Air Infiltration, Ventilation and Air Conditioning Glossary

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Indoor Environmental Quality Global Alliance

IEQ-GA - Air Infiltration, Ventilation and Air Conditioning Glossary

DISCLAIMER

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This Glossary is by nature under continuous development and anyone who likes to contribute to its development can send his proposal to the IEA-GA secretariat at the email reported below. If accepted, such proposal will be included in the next Glossary update.

IEQ-GA is the Indoor Environmental Quality Global Alliance, https://ieq-ga.net.

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Preface

Since the beginning of the outbreak, IEQ-GA and its member organizations, as well as the many researchers, doctors, practitioners, and contractors who are members of these member organizations, have been working diligently on all aspects of the pandemic. At that time, IEQ-GA has assembled a COVID-19 Task Force to discuss the indoor environmental quality issues involved with the pandemic and their aftermath, to provide pertinent information on COVID-19 related issues and a series of Questions & Answers (Q&A) that were intended to help anyone who had concerns about COVID-19.

After the outbreak was ended, the Task Force members asked themselves whether they could still be useful to the world community through their specific expertise, and the idea of producing a comparative glossary in the field of ventilation, infiltration and air condition was coming out. That main reason was that there are in this field a lot of internationally recognised technical standards using different definitions for the same terms. A comparative glossary that put together the available definitions of the same term with their references can help to understand the correct meaning in the specific contest avoiding misunderstanding.

This Glossary is thus a project of the IEQ-GA Covid-19 Task Force and the work has been coordinated by IEQ-GA's Italian member AICARR.

The IEQ-GA Board would like to express its sincere gratitude to AICARR and the Covid-19 Task Force for their invaluable work.

Donald Weekes

President of IEQ-GA

Foreword

The Environmental Quality – Global Alliance (IEQ-GA) has been incorporated in 2019 as an international non- profit organization under Belgian law by the founding members ACGIH, AICARR, ASHRAE, AIVC, AIHA, REHVA, ISHRAE.

The alliance is formed as an interdisciplinary, international working group of member organizations interested in indoor air quality, thermal comfort, lighting, acoustic science, technology, and applications. IEQ-GA intends to stimulate activities such as conferences and publications that will help in a significant way to improve the actual, delivered indoor environmental quality in buildings.

The vision of the Indoor Environmental Quality – Global Alliance (IEQ-GA) is to be the world's primary source for information, guidelines and knowledge on the indoor environmental quality in buildings and places of work around the world.

The mission of IEQ-GA is to provide an acceptable indoor environmental quality (thermal environment-indoor air quality-lighting-acoustic) to occupants in buildings and places of work around the world and to make sure the knowledge from research on IEQ get to be implemented in practice.

The objective of the alliance is to get the societies to think together, work together and speak with the same voice. The alliance is formed as an interdisciplinary, international working group of societies interested in indoor air quality, thermal comfort, lighting and acoustic science, technology, and applications to stimulate activities that will help in a significant way to improve the actual, delivered indoor environmental quality in buildings

There exist several national and international societies dealing fully or partly with the indoor environment; but their voice is often neglected. As the indoor environmental quality is a multidisciplinary issue involving architects, engineers, health specialist, occupational health specialist etc. there is not one society, which in a significant way can make sure that all parties in the chain for providing the indoor environmental quality will do the work.

Members of IEQ-GA

The IEQ-GA has the following full members:

1. AiCARR (Associazione Italiana Condizionemento dell'Aria, Riscaldamento e Refrigerazione)
2. the American Industrial Hygiene Association (AIHA)
3. the Air Infiltration and Ventilation Centre (AIVC)
4. the Acoustical Society of America (ASA)
5. the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
6. the Federation of Ibero-American Air Conditioning and Refrigeration Associations (FAIAR)
7. the Federation and Association of the Interior Environment throughout Spain and Andorra (FEDECAI)
8. the Illuminating Engineering Society (IES)
9. the Institute of Inspection Cleaning and Restoration Certification (IICRC)
10. the Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE)
11. the Federation of European Heating, Ventilation and Air Conditioning Associations (REHVA)

The IEQ-GA has the following affiliate members:

1. The Romanian Chamber of Energy Auditors (OAER)
2. The National Council of Acoustical Consultants (NCAC)

IEQ-GA Covid-19 Task Force

The IEQ-GA has organized an IEQ-GA Task Force consisting of representatives from member organizations who have specific knowledge, capabilities and expertise in the field. It is the intent of the Task Force to work together to develop consensus documents and position statements on behalf of the IEQ-GA. Its work and activities will continue to evolve as the COVID-19 pandemic spreads throughout the world.

