

**Air Conditioning Installation**

Business Name:		ABN:
Business Address:		
Contact Person:	Phone:	Email:

**THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT**

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

**CLIENT OR PRINCIPAL CONTRACTOR DETAILS**

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	



RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	<b>Engineering</b> Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

  

Risk Rating & Required Action:	
<b>4A</b>	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	No injury	no schedule impact	Deviation caught and corrected on site

  

**Notes on Hierarchy of Controls:**  
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

*aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.*

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. WHS Governance, Legal Compliance and PCBU Duties	<ul style="list-style-type: none"> <li>Lack of clear allocation of WHS duties between PCBU, directors, officers, site supervisors and subcontractors for air conditioning installation work</li> <li>Failure to identify and apply relevant WHS Act 2011, WHS Regulation 2011, Codes of Practice and Australian Standards relating to HVAC and residential construction</li> <li>Inadequate WHS policy framework to cover system-level risks associated with duct insulation, ductwork installation, heat pump and split system installation</li> <li>Poor consultation and communication systems with workers and other duty holders (principal contractor, electricians, plumbers, crane providers, scaffold companies)</li> <li>Inadequate WHS objectives, KPIs and reporting for HVAC installation activities across multiple residential sites</li> <li>No systematic review of incidents, near misses, or non-conformances to verify effectiveness of WHS risk controls</li> </ul>	High	<ul style="list-style-type: none"> <li>Establish and maintain a WHS management system aligned with WHS Act 2011, WHS Regulation 2011, relevant Codes of Practice and AS/NZS standards applicable to air conditioning and ductwork installation (e.g. AS 1668, AS/NZS 5149, AS/NZS 3000 for electrical work)</li> <li>Define and document PCBU officer, management and supervisor WHS responsibilities specific to HVAC and ductwork installation tasks including duct insulation, heat pump and air conditioner installation</li> <li>Implement a documented WHS legal register capturing applicable legislation, standards and client requirements for residential and commercial HVAC work, with annual review and update triggers</li> <li>Establish formal WHS consultation arrangements (e.g. HSRs, WHS committee, toolbox talks schedule) that specifically address system-level risks of installing ductwork, indoor and outdoor units and associated components</li> <li>Integrate WHS KPIs into management reviews, such as corrective action close-out timeframes, inspection completion rates, training completion percentages and trend analysis of HVAC-related incidents</li> <li>Implement a formal management review process (at least annually) to assess WHS system performance, including review of risk assessments, SWMS templates for HVAC tasks and audit findings with documented minutes and actions</li> <li>Ensure officers exercise due diligence by receiving targeted WHS briefings on HVAC installation risk profile and verifying provision of adequate resources for implementation of controls</li> </ul>	Medium
2. Planning, Design and Pre-Construction Risk Management	<ul style="list-style-type: none"> <li>Air conditioning and ductwork system design not considering safe access for installation, commissioning, inspection and maintenance</li> <li>Units and duct routes specified in locations that require unsafe work at height, over fragile surfaces or within confined roof spaces</li> <li>Inadequate allowance in project scheduling for safe work sequencing (e.g. duct installation before electrical rough-in, ceiling closure or insulation placement)</li> <li>Client or builder driven design changes late in the build program increasing time pressure and risk-taking during HVAC installation</li> </ul>	High	<ul style="list-style-type: none"> <li>Embed WHS risk management requirements into HVAC design and tender processes, including assessment of safe access to indoor and outdoor units, duct runs and control panels for installation and future maintenance</li> <li>Use design reviews and constructability workshops to identify and eliminate or reduce the need for work in high-risk locations (e.g. re-routing ductwork to minimise time in roof spaces, selecting locations for outdoor units with safe permanent access)</li> <li>Integrate WHS considerations into project programming to ensure adequate time is allocated for safe duct installation, insulation works and system commissioning prior to ceiling closure or occupancy</li> <li>Implement a formal design change and variation process that includes WHS review and sign-off for any alterations to locations of units, ducts, penetrations or structural supports</li> <li>Develop project-specific interface agreements or coordination plans with other PCBUs clearly describing responsibilities for access provisions, isolation, craneage or mechanical lifting, structural penetrations and weatherproofing</li> <li>Ensure risk assessments for typical HVAC installation scenarios (e.g. two-storey residential, multi-unit developments) are prepared at tender stage and incorporated into the construction methodology and WHS documentation</li> </ul>	Medium

