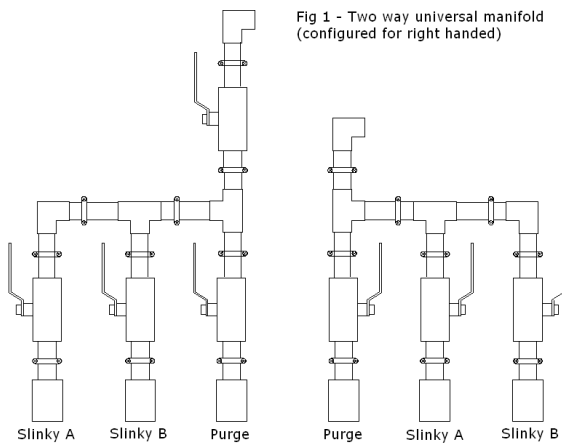


Slinky Manifolds V1

The manifold for the slinkies should be placed on the outside wall of the building, ideally with the heat pump on the other side of the wall. This is to avoid having to insulate the manifold with vapour barrier insulation to prevent condensation. It also reduces the number of entry/exit holes in the buildings fabric. Once installed an enclosure can be built around the unit if required.

On the slinky manifold, each end of each slinky connection is terminated in a 32 mm to 28 mm reducer, which is connected to a 28 mm compression valve. Each of these valves is connected to either a "feed header" or "return header". It is important that the effective length of each slinky is the same, to ensure even flow rate across them all.



Connecting Slinky pipe to the manifold

The slinky pipe must be cut squarely and neatly, and any burrs inside or outside removed. An appropriate plastic pipe cutter should be used. Each slinky manifold is supplied with copper ferules, one of which must be inserted into the end of each slinky pipe. This avoids the plastic pipe from being crushed by the compression fitting. It is essential that the slinkies are the same length to ensure even water flow. The slinkies are all supplied as identical lengths - **do not** cut them to different lengths exceeding +/-1m.

Connecting the manifold to the heat pump

All 1, 2 and 3 way Compact Heat Pump slinky manifolds are supplied with 28 mm 'Speedfit®' push-fit connectors and are universal, i.e. can be configured on-site as right or left-handed. Other Compact Heat

Facts at a glance:

Placing of Manifolds—Manifolds are generally placed on the outside wall of the building to avoid condensation problems.

Connections—Each slinky is connected to the manifold via a 32mm to 28mm reducing compression fitting. Each connection is provided with copper ferules and these must be inserted into the slinky pipe to avoid leaks when the compression joint is made.

Slinky Lengths—It is important that the lengths of the slinkies are kept the same and connected to the manifold in reverse return.

Manifold Handing—1,2 and 3 way slinky manifolds are universal i.e. Can be configured for right or left handing. Larger manifolds need to be specified left or right handed.

Insulation—Any pipe internal to the building needs to be insulated with a vapour barrier insulator, external pipes do not need to be insulated.

Connecting the manifold to the heat pump

All 1, 2 and 3 way Compact Heat Pump slinky manifolds are supplied with 28 mm 'Speedfit®' push-fit connectors and are universal, i.e. can be configured on-site as right or left-handed. Other Compact Heat Pump manifold sizes are supplied with 50mm connectors and need to be specified as right or left handed at the time of ordering. Plantroom system manifolds can be larger sizes.

Connection to a Compact Heat Pump should be via 28mm 'Speedfit', 50mm MDPE/HDPE or similar plastic pipe systems. This pipe can be purchased from any plumbers' merchants.

Any ground pipes inside the building should be insulated using a vapour barrier insulation, such as "Armaflex" to prevent dripping from condensation. Any pipe outside the building need not be insulated since the circulating fluid contains anti-freeze.



Fig 2- 2 way universal manifold (set for left handed)



Fig 3- 4 way 'left' handed manifold

Header Manifolds

On large commercial systems due to the large amount of ground arrays (boreholes or horizontal arrays) and space considerations it might be necessary to install header manifolds. Header manifolds link slinky manifolds together to provide a single flow and return to the heat pump. For example if there are 20 ground arrays, which are connected to two 10 way slinky manifolds, the header manifold will link these two 10 way manifolds together to provide a single flow and return to the heat pump.

The same considerations should be applied for header manifolds as for slinky manifolds, i.e. connected in reverse return and pipe lengths kept equal.

Connection sizes of header manifolds depend on the size. Please contact Kensa for further details.