The members of the Task Force are as follows:

- Jaap Hogeling, Chair of the Task Force
- Donald Weekes, ACGIH
- Livio Mazzarella, AiCARR
- Alireza Afshari, AIVC
- Wouter Borsboom, AIVC
- Peter Wouters, AIVC
- Georgi Popov, AIHA
- William Bahnfleth, ASHRAE
- Mark Drozdov, IICRC
- Vishal Kapur, ISHRAE
- Jarek Kurnitski REHVA
- Pablo Carnero Melero, secretary REHVA staff

Introduction

The Indoor Environmental Quality – Global Alliance is pleased to present a Glossary of air infiltration, ventilation, and air conditioning terms. The Glossary was developed by the member organizations' representatives led by Professor Livio Mazzarella, Politecnico di Milano - Dipartimento di Energia. It fulfills a goal of IEQ-GA to generate documents that will be useful to all its members, as well as others that have an interest in the terms that are acceptable in these fields (air infiltration, ventilation, and air conditioning.

The Glossary is posted on IEQ-GA's website (https://ieq-ga.net/), and it is available to all to download as a free document. It is expected that the Glossary will be utilized by all individuals who have an interest in air infiltration, ventilation, and air conditioning as a tool to be implemented for all documents, standards, manuscripts, and research papers.

The Glossary contains hundreds of definitions of words relating to air infiltration, ventilation, and air conditioning. It is set up in an alphabetical format for use of use. It is noted that the definitions were taken a wide variety of standards and glossaries issued by reputable professional organizations and standards, including ASHRAE; AIVC; REHVA; ISO; European Standards; and other sources.

IEQ-GA member organizations currently number eleven full members and two affiliate members from all over the world. The mission of IEQ-GA is to provide an acceptable indoor environmental quality (thermal environment; indoor air quality; lighting; acoustic) to occupants in buildings and places of work around the world and to make sure the knowledge from research on IEQ get to be implemented in practice. We welcome all professional associations throughout the world with an interest in indoor environmental quality (IEQ) to join us in this mission. https://ieq-ga.net/contact/how-to-join-us

Specifically, the glossary contained definitions of words relating to air infiltration, ventilation and air conditioning taken from the following standards and glossaries:

- Air Infiltration and Ventilation Glossary, Air Infiltration and Ventilation Centre, 1992 referred as:
  [AIVC, Air infiltration and ventilation glossary, 1992]
- ASHRAE Standard 62.1-2022, Ventilation and Acceptable Indoor Air Quality, referred to as
  [ASHRAE Standard 62.1]
- ANSI/ASHRAE Standard 62.2-2022 Ventilation and Acceptable Indoor Air Quality in Residential Buildings, ASHRAE, referred to as:
  [ASHRAE Standard 62.2]
- ASHRAE- Standard 241-2023 Control of Infectious Aerosols, ASHRAE, referred to as:
  [ASHRAE Standard 241]
- Building Performance Association,
- EN 12792-2003 - Ventilation for buildings - Symbols, terminology and graphical symbols, CEN, 2003, referred to as
  [EN 12792-2003]
- EN 13141-4:2021 - Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 7: Aerodynamic, electrical power

and acoustic performance of unidirectional ventilation units, CEN, 2021, referred to as [EN 13141-4:2021]

- EN 13141-7:2021 - Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 7: Performance testing of ducted mechanical supply and exhaust ventilation units (including heat recovery), CEN, 2021, referred to as
  [EN 13141-7:2021]
- EN 14511-1:2022 - Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors - Part 1: Terms and definitions, CEN, 2022, referred to as
  [EN 14511-1:2022]
- EN 15665:2009 - Ventilation for buildings - Determining performance criteria for residential ventilation systems, CEN 2009, referred to as:
  [EN 15665:2009]
- EN 16798-1:2019 - Energy performance of buildings - Ventilation for buildings - Part 1: Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics - Module M1-6, CEN, 2019, referred to as
  [EN 16798-1:2019]
- EN 16798-3:2017 - Energy performance of buildings - Ventilation for buildings - Part 3: For non-residential buildings – Performance requirements for ventilation and room-conditioning systems (Modules M5-1, M5-4), CEN, 2027, referred to as:
  [EN 16798-3:2017]
- EN 16798-5-1:2017 - Energy performance of buildings - Ventilation for buildings - Part 5-1: Calculation methods for energy requirements of ventilation and air conditioning systems (Modules M5-6, M5-8, M6-5, M6-8, M7-5, M7-8) - Method 1: Distribution and generation, CEN, 2017, referred to as
  [EN 16798-5-1:2017]
- EN 16798-5-2:2017 - Energy performance of buildings - Ventilation for buildings - Part 5-2: Calculation methods for energy requirements of ventilation systems (Modules M5-6, M5-8, M6-5, M6-8, M7-5, M7-8) - Method 2: Distribution and generation, CEN 2017, referred to as
  [EN 16798-5-2:2017]
- EN 16798-7:2017 - Energy performance of buildings - Ventilation for buildings – Part 7: Calculation methods for the determination of air flow rates in buildings including infiltration (Modules M5- 5) CEN 2017, referred to as
  [EN 16798-7:2017]
- EN ISO 16484-1:2024 - Building automation and control systems (BACS) — Part 1: Project specification and implementation, CEN/ISO 2024, referred to as
  [EN ISO 16484-1:2024]
- EN ISO 26800:2011 - Ergonomics — General approach, principles and concepts, CEN/ISO 2011, referred to as
  [EN ISO 26800:2011]
- EN ISO 41011:2024- Facility management — Vocabulary, CEN/ISO 2011, referred to as
  [EN ISO 41011:2024]

