# Compliance Check AS/NZS 5149:2016 Parts 1 to Part 4 Refrigerating systems and heat pumps – Safety and environmental requirements

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| **Company Name:** |  |
| **Location of Proposed/Existing Refrigerating Systems and Heat Pumps** |  |

**Details of Proposed/Existing Refrigerating Systems or Heat Pumps**

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| **Name of Dangerous Good** | **Quantity** | **Description of Refrigeration System** | **ID Number (If applicable)** |
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## AS/NZS 5149.1:2016 Refrigerating systems and heat pumps – Safety and environmental requirements

### Part 1: Definitions, classification and selection criteria (ISO 5149-1:2014, MOD)

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| **SECTION 1** | **SCOPE** | **Page** | **Refrigeration system or heat pump is within scope of the Standard? (Y/N)** |
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| **SECTION 2** | **NORMATIVE REFERENCES** |  |

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| **SECTION 3** | **TERMS AND DEFINITIONS** |  |

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| **SECTION 4** | **ABBREVIATED TERMS** |  |

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| **SECTION 5** | **CLASSIFICATION** | **Page** | **AS/NZS 5149.1 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 5.2 | Systems classification | 12 |  |  |  |
| 5.3 | Location classification of refrigerating systems | 17 |  |  |  |
| 5.4 | Refrigerant classification | 18 |  |  |  |

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| **SECTION 6** | **QUANTITY OF REFRIGERANT PER OCCUPIED SPACE** | **Page** | **AS/NZS 5149.1 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 6 | Quantity of refrigerant per occupied space | 18 |  |  |  |

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| **SECTION 7** | **SPACE VOLUME CALCULATIONS** | **Page** | **AS/NZS 5149.1 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| **SECTION 8** | **HEAT TRANSFER FLUID** | **Page** | **AS/NZS 5149.1 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 8.1 | General | 19 |  |  |  |
| 8.2 | Ingestion | 19 |  |  |  |
| 8.3 | Water and soil contamination | 19 |  |  |  |
| 8.4 | Personal exposure (toxicity) | 19 |  |  |  |
| 8.5 | Pressure | 19 |  |  |  |
| 8.6 | Marking | 19 |  |  |  |
| 8.7 | Freezing Point | 19 |  |  |  |
| 8.8 | Decomposition point | 20 |  |  |  |
| 8.9 | Flash point | 20 |  |  |  |
| 8.10 | Auto-ignition temperature | 20 |  |  |  |
| 8.11 | Thermal expansion | 20 |  |  |  |
| 8.12 | Corrosion protection | 20 |  |  |  |

### AS/NZS 5149.2:2016 Part 2: Design, construction, testing, marking and documentation (ISO 5149-2:2014, MOD)

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| **SECTION 1** | **SCOPE** | **Page** | **Refrigeration system or heat pump is within scope of the Standard? (Y/N)** |
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| **SECTION 2** | **NORMATIVE REFERENCES** |  |

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| **SECTION 3** | **TERMS AND DEFINITIONS** |  |

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| **SECTION 4** | **REQUIREMENTS FOR COMPONENTS AND PIPING** | **Page** | **AS/NZS 5149.2 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 4.2 | Specific requirements for particular components | 4 |  |  |  |
| 4.3 | Materials | 4 |  |  |  |
| 4.4 | Testing | 6 |  |  |  |
| 4.5 | Marking and documentation | 7 |  |  |  |

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| **SECTION 5** | **REQUIREMENTS FOR ASSEMBLIES** | **Page** | **AS/NZS 5149.2 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 5.2 | Design and construction | 9 |  |  |  |
| 5.3 | Testing | 28 |  |  |  |
| 5.4 | Marking and documentation | 32 |  |  |  |

### AS/NZS 5149.3:2016 Part 3: Installation site (ISO 5149-3:2014, MOD)

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| **SECTION 1** | **SCOPE** | **Page** | **Refrigeration system or heat pump is within scope of the Standard? (Y/N)** | | |
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| **SECTION 2** | **NORMATIVE REFERENCE** |  |

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| **SECTION 3** | **TERMS AND DEFINITIONS** |  |

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| **SECTION 4** | **SECTION 4 LOCATION OF REFRIGERATING EQUIPMENT** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 4.1 | General | 1 |  |  |  |
| 4.2 | Refrigerating equipment located in open air | 2 |  |  |  |
| 4.3 | Refrigerating equipment located in an machinery room | 2 |  |  |  |
| 4.4 | Refrigerating equipment located in the occupied space | 2 |  |  |  |
| 4.5 | Refrigerating equipment located in unoccupied areas not designated to a machinery room | 2 |  |  |  |
| 4.6 | Refrigerating equipment located in a ventilated enclosure within an occupied space | 2 |  |  |  |
| 4.7 | Piping duct or shaft | 2 |  |  |  |

