

AQUARIAN DUCTING DEMARCATION

1. General	a. All flexible ducting workmanship and materials shall comply with AS4254:2012:1
2. Layout	<ul style="list-style-type: none"> a. Total effective length of flexible ducting must be less than 7 meters, including bends. 90° elbows count as 1 meter, 45° bends count as ½ meter, with no more than 3 90° elbows in total, or equivalent. b. All duct must be cut to correct length so that duct is fully extended and taut when installed. c. Ensure bend radius is no less than the duct outer radius. d. Duct must be supported: <ul style="list-style-type: none"> i. So that sag is less than 40mm per m, ii. 100mm from an elbow or bend iii. Otherwise supported every 1500mm. e. Ducting hangers must be 25mm wide, and support the duct via saddles. f. Ducting support saddles must be 75mm wide, be fire resistant, and placed to promote good air flow without risk of distortion or long term damage of the duct, g. Do not allow duct to lie along the ground in damp areas such as under the house.
3. Tape Correctly	<ul style="list-style-type: none"> a. Use 48 mm wide by 0.15mm thick duct tape as minimum size certified to AS4254 standard b. Tape shall provide a permanent air seal when adhering a flexible duct's inner core to a ducting connector, and provide a permanent vapour seal when adhered to a flexible duct's outer jacket/sleeve. c. Use a draw band over the tape to create mechanical fixtures. d. Ensure all taped surfaces are clean to provide good adhesion e. Check all ducting components are airtight before and after assembly f. Adhesive tapes shall not be used on their own as a substitute for mechanical fixing.
4. Connections	<ul style="list-style-type: none"> a. Use connection fittings which have a joining ridge that allows for fastening the flexiduct with drawbands b. Seal all connections first with duct tape, then apply collars for mechanical attachment where required. c. Collars on joiner connections shall be inserted a minimum of 40 mm into flexible duct before air sealing and mechanical fixing. d. Seal all joints with at least three clean, 40-60% overlapping, crease-free wraps of duct tape. e. Fasten circular collar joints using a drawband over the air seal, behind the collar.
5. Insulated Exhaust Duct	<ul style="list-style-type: none"> a. Exhaust duct must be insulated with synthetic, non-absorbent insulation. b. Vapour sealing—duct insulation and outer jacket/sleeve shall be pulled over the completed air seal and mechanical fixing, seal the insulation with at least three, clean, 40-60% overlapping, crease-free wraps of duct tape. c. Install insulated duct so that the length of the duct is fully insulated, from the heat pump unit to the outer wall termination point.
6. Grills	a. Grills or filters must be fixed to both intake and exhaust ducting to prevent entry of debris, birds, animals & foreign objects which may cause damage / restrict air flows.
7. Check ducting system when running	<ul style="list-style-type: none"> a. Check the ducting during heat pump operation, confirm that it does not collapse or deform when air is flowing through it. b. Check that seals are all airtight. c. Check that the ducting does not vibrate or move excessively when running, d. For AQ170 installations, Ensure the fan operates quietly. It may be necessary to extend the fan exhaust outlet to provide extra noise suppression.