- EPA - United States Environmental Protection Agency, IAQ Building Education and Assessment Model (I-BEAM) - Glossary of Terms, referred to as:
  [EPA, IAQ Glossary]
- EPA - United States Environmental Protection Agency, Glossary of Terms & Acronyms, referred to as:
  [EPA, Terms & Acronyms Glossary]
- IFMA - The International Facility Management Association, Glossary, Glossary search - IFMA Knowledge Library, referred to as
  [IFMA, Glossary]
- ISO 7482-1:1998 - Raw goat skins — Part 1: Descriptions of defects, ISO 1998, referred to as:
  [ISO 7482-1:1998]
- ISO 16814:2008 - Building environment design — Indoor air quality — Methods of expressing the quality of indoor air for human occupancy, ISO 2008, referred to as:
  [ISO 16814:2008]
- ISO 16818:2008 - Building environment design — Energy efficiency — Terminology, ISO 2008, referred to as:
  [ISO 16818:2008]
- ISO 24294:2021- Timber — Round and sawn timber — Vocabulary, referred to as:
  [ISO 24294:2021]
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For any listed term, when available, more definitions are given according to the different sources.

User Guide

The glossary consists of main terms with definitions followed by any subsidiary terms reporting the different, if any, description according to the cited standards and/or glossaries. The main terms are in alphabetical order, considering the symbol "," before any alphabetic character and the "space" a separating element between the main term and the secondary term.

The basic entry has the following format:

air, indoor

[ASHRAE Standard 62.1]:
the air in an enclosed occupiable space.

[ASHRAE Standard 62.2]:
air in an occupiable space.

[EN 16798-3:2017, 3]:
air in the treated room or zone (IDA; colour Grey)

The main term is **air** while **indoor** is its attribute always spit from the main term by comma. The lines below report three different definitions according to the listed standard, respectively ASHRAE Standard 62.1, ASHRAE Standard 62.2 and EN 16798-3:2017, 3, where the number after comma is its reference number in the last standard.

To avoid duplications but maintain the highest degree of flexibility, some compound term (main pus attribute) are reported twice, but one of then refers to the other for the definition, giving the priority to the main term. The reference term is bracketed and appears below the term in regular font (no any definition is given there). For instance:

ambient temperature

(see temperature, ambient)

temperature, ambient

[AIVC, Air infiltration and ventilation glossary, 1992]:
the temperature of the air within a room or zone.

Sometime subsidiary terms are also reported, being part of the original definition, and are bracketed appearing below the definition but in italics, as in the example below. Definitions for these subsidiary terms are given in their alphabetically correct place.

air channel

[AIVC, Air infiltration and ventilation glossary, 1992]:
(*see flow path*)

A

absolute ventilation efficiency

(see ventilation efficiency, absolute)

accessibility (as applied to equipment)

[EN 12792:2003, 3]:
equipment is accessible when close approach is not prevented by locked doors, elevation or other effective means-

accessories of distribution

[EN 12792:2003, 4]:
see components of air distribution.

acoustic environment

[EN 12792:2003, 5]:
characteristics of a room that determine the qualities of sound therein, relative to hearing.

acoustic and/or thermal insulation

[EN 12792:2003, 6]:
treatment of the internal or external walls of the ducts so as to reduce the transmission of acoustic energy along the length and through the duct and/or the thermal energy across the walls.

acoustic technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of detecting cracks in a building where leakage may occur. A steady source of high-pitched sound is placed within the building and a microphone is used outside the building as a detector. Leaks correspond to an increase in volume of the sound transmitted. This technique provides qualitative information only.

