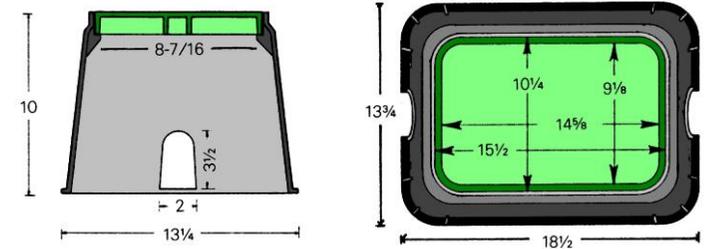




Where remote solenoids are specified a single supply pipe is taken from the pump, or tap supply and connected to a single entry point on the remote solenoid manifold. From each solenoid outlet a separate zone pipe is then taken to supply sprinklers, dripline etc. Remote solenoids 2 + are usually supplied as a kit comprising a pre-assembled solenoid manifold, with inlet and outlet compression fittings, a modified underground chamber, root guard matting and electrical connectors. (See separate instructions for wiring information).

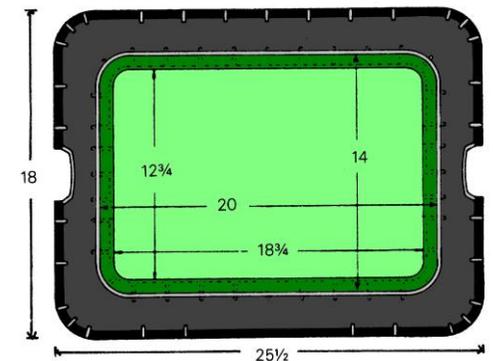
Method

- 1) The location of the remote solenoid box will be highlighted on the design drawings and will have been chosen to give the most efficient means of distributing the zone pipes. When fitting make allowances for inlet and outlet pipework.
- 2) The box chambers come in three sizes a simple 10" diameter for single solenoids. A 12" x 18" rectangular type for up to 3 solenoids, a 14" x 20" for up to 6 solenoids. (These dimensions are taken from the top and allowance has to be made for the tapered lower part). Chambers have a 10mm bolt securing the lids.



Note: Rectangular boxes are 12" deep. Single valve chambers are 10" deep. 2-3 valves are orientated lengthways, 4+ valves are orientated sideways).

- 3) The ground should be excavated to the depth of the chamber ensuring an allowance for the inlet and outlet pipework. The base should be firm and level. A 1m² piece of root guard matting is supplied with the chamber and this should be placed on the ground before the solenoid manifold is fitted. If desired a layer of gravel could be used additionally at the base of the chamber.

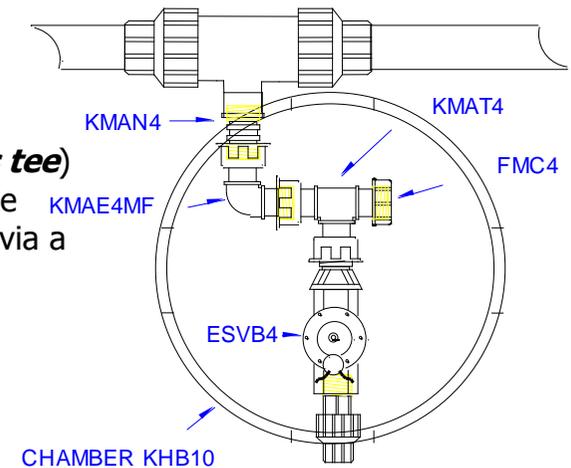


Note: The chamber top should sit flush with the final ground level.

Note: All solenoid assemblies have union type inlet and outlet fittings with internal 'O' ring and in some cases additional seals. These require tightening only and PTFE tape or additional sealing method is not needed.

Single Solenoids:

On single solenoids where not pre-assembled the manifold arrangement will need to be assembled as diagram. An appropriate size compression tee or saddle should then be fitted to the supply pipe at the solenoid position. A manifold nipple should be screwed into the tee or saddle branch (**'O' ring towards tee**) no PTFE is required as the 'O' ring will seal the joint. Screw the union part of the manifold fitting onto the nipple threads and tighten all fittings. The zone supply pipe should be fitted to the solenoid valve outlet via a compression fitting.



After finally checking all fittings cover the solenoid with a chamber.

Multiple Solenoids:

- 4) The solenoids will be pre-assembled and should be placed directly on top of the root guard matting.
- 5) The system supply pipe should be routed to the inlet of the solenoid manifold and connected to the compression fitting. (ensure the pipe goes past the inner seal).
- 6) The correctly sized pipe should be connected to each of the zone solenoid compression fittings. (ensure the pipe goes past the inner seal).

The compression fitting can be removed from the manifold and connected to the pipe first if required.

Ensure the manifold lies flat and is not under strain.



After finally checking all fittings for security cover the solenoid manifold with the chamber, ensuring the valves will still be accessible from the inside. Fold the root guard matting upwards and use to seal the chamber orifices, then backfill around the chamber pressing the soil firmly and securing the chamber. (ensure the box lid is level with surrounding areas).



