

ENGINEERING  
TOMORROW

*Danfoss*

# Danfoss Learning Makes Doing Business Easy

Inderpal Saund

Learning

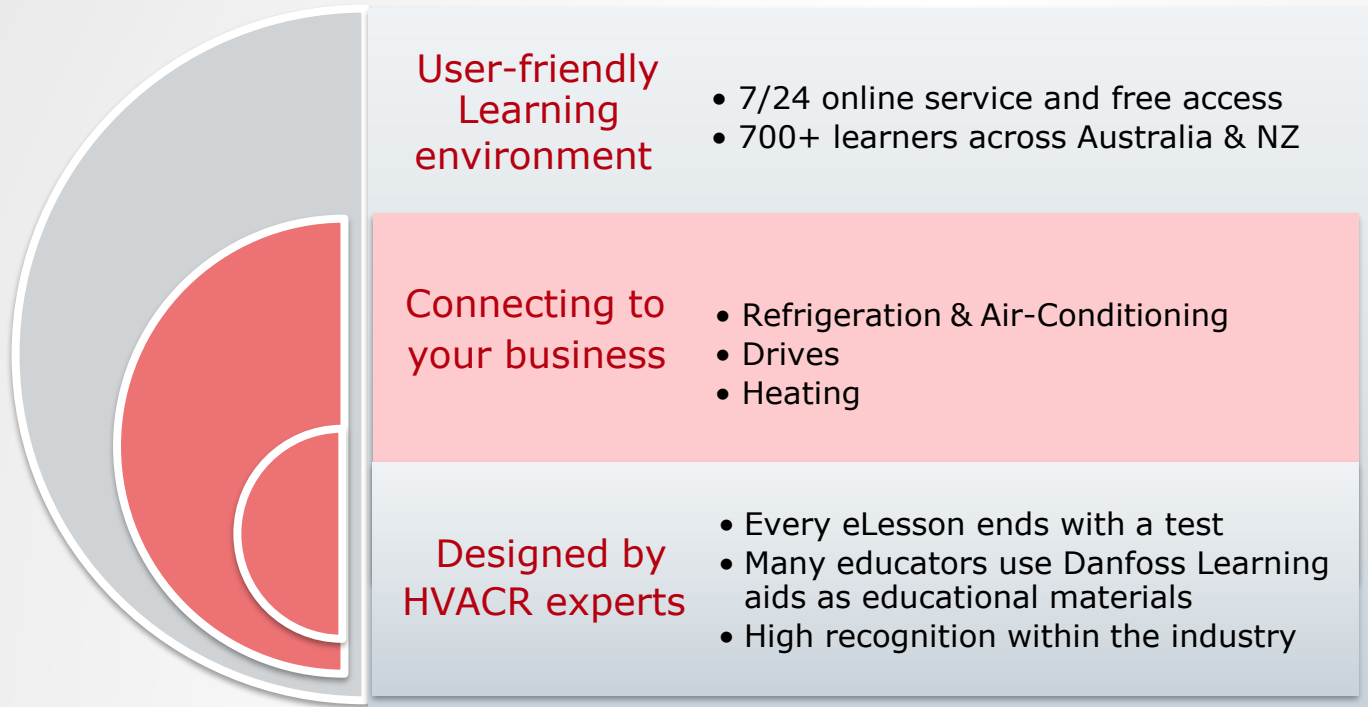


# Industry Challenges

- Uptake of the training
- Under utilisation of training outlets
- Updated equipment and controls at the training institutes
- Our collective responsibilities to achieve the above



# Introduction to Danfoss Learning



# Courses Available Today



Danfoss learning offers a variety of courses:

- Applications
- Products
- Theory
- Installation
- Service
- Refrigerants

## Theory

1. Basic Refrigeration Technique
2. Refrigeration Fundamentals: Module 1 & 2
3. Commercial Refrigeration Systems: Introduction
4. Basic Compressors
5. Expansion Devices Module 1: Introduction
6. Solenoid valves: Introduction
7. Pressure Switches and Thermostats: Theory
8. Line components: Filter driers & Sight glasses