AC pressurization technique

(see pressurization)

adapted person (occupant)

[ISO 16814:2008, 3.3]:
person who has occupied a space for a sufficient period of time to become adapted to the odours in a space.

adaptation (perceived air quality)

[EN 16798-1:2019, 3.3]
sensory adaptation to perceived air quality (odour), which occurs during the first 15 min exposure to bio effluents.

adventitious opening (also known as unintentional opening & fortuitous leakage)

[AIVC, Air infiltration and ventilation glossary, 1992]:
an opening within the building envelope which, in terms of ventilation, is unintentional, for example, cracks around doors and windows.

air, ambient

[ASHRAE Standard 62.1]:
the air surrounding a building; the source of outdoor air brought into a building.
(see air, outdoor)

air, exfiltration

[AIVC, Air infiltration and ventilation glossary, 1992]:
the uncontrolled outward leakage of indoor air through cracks, interstices, and other unintentional openings of a building, caused by the pressure effects of the wind and/or stack effect.

[ASHRAE Standard 62.1]:
uncontrolled outward air leakage from conditioned spaces through unintentional openings in ceilings, floors, and walls to unconditioned spaces or the outdoors caused by pressure differences across these openings due to wind, inside-outside temperature differences (stack effect), and imbalances between outdoor and exhaust airflow rates.

[EN 16798-3:2017, 11]:
Leakage of air out of building through leakage paths in elements of structure. (EXF; colour Grey)

[EN 12792-2003, 138]:
uncontrolled passage of air from a space through leakage paths in the shell of that space. (coded grey)

air, exhaust

[AIVC, Air infiltration and ventilation glossary, 1992]:
air removed from a space and not reused therein.

[ASHRAE Standard 62.1]:
air removed from a space and discharged to outside the building by means of mechanical or natural ventilation systems.

[ASHRAE Standard 62.2]:
air discharged from any space to the outside by an exhaust system.

[EN 16798-3:2017, 7]:
airflow leaving the extract air treatment system and discharged to the atmosphere. (EHA; colour Brown

[EN 14511-1:2022, 3.16]: (referred to air conditioner)
air from the air conditioned space entering the outdoor heat exchanger.

[EN 12792-2003, 139]:
air flow discharged to the atmosphere. (coded brown)

[ISO 16814:2008, 3.16]
air, other than recirculated air, removed from an enclosure and discharged to the atmosphere.

air, extract

[AIVC, Air infiltration and ventilation glossary, 1992]:
Air that is removed from a building or space. A proportion is often used for recirculation and added to incoming air. Alternatively, it is all exhausted to the outdoors, sometimes via an air-to-air heat exchanger or a heat pump.

[EN 16798-3:2017, 3]:
the airflow leaving the treated room and entering the air treatment system (ETA; colour Yellow) (see air, return)

[EN 12792-2003, 145]:
air flow leaving a treated space. (coded yellow)

air, indoor

[ASHRAE Standard 62.1]:
the air in an enclosed occupiable space.

[ASHRAE Standard 62.2]:
air in an occupiable space.

[EN 16798-3:2017, 3]:
[EN 12792:203, 217]:
air in the treated room or zone (IDA; colour Grey)

[ISO 16814:2008, 3.19]:
air within an enclosed space, e.g. dwelling or public building.
[SOURCE: ISO 4225:1994 [46]]

air, induced

[EN 12792:2003, 219]:
secondary air induced by the primary air

air, infiltration

[AIVC, Air infiltration and ventilation glossary, 1992]:
the uncontrolled inward leakage of outdoor air through cracks, interstices, and other unintentional openings of a building, caused by the pressure effects of the wind and/or the stack effect.

[ASHRAE Standard 62.1]:
uncontrolled inward air leakage to conditioned spaces through unintentional openings in ceilings, floors, and walls from unconditioned spaces or the outdoors caused by the same pressure differences that induce exfiltration.

[ASHRAE Standard 62.2]:
uncontrolled inward leakage of air through cracks and interstices in any building element and around windows and doors of a building.

[EN 16798-3:2017, 10]:
Leakage of air into building through leakage paths in elements of structure, unintended air from outdoor. (INF; colour Green)

[EN 12792:2003, 224]:
uncontrolled passage of air into a space through leakage paths in the shell of that space. (coded green)

[ISO 16814:2008, 3.20]:
uncontrolled passage of air into a space through leakage paths in the building envelope.

air, leakage

[AIVC, Air infiltration and ventilation glossary, 1992]:
the leakage of air in or out of a building or space usually driven by artificially induced pressures. (see pressurization test)

[EN 16798-3:2017, 9]:
unintended airflow through leakage paths in the system. (LEA; colour Grey)

[EN 12792:2003, 25]:
unwanted air flow paths in the installation (coded grey)

air, makeup

[AIVC, Air infiltration and ventilation glossary, 1992]:
outdoor air supplied to replace exhausted air.