The zone solenoid valves are operated at 24v AC directly from the irrigation controller via low voltage 0.8mm² multi-core signal cable. The number of cores -1 determines how many solenoids it will connect (EG: 6 core cable will run 5 valves). Several individual signal cables may be used in the system. For decoder type systems a two core cable is usually used see the manufacturers specific instructions for connections etc.

If individual signal cables are being used always label them for future reference.

Preliminary notes:

- Route signal cable along with the supply pipe, lay underneath pipe if possible for protection. Secure the cable loosely to the pipe using ratchet straps spaced approx every 2 metres. Ensure there is plenty of slack near solenoid chambers.
- It is good practice to check the cable continuity before making any solenoid connections.
- When stripping cable outer sheathing ensure no damage is done to the internal cores of wire.
- Only use waterproof grease crimps for underground wiring connections.
- Solenoids have two red wires, they are not specific so either can be used for zone or common.
- When wiring multiple solenoids the same common colour wire can be used, simply link together.
- Do not shorten the solenoid wires, simply bundle all wires together when connections complete and secure with a ratchet strap.
- Make a note of zone numbers and wire colours for future reference.
- Grease crimps
 - **The outer sheath of the individual wires does not need to be stripped back.**
 - **Grease crimps have a translucent back enabling the wires to be seen.**
 - **Use pliers to firmly squeeze the crimp together.**
 - **Always ensure the wires have been successfully crimped.**



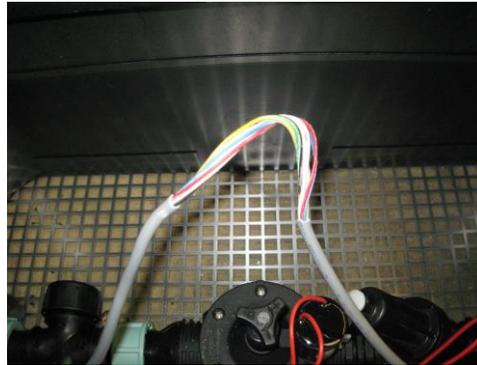
Connection Method (multicore)

QuickInstall Guide

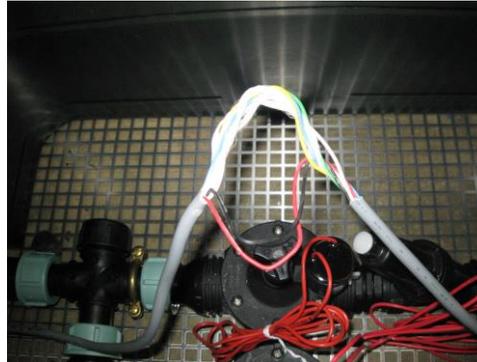
1) Route the signal cable into the solenoid chamber and make a loop. Separate out the individual solenoid wires. *It is advisable when long runs of wire have been laid to test wire continuity before making connections.*



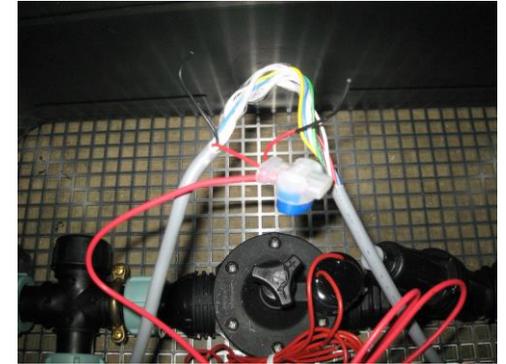
2) Carefully strip off approximately 100mm of the cable outer sheathing.



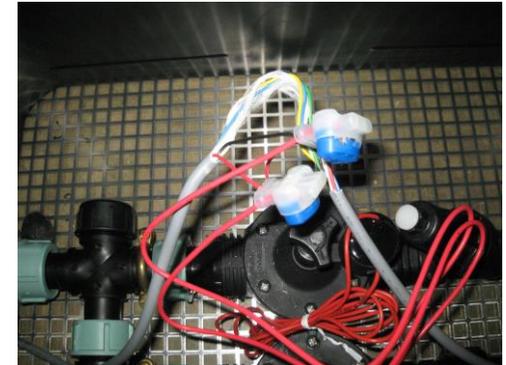
3) Select a zone wire colour (eg: red) and a common wire colour (eg: black). Cut only these selected wires ensuring enough tail to make connections.



4) Using a grease crimp connector insert the two ends of the zone wire and one solenoid wire and push the blue top firmly into the base using pliers.



5) Repeat for the common wire and the remaining solenoid wire. Link common wires together.



6) Repeat procedure for all other solenoid valves, choosing a new zone wire colour for each.

7) When all connections have been made and tested bundle all wires together and secure with a ratchet strap.

DB Valve option

If a DB valve option has been ordered this consists of a separate 10" valve chamber which houses the master solenoid. This is located alongside the main solenoid chamber and should be connected to the main solenoid manifold inlet via DB valve assembly in place of the supply pipe. The supply pipe should then be connected to the inlet compression fitting of the master solenoid.

The 10" chamber should be positioned at a slightly raised level to the main solenoid chamber, to enable the correct positioning of the DB valve riser. The DB valve should sit 300mm above the soil level in order to comply with water regulations. Use the root guard matting to protect the master solenoid.