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| **SECTION 5** | **MACHINERY ROOMS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 5.2 | Venting from or through the machinery room | 3 |  |  |  |
| 5.3 | Combustion equipment and air compressors | 3 |  |  |  |
| 5.4 | Open flame | 3 |  |  |  |
| 5.5 | Storage | 3 |  |  |  |
| 5.6 | Remote Emergency switch | 3 |  |  |  |
| 5.7 | Exterior opening of the machinery room | 3 |  |  |  |
| 5.8 | Piping and ducting | 4 |  |  |  |
| 5.9 | Normal lighting | 4 |  |  |  |
| 5.10 | Emergency lighting | 4 |  |  |  |
| 5.11 | Dimensions and accessibility | 4 |  |  |  |
| 5.12 | Doors, walls and ducts | 4 |  |  |  |
| 5.13 | Ventilation | 5 |  |  |  |
| 5.14 | Machinery rooms for flammable refrigerants (groups A2L, A2, B2L, B2, B3 and A3) | 6 |  |  |  |
| 5.14.2 | Additional requirements for R-717 (Ammonia) | 7 |  |  |  |
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| 5.14.2.3 | Fire sprinkler systems | 7 |  |  |  |
| **SECTION 5** | **MACHINERY ROOMS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 5.14.3 | Combustion equipment | 7 |  |  |  |
| 5.14.4 | Maximum surface temperature | 7 |  |  |  |

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| **SECTION 6** | **REQUIREMENTS FOR ALTERNATIVE PROVISIONS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 6.2 | Occupied space | 7 |  |  |  |
| 6.3 | Ventilation | 7 |  |  |  |
| 6.4 | Safety shut-off valves | 9 |  |  |  |

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| **SECTION 7** | **ELECTRICAL INSTALLATIONS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 7.2 | Main power supply | 10 |  |  |  |
| 7.3 | Electrical equipment in machinery rooms in which a refrigerating system contains class 2L flammability refrigerants | 10 |  |  |  |

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| **SECTION 8** | **SAFETY ALARMS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 8.2 | Alarm system power | 10 |  |  |  |
| 8.3 | Alarm system warning | 10 |  |  |  |
| 8.4 | Additional alarm system requirements for R-717 systems with charges above 4500kg | 11 |  |  |  |

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| **SECTION 9** | **DETECTORS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 9.2 | Location of detectors | 11 |  |  |  |
| 9.3 | Function of the detector | 11 |  |  |  |
| 9.4 | Type and performance of a detector | 11 |  |  |  |
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| **SECTION 10** | **INSTRUCTION MANUALS, NOTICES AND INSPECTIONS** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
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| 10.2 | Warning notice | 12 |  |  |  |
| 10.3 | Visual inspection of site | 13 |  |  |  |
| 10.4 | Maintenance of the site | 13 |  |  |  |

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| **SECTION 11** | **HEAT SOURCES AND TEMPORARY HIGH TEMPERATUES LOCATED AT THE SITE** | **Page** | **AS/NZS 5149.3 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
|  | Heat sources and temporary high temperatures located at the site | 13 |  |  |  |

### AS/NZS 5149.4:2016 Part 4: Operation, maintenance, repair and recovery (ISO 5149-4:2014)

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| **SECTION 1** | **SCOPE** | **Page** | **Refrigeration system or heat pump is within scope of the Standard? (Y/N)** |
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| **SECTION 2** | **NORMATIVE REFERENCES** |  |

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| **SECTION 3** | **TERMS AND DEFINITIONS** |  |

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| **SECTION 4** | **GENERAL REQUIREMENTS** | **Page** | **AS/NZS 5149.4 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 4.1 | Operation instructions | 1 |  |  |  |
| 4.2 | Instruction of operating personnel | 2 |  |  |  |
| 4.3 | Documentation | 2 |  |  |  |

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| **SECTION 5** | **MAINTENANCE AND REPAIR** | **Page** | **AS/NZS 5149.4 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 5.1 | General | 2 |  |  |  |
| 5.2 | Maintenance | 3 |  |  |  |
| 5.3 | Repair | 3 |  |  |  |
| 5.4 | Change of refrigerant type | 4 |  |  |  |

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| **SECTION 6** | **REQUIREMENTS FOR RECOVERY, REUSE AND DISPOSAL** | **Page** | **AS/NZS 5149.4 Specification** | **Describe what is proposed/actual to demonstrate compliance** | **Complies**  **(Y/N/NA)** |
| 6.1 | General requirements | 5 |  |  |  |
| 6.2 | Requirements for recovery and reuse of refrigerant | 6 |  |  |  |
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| 6.4 | Requirements for recovery equipment | 10 |  |  |  |
| 6.5 | Requirements for disposal | 11 |  |  |  |
| 6.6 | Requirements for documentation | 12 |  |  |  |

**Areas of Non-conformance and Action Plan**

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| **Non Conformance Number** | **Section**  **Number** | **Action Plan** | **Action by** | **Due**  **Date** | **Completion**  **Date** | **Comments** |
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**Compliance check summary**

This **proposed** / **existing** refrigeration system / heat pump - complies/does not comply with AS/NZS5149:2016 Parts 1 to 4.

**Name of assessor/s** …………………………………………………… ……………………………………………………………… **Date** ……………………

**Signature/s** ……………………………………………………………… **Date of next review** …………………………………………………………………