[ASHRAE Standard 62.1]:
any combination of outdoor and transfer air intended to replace exhaust air and exfiltration.

air, mixed

[EN 16798-3:2017, 12]:
air which contains two or more streams of air. (MIA; streams with separate colours)

[EN 12792:2003, 259]:
air which contains two or more streams of air (coded applicable)

air, outdoor

[AIVC, Air infiltration and ventilation glossary, 1992]:
air taken from the external surroundings and therefore not previously circulated through the system.

[ASHRAE Standard 62.1]:
ambient air and ambient air that enters a building through a ventilation system, through intentional openings for natural ventilation, or by infiltration.

[ASHRAE Standard 62.2]:
air from outside the building taken into a ventilation system or air from outside the building that enters a space through infiltration or natural ventilation openings.

[EN 16798-3:2017, 1]:
air entering the system or opening from outdoors before any air treatment (ODA; colour Green)

[EN 14511-1:2022, 3.40]:
air from the outdoor environment.

[EN 12792:2003, 280]:
controlled air entering the system or opening from outdoors before any air treatment (coded green)

[ISO 16814:2008, 3.31]:
air entering the system, or opening from outdoors before any air treatment.

air, outdoor, correction factor

[EN 16798-3:2017, 3.9]:
ratio of outdoor air mass flow (ODA) and supply air mass flow (SUP).

air, outdoor, air fraction

[EN 16798-5-2:2017, 3.13]:
fraction of outdoor air in the supply air.

air, primary

[ASHRAE Standard 62.1]:
air supplied to the ventilation zone prior to mixing with any locally recirculated air.

[EN 12792:2003, 303]:
air entering a treated space.

air, recirculated

[AIVC, Air infiltration and ventilation glossary, 1992]:
extracted air which is re-supplied to a space. Recirculated air is normally blended with outside air and is reconditioned.

[ASHRAE Standard 62.1]:
air removed from a space and reused as supply air.
(see air, recirculation)
[ISO 16814:2008, 3.35]:
air removed from a space and reused as supplied air.

air, recirculation

[EN 16798-3:2017, 6]:
extract air that is returned to the air treatment system and reused as supply air (RCA; colour Orange).
(see air, recirculated)

[EN 12792:2003, 309]:
recirculation air extract air which is returned to an air handling unit (coded orange)

air, recycled

[EN 14511-1:2022, 3.49]:
air from the air conditioned space entering the indoor heat exchanger.

air, return
[ASHRAE Standard 62.1]:
air removed from a space to be recirculated or exhausted.
(see air, extract)

air, secondary

[EN 16798-3:2017, 8]:
airflow taken from a room and returned to the same room after any treatment. (SEC; colour Orange).
NOTE Induced air in an induction unit is considered as secondary air.

[EN 12792:2017, 319]:
air prevailing in a treated space (coded yellow)

air, single room exhaust

[EN 16798-3:2017, 7.1]:
airflow discharged to the atmosphere from a single room air handling unit. (SHE; colour Brown)

air, single room extract

[EN 16798-3:2017, 5.1]:
the airflow leaving the treated room into a single room air handling unit. (SET; colour Yellow)

air, single room outdoor

[EN 16798-3:2017, 1.1]:
air entering the single room air handling unit or opening from outdoors before any air treatment. (SRO; colour Green)

air, single room supply

[EN 16798-3:2017, 2.1]:
airflow entering the treated room. (SRS; colour Blue)

air, standard

[EN 14511-1:2022, 3.55]:dry air at 20 °C and at standard barometric pressure of 101,325 kPa, having a density of 1,204 kg/m^3.

[EN 12792:2003, 340]:
atmospheric air having a density of 1,2 kg m-3 at 20 °C, 101 325 Pa (1013,25 mbar) and 65 % relative humidity.

air, stratified

[AIVC, Air infiltration and ventilation glossary, 1992]:
the formation of layers of different densities, in a body of fluid that is not mixed well. The

variation in densities may be due to difference in temperatures. The term "Thermal Stratification" is often ascribed for this condition.

air, supply

[AIVC, Air infiltration and ventilation glossary, 1992]:
air delivered to a space and for the purpose of ventilation, heating, cooling humidification or dehumidification.