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	<ul style="list-style-type: none"> <li>Insufficient early coordination between HVAC designer, structural engineer and other trades leading to conflicts and rework (e.g. penetrations, service clashes)</li> <li>Unclear definition of interfaces and responsibilities with other PCBUs (electricians, plumbers, roofers, scaffolders) for shared risks such as plant lifting, roof access and isolation of services</li> </ul>			
3. Procurement of Plant, Equipment and Materials	<ul style="list-style-type: none"> <li>Selection of HVAC units, duct materials, insulation and mounting systems that are difficult to handle safely due to weight, size or awkward shape</li> <li>Purchase of plant (e.g. ladders, mobile scaffolds, lifting devices, vacuum pumps, recovery units, crimpers) that does not meet Australian standards or is unsuitable for residential installation environments</li> <li>Use of non-compliant or low-quality duct insulation products that can release fibres, dust or hazardous substances during installation</li> <li>No system to verify that purchased refrigerants, sealants, adhesives and cleaning agents have current safety data sheets (SDS) and are compatible with existing systems</li> <li>Inadequate consideration of noise, vibration and manual handling risks when choosing outdoor units, mounting brackets and vibration isolators</li> <li>Procurement decisions driven solely by cost without consideration of lifecycle safety (e.g. units requiring frequent filter access in difficult locations)</li> </ul>	High	<ul style="list-style-type: none"> <li>Develop and enforce procurement specifications that require HVAC plant and equipment to be compliant with relevant Australian standards and codes, and suitable for manual handling within typical ceiling voids and other spaces</li> <li>Include WHS performance criteria (e.g. weight limits, built-in lifting points, ergonomic design) in supplier selection for indoor units, outdoor units, duct and insulation materials</li> <li>Implement a formal pre-qualification process for key suppliers and hire companies covering safety of plant, maintenance records, instructions, and provision of compliant accessories (e.g. guardrails, outriggers, harness points when applicable)</li> <li>Standardise on low-hazard, low-emission insulation products and duct materials where reasonably practicable, and require suppliers to provide SDS and installation safety guidelines</li> <li>Mandate that outdoor units, mounting systems and vibration isolation equipment be selected with consideration of their installation location, noise controls and need for ongoing safe access</li> <li>Establish a procurement checklist that requires WHS sign-off before ordering new plant types or alternative HVAC products, ensuring compatibility with existing risk controls and training</li> </ul>	Medium
4. Contractor Management and Subcontractor Controls	<ul style="list-style-type: none"> <li>Use of subcontract HVAC installers without adequate verification of WHS competence, licences and insurances</li> <li>Inconsistent WHS standards across different subcontractors performing</li> </ul>	High		Medium