## Applications

1. Cold Room Module 1, 2, 3 & 4 (Introduction, Application, Cooling Load Calc., Product selection)
2. Convenience store solutions
3. Heat Pump Module 1, 2 & 3 (Introduction, Product Selection)
4. HVAC equipment: Chiller Module 1 & 2
5. Milk Cooling Tank Module 1 & 2
6. Natural Refrigerants: Ammonia Module 2a - Introduction to two stage ammonia plant
7. Natural Refrigerants: Ammonia Module 2b - Installation of two stage ammonia plant
8. Natural Refrigerants: Ammonia Module 2c - Optimization of two stage ammonia plant
9. Natural Refrigerants: CO<sub>2</sub> Module 3a - Industrial Refrigeration
10. Natural Refrigerants: CO<sub>2</sub> Module 3b - Food retail refrigeration systems and product selection

## Refrigerants

1. Natural Refrigerants: Ammonia
2. Natural Refrigerants: CO<sub>2</sub> Module 1&2
3. Natural Refrigerants: Hydrocarbons

## General

1. Coolselector\*: Download and Installation
2. Coolselector\*: Quick selection of an Expansion Valve

## Products

1. Thermostatic Expansion Valves: Introduction & Portfolio
2. Expansion valves: Introduction to TU / TC
3. Solenoid valves: Portfolio - Module 2 & 3
4. Line Components: Ball Valves, Shut-off Valves, Check Valves, Sight Glasses
5. CO<sub>2</sub> Line components: Ball Valves and Check valves
6. Commercial Compressors: Overview
7. Condensing Units: Overview - APAC and Middle East
8. Danfoss Gas Sensor Type DGS with Modbus Part 1 & 2
9. Danfoss Scroll Compressors: LLZ/MLZ Series Module 1 & 2
10. Electrically Operated Expansion Valves: AKV Program
11. Electrically Operated Expansion Valves: ETS Program
12. Electronic controls: Case controllers - Module 1 & 2
13. Electronic controls: OPTYMA™ Control
14. Electronic controls: Superheat Controllers Introduction & Portfolio
15. Electronic controls: ERC 21X series
16. Filter Dries: Hermetic Filter driers
17. Filter Dries: Semi-hermetic Filter driers
18. Industrial Refrigeration: SVL Flexline™: Introduction and Portfolio
19. Introduction to Gas Detection: Part 1 & 2
20. Inverter Compressors: Variable Speed Technology
21. Inverter Scroll Compressors: VZH Series Module 1 & 2
22. Scroll compressors: Performer 'H' comp. series
23. Scroll Compressor: Performer 'S' comp. series

## Installation & Service

1. TX valves: Installation and Troubleshooting
2. Danfoss Gas Sensor Test and Calibration
3. Condensing units: Service guidelines
4. Reciprocating compressors: Service Guidelines
5. Scroll Compressors: MLZ / LLZ Series, Module 2 – Installation and Troubleshooting
6. Scroll Compressors: Service guidelines – H, HHP, S, SZ and SH series

# Supporting local Institutes

## 2-day CO<sub>2</sub> Certification Training Program



**Increase your CO<sub>2</sub> knowledge with Danfoss and TAFE NSW**

In addition to online training courses, Danfoss also offers face-to-face sessions, which provide hands-on experience.

They are provided by Danfoss trainers or one of our partner training institutes located around the world.



# Danfoss Mobile Training Unit



# Danfoss Mobile Training Unit



## Features:

### • Three CO<sub>2</sub> Transcritical Modes:

- Booster System
- Parallel Compression System
- Multi-Ejector System

### • Controller training stations (Pack, Case and Front End)

### • Charging/filling/servicing training station (safety, procedure etc.)

### • Simple one stage system with control system training station

**Coming to Australia in August 2017**



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