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| Title | **Repair refrigeration cycle** | | |
| Level | **2** | **Credits** | **14** |

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| Purpose | This Competency Standard focuses on the skills required to obtain replacement parts, replace motors, compressor, refrigerant dryers, valves, control, electrical parts, sensors, heat exchangers, gas kits, and repair mechanical damages in repair of Refrigeration Cycle of HVAC units. Your knowledge regarding dismantling procedure and installation of parts, methods, interpret drawings, codes, standards, will be sufficient to provide you the basis for repair refrigeration cycle of HVAC units work. |

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| Classification ISCED | 0714 Electronics and automation |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
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| **F-1 Obtain replacement part(s)** | 1. Check all mechanical components 2. Prepare requisition 3. Received from store | 1. Understand checking procedure 2. Understand specification of parts 3. Understand requisition procedure |
| **F-2 Replace motors** | 1. Remove electrical connections 2. Dismantle motor 3. Replace motor 4. Align motor 5. Connect electrical supply | 1. Understand dismantling procedure 2. Understand motor installation procedure |
| **F-3 Replace compressors** | 1. Remove electrical connections 2. Disconnect refrigerant pipes 3. Dismantle compressor 4. Replace compressor 5. Connect refrigerant pipes 6. Connect electrical supply | 1. Understand dismantling procedure 2. Understand compressor installation procedure |
| **F-4 Replace refrigeration dryers** | 1. Dismantle drier 2. Replace drier | 1. Understand dismantling procedure 2. Understand drier installation procedure |
| **F-5 Replace valves** | 1. Dismantle valves 2. Replace valves | 1. Understand dismantling procedure 2. Understand valves installation procedure |
| **F-6 Replace controls** | 1. Dismantle control 2. Replace control | 1. Understand dismantling procedure 2. Understand valves installation procedure |
| **F-7 Repair electrical wiring** | 1. Check electrical connections 2. Check insulation | 1. Understand basic electricity 2. Understand use of insulation test |
| **F-8 Replace electrical parts** | 1. Remove electrical connections 2. Replace electrical parts 3. Connect electrical connections | 1. Understand replacement procedure |
| **F-9 Replace Electronics circuits/cards** | 1. Remove electronics cards 2. Replace electronics cards | 1. Understand electronics card replacement procedure |
| **F-10 Replace sensors** | 1. Remove sensors 2. Replace sensor | 1. Understand sensors replacement procedure |
| **F-11 Replace heat exchangers** | 1. Remove condenser 2. Remove evaporator 3. Replace condenser 4. Replace evaporator | 1. Understand replacement procedure |
| **F-12 Replace gas kits** | 1. Remove gas kits 2. Replace gas kits | 1. Understand replacement procedure of gas kits |
| **F-13 Repair mechanical**  **Damages** | 1. Align door 2. Repair hinges 3. Repair door handle 4. Replace door liner 5. Repair door cap 6. Adjust levelling foot screw | 1. Understand minor repair procedure |