



WSQ Statement Of Attainment In Process Technology
(Energy Management)

DAIKIN TRAINING ACADEMY





Daikin Airconditioning (Singapore) Pte Ltd is proud to be the first Approved Training Organization to offer the Singapore Workforce Skills Qualifications (WSQ) courses in air-condition installation, commissioning and maintenance. Training is targeted at engineers, consultants, technicians in the Construction industry, Real Estate Management and Maintenance <REMM), and Process industries. Under this programme, Daikin offers 5 competency units pegged at WSQ Certificate Level and 3 competency units pegged at WSQ Advanced Certificate level. Participants will be awarded with a WSQ Statement of Attainment (SOA) upon the successful completion and assessment of each competency unit.

Daikin is offering the following 8 WSQ courses:

WSQ Statement of Attainment in Process Technology (Energy Management)

- **Determine Basic Operating Conditions And Maintenance For Air-conditioning System**
- **Install And Commission Single-Phase Air-conditioning System**
- **Diagnose And Rectify Faults in Direct-Expansion Air-conditioning System**
- **Apply Proper Installation Practice For Direct-Expansion Air-conditioning System**
- **Supervise workplace safety and health practices in Air-conditioning Installation and Maintenance Servicing**
- **Select Variable Refrigerant Flow Air-conditioning System**
- **Apply Fundamental Design Principles Of Chilled Water System**
- **Determine Size Of Air Duct And Water Piping In Chiller System**

**ALL COURSES ARE FUNDED BY SDF.
Register with early as seats are limited.**



WSQ Statement of Attainment in Process Technology (Energy Management)

Determine Basic Operating Condition and Maintenance for Air-conditioning System (PI-EM-112E-1)

OVERVIEW

This competency unit is pegged at **WSQ Certificate** level. It equips learners with the skills and knowledge to determine the basic operating conditions and maintenance of residential air-conditioning system. It encompasses working safely in handling different refrigerant, identifying abnormalities and determining operating conditions of air-conditioning system. This unit also allows learners the opportunity to conduct compliance test run and basic maintenance of residential air-conditioning system through practical session.

WHO SHOULD ATTEND

- New entrants into air-conditioning industry
- Air-conditioning system installers
- Technicians in the air-conditioning industry

CONTENT

- Identify different types of air-conditioning system and their application in the market
- Explain system components in air-conditioning system
- Identify abnormalities of air-conditioning system based on collected data in accordance with Mollier Chart (Pressure-enthalpy chart)
- Apply appropriate techniques in handling different refrigerant in accordance with Material Safety Data sheet (MSDS)
- Use measuring equipment to conduct compliance test run in accordance with standard operating procedure
- Record data in accordance with test run data sheet
- Check operating conditions of air-conditioning system in accordance with manufacturer's manual
- Perform basic maintenance for residential air-conditioning system in accordance with manufacturer's manual

COURSE DETAILS

Date Option 1:

Theory : 19-20 Nov'18 (15hours)
Assessment : 21 Nov'18 (2 hours)

Date Option 2:

Theory : 19-20 Feb'19 (15 hours)
Assessment : 21 Feb'19 (2 hours)

Full Course fee:

\$481.50 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$7/hr
- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Install and Commission Single-Phase Air-conditioning System (PI-EM-130E-1)

OVERVIEW

This competency unit is pegged at **WSQ Certificate** level. It equips learners with the skills and knowledge required for the installation and commissioning of residential single-phase air-conditioning system below 10kW. It encompasses working safely, conducting compliance tests, conducting visual inspections, and identifying noncompliance defects and mandatory reporting requirements. This unit also provides learners the opportunity to install and commission the residential single-phase air-conditioning system through practical session.

WHO SHOULD ATTEND

- New entrants into air-conditioning industry
- Air-conditioning system installers
- Technicians in the air-conditioning industry

CONTENT

- Plan installation procedures in accordance with installation manual
- Install air-conditioning system in accordance with installation manual
- Conduct compliance test run using measuring tools in accordance with standard operating procedures
- Check operating conditions of air-conditioning system using test run data sheet
- Rectify malfunctioning of air-conditioning system in accordance with installation manual
- Report any unresolved problems to supervisor in accordance with organisational procedures
- Report documentation work in accordance with organisational procedures

COURSE DETAILS

Date:

Theory : 10-11 Oct'18 (12hours)

Assessment : 12 Oct'18 (3 hours)

Full Course fee:

\$428.00 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$7/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Diagnose and Rectify Faults In Direct Expansion Air-conditioning System (PI-EM-131E-1)

OVERVIEW

This competency unit is pegged at **WSQ Certificate** level. It covers diagnosing and rectifying faults in direct expansion air-conditioning system. This will cover residential and commercial air-conditioning systems. It encompasses applying knowledge of direct expansion air-conditioning systems operating parameters to logical fault finding processes, implementing fault rectification, safely and functional testing, and changing of compressor. This unit provides learners the opportunity to rectify faults of direct expansion air-conditioning system through practical session.