[ASHRAE Standard 62.1]:
air delivered by mechanical or natural ventilation to a space and composed of any combination of outdoor air, recirculated air, or transfer air.

[EN 16798-3:2017, 2]:
airflow entering the treated room, or air entering the system after any treatment (SUP; colour Blue).

[EN 12792:2003, 348]:
air flow entering the treated space, or air entering the system after any treatment
(coded with a colour according to the number of thermodynamic treatments)

Number of thermodynamic treatments	Colour
None	green
1	red
2 or 3	blue
4	violet

[ISO 16814:2008,3.41]:
air introduced into an enclosure by mechanical or natural means.

air, supply required moisture content

[EN 16798-5-1:2017, 3.13]:
moisture content of the supply air leaving the air distribution.

air, transfer

[ASHRAE Standard 62.1]:
air moved from one indoor space to another.
(see air, transferred)

[ASHRAE Standard 62.2]:
air moved from one occupiable space to another, usually through doorways or grilles.
(see air, transferred)

air, transferred

[EN 16798-3:2017, 4]:
[EN 12792:2017, 374]:
Indoor air which passes from the treated room to another treated room (TRA: colour Grey)
(see air, transfer)

air, ventilation

[AIVC, Air infiltration and ventilation glossary, 1992]:
that portion of supply air that is outdoor air plus any recirculated air that has been treated for the purpose of maintaining acceptable indoor air quality.

[ASHRAE Standard 62.1]:
that portion of supply air that is outdoor air plus any recirculated air that has been treated for the purpose of maintaining acceptable indoor air quality.

[ASHRAE Standard 62.2]:
outdoor air delivered to a space that is intended to dilute airborne contaminants.

air barrier

[AIVC, Air infiltration and ventilation glossary, 1992]:
(see air curtain)

air change

[AIVC, Air infiltration and ventilation glossary, 1992]:
a quantity of fresh air equal to the volume of the room or building being ventilated
(see air change rate)

air change effectiveness

[ISO 16814:2008, 3.4]:
measure of the effectiveness of outdoor air distribution to the breathing level within the ventilated space.

air change efficiency

[AIVC, Air infiltration and ventilation glossary, 1992]:
A measure of how quickly the air in the room is replaced. It represents, the ratio between the nominal time constant, and the air change time, for the room.
(*see also air change time; coefficient of air change performance; local air change index; nominal time constant; specific flow*)

air change rate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the volumetric rate at which air enters (or leaves) a building or zone expressed in units of building or zone volume
(see specific flow)

[ASHRAE Standard 62.2]:
airflow in volume units per hour divided by the volume of the space on which the air change rate is based in identical units (normally expressed in air changes per hour [ach]).

[ISO 16814:2008, 3.5]:
air flow rate to a space, expressed as volume per unit time, divided by the volume of the space in consistent units.
NOTE Air change rate is often expressed as air changes per hour.

air change time

[AIVC, Air infiltration and ventilation glossary, 1992]:
This is the time for all of the air in a room to be changed and is equal to twice the room mean age.
(*see air change efficiency; coefficient of air change performance; local air change index; nominal time constant; room mean age; specific flow*)

air channel

[AIVC, Air infiltration and ventilation glossary, 1992]:
(*see flow path*)

air cleaning

[ASHRAE Standard 62.2]:
the use of equipment that removes particulate, microbial, or gaseous contaminants (including odours) from air.

[ISO 16814:2008, 3.6]:
process that removes or controls particulate (chemical or microbial) or gaseous contaminants in the air, usually carried out by equipment.

air-cleaning system

[ASHRAE Standard 62.1]:
a device or combination of devices applied to reduce the concentration of airborne contaminants such as microorganisms, dusts, fumes, respirable particles, other particulate matter, gases, vapours, or any combination thereof.

air conditioner

[EN 14511-1:2022, 3.1]:
device capable of cooling or heating, or both, indoor air, using a vapour compression cycle driven by an electric compressor, including air conditioners that provide additional functionalities such as dehumidification, air purification, ventilation or supplemental air heating by means of electric resistance heating, as well as appliances that may use water (either condensate water that is formed on the evaporator side or externally added water) for evaporation on the condenser, provided that the device is also able to function without the use of additional water, using air only
Note Appliances using additional external water are rated according to EN 15218.

air conditioner, closed control

[EN 14511-1:2022, 3.5]:
air conditioner to satisfy the requirements of the process carried out in the air conditioned room.

air conditioner, control cabinet

[EN 14511-1:2022, 3.8]:
air conditioner to satisfy the requirements of the control cabinet.

air conditioner, single-duct

[EN 14511-1:2022, 3.53]:
air conditioner in which, during cooling (or heating), the condenser (or evaporator) intake air is introduced from the space containing the unit and discharged outside this space.

air conditioning

[AIVC, Air infiltration and ventilation glossary, 1992]:
the artificial process of treating air to adjust its temperature, humidity, cleanliness, air quality, circulation and distribution as required by occupants, a process or a product in the space (*see cooling; dehumidification; heating; humidification*)

[ASHRAE Standard 62.1]:
the process of treating air to meet the requirements of a conditioned space by controlling its temperature, humidity, cleanliness, and distribution.