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	<p>ductwork installation, insulation fitting and unit installation</p> <ul style="list-style-type: none"> <li>Lack of a structured prequalification process for subcontractors who may be undertaking high-risk construction work (e.g. work at height on roofs, use of mobile plant, asbestos-related work in older dwellings)</li> <li>Poor communication of project-specific WHS expectations, including requirements for risk assessments and SWMS for HVAC installation tasks</li> <li>Inadequate monitoring of subcontractor compliance with site rules, PPE standards, permits and isolation procedures</li> <li>Subcontractor pressure from tight pricing or payment terms leading to shortcuts in WHS risk controls</li> </ul>		[REDACTED]	
5. Competency, Licensing and Training Systems	<ul style="list-style-type: none"> <li>Workers performing HVAC and duct installation tasks without appropriate trade qualifications, licences or endorsements (e.g. refrigeration and air conditioning, electrical connection interfaces)</li> <li>Insufficient training on the risks of working in ceiling voids and roof voids during duct insulation and ductwork installation</li> <li>Inadequate instruction in the safe use of specialised HVAC tools and plant such as vacuum pumps, recovery units, crimpers and testing equipment</li> <li>Poor understanding of legal requirements for electrical isolation, lock-out/tag-out interfaces with electricians and disconnection/reconnection procedures</li> <li>Limited awareness of health risks associated with dusts, fibrous insulation, silica from surrounding construction work and possible asbestos in existing dwellings</li> </ul>	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> <li>No structured refresher training or competency verification for supervisors responsible for overseeing multiple residential HVAC installation crews</li> </ul>			
6. Work Environment, Site Access and Coordination	<ul style="list-style-type: none"> <li>Uncontrolled site conditions such as incomplete structures, debris, poor lighting and unprotected edges affecting HVAC and ductwork installation work</li> <li>Congestion and trade stacking in restricted work areas, particularly in roof spaces, ceiling voids and service risers</li> <li>Inadequate planning for safe access to installation locations for indoor units, outdoor units and duct runs in residential properties</li> <li>Poor identification and control of existing services (electrical, gas, water, telecommunications) around proposed duct routes and unit locations</li> <li>Adverse weather conditions affecting outdoor unit installation on roofs, balconies or external walls</li> <li>Limited control over work environments (e.g. occupied dwellings) where residents, children or pets may enter HVAC work zones</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium
7. Hazardous Substances, Refrigerants and Insulation Management	<ul style="list-style-type: none"> <li>Exposure to refrigerants during charging, recovery, leak testing or decommissioning of existing air conditioning systems</li> <li>Exposure to fibres, dust and potential chemical irritants from duct insulation materials during cutting and fitting works</li> <li>Use of sealants, adhesives, cleaning solvents and paints in poorly ventilated areas such as roof spaces and ceiling voids</li> <li>Inadequate storage, labelling and handling systems for refrigerant cylinders and chemical products used in HVAC installation</li> <li>Uncontrolled disturbance of existing insulation materials or possible</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<ul style="list-style-type: none"> <li>asbestos-containing materials in older dwellings</li> <li>• Environmental risks from release of refrigerants or improper disposal of waste insulation, duct offcuts and packaging</li> </ul>		[REDACTED]	
8. Plant, Tools, Maintenance and Inspection Systems	<ul style="list-style-type: none"> <li>• Use of poorly maintained or defective plant and tools such as ladders, mobile scaffolds, EWPs, drills, saws and crimpers during HVAC and ductwork installation</li> <li>• Lack of pre-use inspection systems for lifting equipment, slings, trolleys or specialised HVAC handling tools</li> <li>• No planned maintenance program for critical equipment such as refrigerant recovery units, vacuum pumps, leak detectors and test instruments</li> <li>• Inadequate tagging, identification and record keeping for test and tag of electrical tools used in ceiling spaces and outdoor areas</li> <li>• Uncontrolled introduction of new or hired plant to residential sites without WHS review of suitability and required controls</li> <li>• Limited guidance on safe configuration, positioning and use of access equipment for installing ductwork and indoor units above ceiling height</li> </ul>	High	[REDACTED]	Medium
9. Health, Fatigue, Psychosocial and Environmental Conditions	<ul style="list-style-type: none"> <li>• Heat stress and dehydration risks when installing ductwork and insulation in confined roof spaces or during peak summer conditions</li> <li>• Fatigue from long hours, travel between multiple residential sites and tight project deadlines during peak HVAC installation periods</li> <li>• Psychosocial hazards such as work pressure, unrealistic timeframes, aggressive clients or residents and poorly managed interpersonal conflict within small installation teams</li> </ul>	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> <li>Allergic reactions or respiratory irritation from dust, insulation fibres and mould encountered in existing ceiling and duct spaces</li> <li>Inadequate systems for health monitoring or support for workers regularly exposed to hot, cramped and dusty environments</li> <li>Insufficient recognition of the impact of lone or remote work when technicians attend residential properties by themselves</li> </ul>		[REDACTED]	
10. Emergency Preparedness, Incident Management and Continuous Improvement	<ul style="list-style-type: none"> <li>Lack of clear emergency procedures covering electrical shock, falls from height, heat illness, refrigerant exposure and fire during HVAC installation works</li> <li>Poor access to first aid equipment and trained first aiders across multiple dispersed residential work locations</li> <li>Inconsistent incident and near miss reporting leading to repeated failures in HVAC installation processes and controls</li> <li>No formal mechanism to capture lessons learnt from incidents or client complaints related to safety of ductwork and air conditioning installation</li> <li>Limited testing of emergency response arrangements for typical HVAC scenarios such as collapse of ceiling spaces or fire in ceiling cavities</li> <li>Insufficient integration of incident data, inspection findings and worker feedback into updates of WHS procedures, training and design choices</li> </ul>	High	[REDACTED]	Low

**EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES**

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

**LEGISLATIVE REFERENCES**

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

**Queensland & Australian Capital Territory**

Work Health and Safety Act 2011  
 Work Health and Safety Regulations 2011  
 Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>  
 Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>  
 Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>  
 Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

**Victoria**

Occupational Health and Safety Act 2004  
 Occupational Health and Safety Regulations 2017  
 Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>  
 Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

**New South Wales**

Work Health and Safety Act 2011  
 Work Health and Safety Regulations 2025  
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>  
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

**Western Australia**

Work Health and Safety Act 2020  
 Work Health and Safety Regulations 2022  
 Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>  
 Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

**Northern Territory**

Work Health and Safety (National Uniform Legislation) Act 2011  
 Work Health and Safety (National Uniform Legislation) Regulation 2011  
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>  
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

**Safe Work Australia Links**

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>  
 Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

**South Australia**

Work Health and Safety Act 2012 (SA)  
 Work Health and Safety Regulations 2012 (SA)  
 Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>  
 Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

**Model Codes of Practice**

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

**Tasmania**

Work Health and Safety Act 2012  
 Work Health and Safety (Transitional and Consequential Provisions) Act 2012  
 Work Health and Safety Regulations 2012  
 Work Health and Safety (Transitional) Regulations 2012  
 Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>  
 Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.