WHO SHOULD ATTEND

- Air-conditioning system installers
- Technicians in the air-conditioning industry

CONTENT

- Interpret flow in the refrigerant circuit for cooling operation in accordance with manufacturer's manual
- Identify possible causes associated with malfunctioning of direct expansion air-conditioning system in accordance with installation manual
- Diagnose faults of direct expansion air-conditioning systems in accordance with manufacturer's manual
- Rectify fault in direct expansion air-conditioning systems in accordance with manufacturer's manual

COURSE DETAILS

Date:

Theory : 27-28 Nov'18 (16hours)

Assessment : 29 Nov'18 (2 hours)

Full Course fee:

\$481.50 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$7/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Apply Proper Installation Practice for Direct Expansion Air-conditioning System (PI-EM-132E-1)

OVERVIEW

This competency unit is pegged at **WSQ Certificate** level. It provides the skills and knowledge required for learners to apply proper installation practice when performing installation works for direct expansion air-conditioning system. This unit provides learners with the opportunity to apply proper installation practice through the practical session.

WHO SHOULD ATTEND

- Supervisor in air-conditioning industry
- Engineers in air-conditioning industry
- Technicians in the air-conditioning industry

CONTENT

- Plan air-conditioning installation works in accordance with installation manual
- Apply proper installation practice in accordance with installation manual
- Identify common causes of bad installation found at job site
- Conduct installation inspection for direct expansion air-conditioning system in accordance with the installation work inspection checklist
- Conduct test-run for direct expansion air-conditioning system in accordance with the test-run manual
- Document operation data for direct expansion air-conditioning system in accordance with the unit operation checklist

COURSE DETAILS

Date:

Theory : 26 Feb'19 (8hours)

Assessment : 27 Feb'19 (2 hours)

Full Course fee:

\$321.00 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$7/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Supervise workplace safety and health practices in Air-conditioning Installation and Maintenance Servicing (MF-COM-301E-1)

OVERVIEW

The key objective is to promote and educate the local air-conditioning industry on working safely. There are procedures and tools available that can provide safer working environment than the current local practices. It also cover the proper and safe handling of R32 refrigerant. The programme will aim in training the local market in properly using the specialized tools and adopting the safer practices.

WHO SHOULD ATTEND

- New entrants into air-conditioning industry
- Supervisors in air-conditioning industry
- Assistant engineers in air-conditioning industry
- Engineers in the air-conditioning industry

CONTENT

- Plan workplace safety and health activities for air-conditioning installation and maintenance servicing.
- Implement safe work practices, risk management implementation plan and fall prevention plan for air-conditioning installation and maintenance servicing.
- Maintain workplace risk control measures for air-conditioning installation and maintenance servicing.
- Handling of compressed and refrigerant gases – R32

COURSE DETAILS

Date Option1 :

Theory : 08-09 Jan'19 (16hours)

Assessment : 10 Jan'19 (2 hours)

Full Course fee:

\$428.00 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs : 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$15/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Select Variable Refrigerant Flow Air-conditioning System (PI-EM-319E-1)

OVERVIEW

This competency unit is pegged at **WSQ Advanced Certificate** level. It equips participants with the skills and knowledge required for the selection of Variable Refrigerant Flow air-conditioning system. The course encompasses working safely, determining heat loads, selection of indoor and outdoor unit using manual method and computer-based method and documenting results.

WHO SHOULD ATTEND

- Engineers in air-conditioning industry
- Consultant in the air-conditioning industry

CONTENT

- Interpret the parameters used in heat load calculation in accordance with heat load manual
- Determine heat load for Variable Refrigerant Flow air-conditioning system in accordance with heat load calculation software
- Select indoor and outdoor Variable Refrigerant Flow air-conditioning system using manual method
- Verify selection of indoor and outdoor Variable Refrigerant Flow air-conditioning system using computer based method
- Select refrigerant piping size in accordance with engineering data
- Perform calculation of additional refrigerant charge in accordance with engineering data
- Document results in accordance with customer's specification

COURSE DETAILS

Date:

Theory : 29-30 Jan'19 (16hours)

Assessment : 31 Jan'19 (2 hours)

Full Course fee:

\$428.00 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$15/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Apply Fundamental Design Principles of Chilled Water System

(PI-EM-320E-1)

OVERVIEW

This competency unit is pegged at **WSQ Advanced Certificate** level. It equips participants with the skills and knowledge to interpret the basic elements and construction of the chilled water system. The types of chilled water system covered in this unit include air-cooled and water-cooled chiller systems. This unit also equips learners the skills required in the selection of chillers through theory exercises and case studies.