[EN 12792:2003, 11]:
form of air treatment in which temperature, humidity, ventilation and air cleanliness are all controlled, if any of these features (excluding ventilation) is not controlled the system is termed as partial air conditioning.

air conditioning installation

[EN 12792:2003, 12]:
combination of all components required to provide air conditioning.

air conditioning system

[EN 16798-3:2017, 3.12]:
combination of appliances designed to supply conditioned air to a space.

air curtain

[AIVC, Air infiltration and ventilation glossary, 1992]:
a stream of high velocity, temperature-controlled air which is directed downward across an opening. It is designed to exclude exterior draughts, and pollutants blown in from outside. It also prevents the transfer of beat across the boundary and permits the air-conditioning of a space with an open entrance.

air diffuser

[EN 12792:2003, 13]:
air terminal device usually installed in the ceiling and generally of circular, square or rectangular form and composed of divergent deflecting means and sometimes combined with vanes, perforated plates, flat plates, etc.
(see also air terminal device)

air diffuser, adjustable flow rate

[EN 12792:2003, 08]:
air diffuser which incorporates a device by means of which the air flow rate can be varied without affecting the direction or directions of the air delivered to the treated space.

air diffuser, adjustable pattern

[EN 12792:2003, 10]:
air diffuser which incorporates an integral device by means of which the direction or directions of the air delivered to the treated space can be varied.

air diffusion

[EN 12792:2003, 14]:
distribution of the air in a space, called the treated space, in a manner to satisfy certain specified conditions such as air change rate, pressure, cleanliness, temperature, humidity, air velocity and noise level, in a specified zone within this treated space which is called the occupied zone. It is usually achieved by means of air terminal devices, which form the common boundaries between the treated space and the air distribution system.

air diffusion, displacement

(see displacement air diffusion)

air diffusion, mixing

[EN 12792:2003, 260]:
air diffusion where the mixing of supply air and room air is intended.
(see also damper and valve)

air diffusing ceiling

[EN 12792:2003, 15]:
modular air terminal device designed to diffuse air to the treated space from a pressurized plenum through holes or slots in the ceiling surface or the supporting framework.
(see also air terminal device)

air distribution

[AIVC, Air infiltration and ventilation glossary, 1992]:
the delivery of outdoor or conditioned air to various spaces in a building, usually by mechanical means

[EN 12792:2003, 16]:
transportation of a specified air flow to or from the treated space generally by means of ducts.

Along the ducts devices for the purpose of treating the air (e.g. cleaning, heating, cooling, humidifying or dehumidifying, etc.) and known as air treatment devices may be inserted.

air duct

[EN 12792:2003, 17]:
generally the envelope of a space in which the air is carried. The assembly of the ducts of an installation and the other elements of distribution inserted into these ducts constitute the distribution network (or ductwork system)
NOTE It is usual to give different names (trunks, stub ducts, spurs) to certain parts of the distribution network. Correspondingly precise definitions are difficult to establish.

air exchange rate

[AIVC, Air infiltration and ventilation glossary, 1992]
(*see air change rate*)

air extraction cooker hood

[EN 12792:2003, 18]:
cooker hood which discharges the collected air to the outside of the building.
(see also cooker hood)

air flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
the mass/volume of air moved between two points.

[EN 12792:2003, 19]:
movement of air usually within boundaries (such as ducts)

air flow rate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the mass/volume of air moved per unit of time through a space opening or duct. (SI units: mass flow rate – kg/s ; volume flow rate m^3/s).

