No.	<h1 style="margin: 0;">Highway Construction Details</h1> <h2 style="margin: 0;">DRAINAGE</h2> <h3 style="margin: 0;">Double and Single Field Troughs</h3> <h4 style="margin: 0;">SD/5/37a</h4>	Drawn Ch'kd Auth Rev.	JLS JD JJP 0	Date Date Traced Scale	12/06/2020 01/07/20 JLS N.T.S @A4
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