WHO SHOULD ATTEND

- New entrants into air-conditioning industry
- Supervisors in air-conditioning industry
- Assistant engineers in air-conditioning industry
- Engineers in the air-conditioning industry

CONTENT

- Identify different types of air-conditioning equipment based on direct or indirect expansion air-conditioning system and heat transfer medium
- Select appropriate air-conditioning system based on application area, building height, piping length, energy saving and cooling/heating mode of air-conditioning
- Explain steps to design a chilled water system in accordance with work process flow chart
- List the different components of an air-cooled and water-cooled chiller system based on standard design
- Determine the state and condition of air using Psychrometric chart
- Describe the construction, features, capacity range of air handling unit (AHU) and fan coil units (FCU) in accordance with manufacturer's catalogues
- Select a chiller in accordance with the manufacturer's specifications

COURSE DETAILS

Date:

Theory : 06-07 Mar'19 (14hours)

Assessment : 08 Mar'19 (2 hours)

Full Course fee:

\$401.25 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$15/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.



WSQ Statement of Attainment in Process Technology (Energy Management)

Determine Size of Air Duct and Water Piping In Chilled Water System

(PI-EM-321E-1)

OVERVIEW

This competency unit is pegged at **WSQ Advanced Certificate** level. It equips the learners with the generic knowledge to differentiate the different chilled water systems and their components. This unit also equips learners with the necessary skills and knowledge to size the air duct and water piping in chilled water system through actual exercises.

WHO SHOULD ATTEND

- New entrants into air-conditioning industry
- Supervisors in air-conditioning industry
- Assistant engineers in air-conditioning industry
- Engineers in the air-conditioning industry

CONTENT

- Explain air-cooled and water-cooled chiller systems with their system components in a typical design
- Differentiate different applications for air-cooled and water-cooled chillers
- Explain steps to design and size air duct in accordance with industry guidelines
- Explain steps to design and size water piping in accordance with industry guidelines
- Determine thermal insulation thickness based on heat transfer parameters
- Select a chiller in accordance with the manufacturer's specifications

COURSE DETAILS

Date:

Theory : 27-28 Mar'19 (16hours)

Assessment : 29 Mar'19 (2 hours)

Full Course fee:

\$481.50 (Inclusive of 7% GST)

WDA Course Fee Funding:

- SMEs 90% of course fee capped at \$30/hr
- Non-SMEs : 80% of course fee capped at \$15/hr

- Eligibility of course fee funding:
- Company sponsored participants must be a Singaporean or Singapore Permanent Residents.
- Individual company are to submit the applications and claims through the SkillsConnect System at www.skillsconnect.gov.sg
- Course fee funding does not include GST.

HOW TO GET TO DAIKIN



Bus Stop

TERMS & CONDITIONS

1. Registration & Course Acceptance

- Application forms are to be submitted together with a photocopy of NRIC (front & back) for Singaporean/Work Permit for foreigners and a crossed cheque at least 15 working days or earlier, before course commencement.
- All crossed cheques must be made payable to 'Daikin Airconditioning (Singapore) Pte Ltd' and attention to 'Training Department'.
- Please indicate the participant's name, course title and the training date behind the cheque.
- Confirmation of course acceptance will be made at least 5 working days before course commencement with receipt of full payment and complete application form.

2. Refund / Cancellation Fee

- A full refund will only be made if a notification of withdrawal is received within 10 working days or earlier before course commencement.
- Notification of withdrawal should indicate the following details:
 - Course title and training date
 - Name of participant/s
- Only notification through email or letter is accepted.

3. Pre-requisite

- Basic English language writing and communication skills.
- An ability to participate effectively in group discussions, speak and communicate in a learning environment.

4. Class size

- Class will only commence with a minimum of 6 trainees.

5. Issuance of Statement of Attainment (SOA)

- Trainees are required to achieve a minimum attendance of 75%.
- Trainees must be assessed and certified Competent for the Final Assessment (FA).
- Final Assessment (FA) results will be submitted within 2 weeks after the completion of the assessment.
- Trainees will receive a notification to download the e-cert via www.skillsconnect.gov.sg two days after our submission of the assessment result.

6. Appeal

- In the case of appeal regarding the FA results, participants must submit an appeal form within 5 working days after the date of assessment.
- Appeal form can be requested from Daikin Training Academy.

7. Important notes

- All courses are conducted in English.
- Daikin reserves the right to amend the terms and conditions without prior notice.

