



1. TITLE OF THE CERTIFICATE (NL)

Diploma Beroepsonderwijs
Kwalificatie: Systemontwerper koude- en klimaatsystemen
Kwalificatiedossier: Engineering koude- en klimaatsystemen

In the original language

2. TRANSLATED TITLE OF THE CERTIFICATE (EN)

Certificate Senior Secondary Vocational Education
Qualification: System designer refrigeration and climate control systems
Qualification file: Engineering refrigeration and climate control systems

This translation has no legal status

3. PROFILE OF SKILLS AND COMPETENCES

Core task 1: Carries out designing and presentation of (industrial) refrigeration and climate control systems

- 1.1 Collects design data
- 1.2 Calculates (industrial) cooling and climate systems
- 1.3 Makes design for (industrial) cooling and climate systems
- 1.4 Drafts a tender
- 1.5 Maintains contact with third parties
- 1.6 Completes the work activities

4. RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE CERTIFICATE

A System designer refrigeration and climate control systems can work in both large and small refrigeration technology companies. Refrigeration technology companies work in all kinds of market segments. These involve materials and products and offer services in cold, climate control & heat pump technology, both domestically and abroad. Activities mostly take place in commercial refrigeration technology, comfort cooling, process engineering and industrial refrigeration technology.

5. OFFICIAL BASIS OF THE CERTIFICATE

<p>Name and status of the body awarding the certificate The certificate issued on completion of the programme is signed by the examination board at the school where the pupil attended the programme.</p>	<p>Name and status of the national/regional authority providing accreditation/recognition of the certificate Ministry of Education, Culture and Science</p>																				
<p>Level of the certificate (national or international) Qualification level 4 of the Dutch VET qualification structure Characteristics: non-job related skills such as tactical and strategic capacities. The professional bears his or her own responsibility, which is not only related to practical implementation in terms of monitoring and supervision, but also a more formal, organisational responsibility. The range of tasks also includes drafting new procedures. NLQF-niveau 4 - EQF level 4 - ISCED 3A</p>	<p>Grading scale / Pass requirements</p> <table> <tr><td>10</td><td>excellent</td></tr> <tr><td>9</td><td>very good</td></tr> <tr><td>8</td><td>good</td></tr> <tr><td>7</td><td>very satisfactory</td></tr> <tr><td>6</td><td>pass</td></tr> <tr><td>5</td><td>fail</td></tr> <tr><td>4</td><td>unsatisfactory</td></tr> <tr><td>3</td><td>very unsatisfactory</td></tr> <tr><td>2</td><td>poor</td></tr> <tr><td>1</td><td>very poor</td></tr> </table>	10	excellent	9	very good	8	good	7	very satisfactory	6	pass	5	fail	4	unsatisfactory	3	very unsatisfactory	2	poor	1	very poor
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*** Explanatory note**

This document is designed to provide additional information about the specified certificate and does not have any legal status in itself. The format of the description is based on the following texts: Council Resolution 93/C 49/01 of 3 December 1992 on the transparency of qualifications, Council Resolution 96/C 224/04 of 15 July 1996 on the transparency of vocational training certificates, and Recommendation 2001/613/EC of the European Parliament and of the Council of 10 July 2001 on mobility within the Community for students, persons undergoing training, volunteers, teachers and trainers.

More information is available at: <http://www.europass.cedefop.europa.eu/>

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5. OFFICIAL BASIS OF THE CERTIFICATE

Access to next level of education/professions

Based on experience and further education, a System designer refrigeration and climate control systems can develop to a supervising position, in which he carries responsibility for more complex projects and systems, and also multiple projects.

The System designer refrigeration and climate control systems can specialise in certain kinds of projects, such as specialisation in creating larger/more complex designs (after having acquired the required experience and education). It is possible to develop through higher professional education, such as higher professional technological or physics-related education, such as Electro technology or Industrial product design.

International agreements

System designer refrigeration and climate control systems is not a regulated profession in the Netherlands. However, the education and training for this profession on qualification level 4 is regulated under the European directive 2005/36/EC, amended by directive 2013/55/EU. The regulated education and training gives access to regulated professions at the level of a diploma according to article 11 of this directive.

Legal basis

Act on Vocational Education and Training (WEB), registered number of qualification (crebo): 25565
The education and training for this qualification is offered as of 01-08-2017.

6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

Senior secondary vocational education features two learning pathways: the school-based pathway (bol) and the training on the job pathway (bbi).

In the school-based pathway, the majority of the course consists of theory at school. The extent of the practical component (vocational practice) is between 20% and 60%. In the training on the job pathway, the extent of vocational practice is at least 60% of the course. The participant works four days a week in a training company, and attends school for theory subjects just one day a week.

In principle it is possible to follow both learning pathways, but which pathway is offered will depend on the individual educational institution.

Average duration of the education/ training leading to the certificate

3 years (4800 study hours) (depending on previous education)

Entry requirements

The certificate preparatory vocational secondary education (vmbo) advanced vocational programme, combined programme, or theoretical programme, or a comparable level.

7. ADDITIONAL INFORMATION

Dutch senior secondary VET is based on qualification files, that each contain one or more qualifications. The information included in part 3 and 4 is derived directly from the qualification file determined by the Minister of Education, Culture and Science. The complete qualification file can be found at kwalificaties.s-bb.nl, only in Dutch.

Optional subjects are linked to the qualification. The optional subjects have a total size of 15% of the course duration. The optional subjects completed by the student are listed on the certificate.

Additional information, including a description of the Dutch national qualifications system, is available at the Netherlands National Reference Point (NRP): www.s-bb.nl. The NRP is the information centre for vocational qualifications in the Netherlands. SBB has been appointed in this capacity by the Ministry of Education, Culture and Science.