8. Training grant

- Training grant are to be submitted by the individual company.
- Companies must submit its application through the online SkillsConnect System.
- Apply for Training Grant can be done 180 days before course start date.
- Claim to be submitted, within 120 days, after course end date.
- All applicants should submit the training grant application at least 1 week before course commencement.

9. Enquiries

For further enquiries, please contact: Ms. Joanne Ong

- Tel: (65) 63497173
- Fax: (65) 63497318
- Email: joanne.ong@daikin.com.sg
- Website: www.daikin.com.sg
- Address: DAIKIN AIRCONDITIONING (SINGAPORE) PTE. LTD.
10 Ang Mo Kio Industrial Park 2 Singapore 569501

For general enquiry on SDF grant, please contact:

- Tel: (65) 68835885
- Fax: (65) 6512 1111
- Website: www.skillsconnect.gov.sg/web/guest/home
- Email: wda_skillsconnect_helpdesk@wda.gov.sg





APPLICATION FORM

WSQ Statement of Attainment
in Process Technology (Energy Management)

Training grant is
applicable for
all courses

PART A : Course Selection

Course Code	Course Title	Qualification Level	Full Course Fee (Inc. 7% GST)	DATE (Tick Accordingly)
W1	Determine Basic Operating Conditions And Maintenance For Air-conditioning System	WSQ Certificate	S\$481.50	19-20 Nov'18 Assessment: 21 Nov'18 <input type="checkbox"/> 19-20 Feb'19 Assessment: 21 Feb'19 <input type="checkbox"/>
W2	Install And Commission Single-Phase Air-conditioning System	WSQ Certificate	S\$428.00	10-11 Oct'18 Assessment: 12 Oct'18 <input type="checkbox"/>
W3	Diagnose And Rectify Faults in Direct-Expansion Air-conditioning System	WSQ Certificate	S\$481.50	27-28 Nov'18 Assessment: 29 Nov'18 <input type="checkbox"/>
W4	Apply Proper Installation Practice For Direct-Expansion Air-conditioning System	WSQ Certificate	S\$321.00	26 Feb'19 Assessment: 27 Feb'19 <input type="checkbox"/>
W5	Supervise workplace safety and health practices in Air-conditioning Installation and Maintenance Servicing	WSQ Certificate	S\$428.00	08-09 Jan'19 Assessment: 10 Jan'19 <input type="checkbox"/>
W6	Select Variable Refrigerant Flow Air-conditioning System	WSQ Advanced Certificate	S\$428.00	29-30 Jan'19 Assessment: 31 Jan'19 <input type="checkbox"/>
W7	Apply Fundamental Design Principles Of Chilled Water System	WSQ Advanced Certificate	S\$401.25	06-07 Mar'19 Assessment: 08 Mar'19 <input type="checkbox"/>
W8	Determine Size Of Air Duct And Water Piping In Chiller System	WSQ Advanced Certificate	S\$481.50	27-28 Mar'19 Assessment: 29 Mar'19 <input type="checkbox"/>

***Training grant**

- WSQ Certificate Level
 - SMEs : 90% of course fee capped at \$30/hr
 - Non-SMEs : 80% of course fee capped at \$7/hr
- WSQ Advanced Certificate Level
 - SMEs : 90% of course fee capped at \$30/hr
 - Non-SMEs : 80% of course fee capped at \$15/hr
- All companies are to submit the applications and claims through the on-line SkillsConnect System.

PART B : Personal Particulars (All fields are compulsory)

* delete accordingly

Name (as in NRIC) Dr / Mr/ Ms / Mdm : _____ Age : _____

NRIC / Fin No. / WP No. * : _____ Nationality : _____

Date of Birth : ____/____/____ Gender : Male / Female * Race : _____
DD MM YYYY

Home Address : _____ Postal Code : _____

Home No. : _____ HP : _____ Fax : _____

Email : _____ Highest Education Qualification : _____

Trainee Designation : _____ Years of Experience In HVAC Industry: _____

Salary Range (please tick) : Unemployed Below \$1000 \$1000 - \$1499 \$1500 - \$1999
 \$2000 - \$2499 \$2500 - \$2999 \$3000 - \$3499 \$3500 - Above

PART C : Current Employment Details (All fields are compulsory)

Name of Company : _____

Company Address : _____

Contact Person : _____ Designation : _____

Contact No. : _____ Fax No. : _____

Email: _____

PART D : Applicant Declaration

I declare all the information given by me in this application form is true and correct and I understand that my application will be rejected if any information are found to be false. I also authorize any investigation of the above information for the purpose of verification. I understand and accept the terms and conditions, rules and regulations of the program set by Daikin Airconditioning (S'pore) Pte. Ltd.

Signature of Applicant

Date