[EN 12792:2003, 20]:
mass or volume flow of air passing a given plane divided by the time.

air flow rate, mass

[ISO 16814:2008, 3.7.1]:
flow of air, expressed in units of mass, passing a given plane divided by time.

air flow rate, primary

[EN 12792:2003, 304]:
mass or volume of air entering a supply air terminal device in unit time from an upstream duct or a plenum box. It can also be the air leaving through an opening and entering a space.

air flow rate, supply

[EN 12792:2003, 348]:
air quantity entering a supply air terminal device from an upstream duct.

air flow rate, total

[EN 12792:2003, 370]:
mass or volume of air entering a space and being the total of the primary and secondary flow rate.

air flow rate, volume

ISO 16814:2008, 3.7.2]:
flow of air, expressed in units of volume, passing a given plane divided by time.

air flow rate controller

[EN 12792:2003, 21]:
component used to control the air flow rate by modifying the resistance
(see also damper (or valve))

air flow sensitivity

[EN 13141-4:2021, 3.12]:
maximum relative deviation of the maximum air volume flow q_{vmax} of a non-ducted ventilation unit due to a static pressure difference of + 20 Pa and – 20 Pa.

air handling unit (AHU)

[EN 12792:2003, 22]:
factory made encased assembly consisting of sections containing a fan or fans and other necessary equipment to perform one or more of the following functions: circulation, filtration, heating, cooling, heat recovery, humidifying, dehumidifying and mixing of air.

air handling unit, heat loss

[EN 16798-5-2:2017, 3.6]:
heat loss by leakage and heat transfer of the air handling unit.

air handling unit, openings of an

[EN 12792:2003, 277]:
apertures through which air is taken in or discharged from the air handling unit such as openings to outdoor air, supply air, recirculation air and exhaust air.

air handling unit, recirculation

[EN 12792:2003, 310]:
air handling unit where only recirculated air is treated.

air handling unit, required AHU cooling coil output

[EN 16798-5-1:2017, 3.9]:
heat required to be extracted from air handling unit for cooling and dehumidification of the supply air to the setpoints.

air handling unit, recoverable AHU heat loss

[EN 16798-5-1:2017, 3.10]:
heat loss by leakage and heat transfer of the air handling unit, recoverable for heating and cooling.
Note 1 to entry: Negative values.

air handling unit, required AHU heating coil input

[EN 16798-5-1:2017, 3.10]:
[EN 16798-5-2:2017, 3.12]:
heat required to be supplied to the air handling unit for heating the supply air to the setpoint.

air handling unit, section

[EN 12792-2003, 321]:
functional element of an air handling unit, consisting of one or more components contained in a single casing.

air handling unit, total pressure difference over the

[EN 12792:2003, 373]:
difference between the total gauge pressure at the outlet of the air handling unit and the total gauge pressure at the inlet.

air heating/cooling

[EN 16573-2017, 3.1.5]:
heating or cooling supplied by an air stream.

air heating and cooling coils

[EN 12792:2003, 23]:
heat exchangers by means of which heat is transferred from a heat transfer medium to air *(heating coil) or the other way round (cooling coil)*

air infiltration

(see air, infiltration)

air inlet

[AIVC, Air infiltration and ventilation glossary, 1992]:
a deliberate opening in a room or a duct wall for the provision of outdoor or conditioned air into the room.

air leakage

[AIVC, Air infiltration and ventilation glossary, 1992]:
the leakage of air in or out of a building or space usually driven by artificially induced pressures.

air leakage characteristic

[AIVC, Air infiltration and ventilation glossary, 1992]:
an expression that describes the air leakage rate of a building or component. This may be: a) The air leakage flow rate at a reference pressure difference across the component or building envelope, (Usually 50 Pa and expressed in terms of C (the Flow Coefficient) and n (the Flow Exponent). b) The relationship between the flow rate and the pressure difference across the building envelope or component. c) The equivalent leakage area (ELA) at a reference pressure difference across the component or building envelope.
(see flow equation; equivalent leakage area).

air leakage factor

[EN 12792:2003, 26]:
air tightness expressed as the air leakage rate per unit envelope area

air leakage rate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the rate of air leakage in or out of a building or space.

[EN 12792:2003, 27]:
air leakage of a component or components subjected to air pressure.

air leakage rate, internal

[EN 12792:2003, 229]:
air leakage rate in between two air streams within a section

air outlet

[AIVC, Air infiltration and ventilation glossary, 1992]:
a deliberate opening in a room or a duct through which air is expelled to the outside.

air pollutant

[EN 12792:2003, 28]:
any material in the atmosphere that affects persons and their environment (pollutant includes materials such as liquids, solids, aerosols, gases and odours)

air pollution

[EN 12792:2003, 29]:
result of the presence of air pollutants in the atmosphere

air pollution, indoor

[AIVC, Air infiltration and ventilation glossary, 1992]:
pollution occurring indoors from any source, indoors or outdoors.

air pressure

[AIVC, Air infiltration and ventilation glossary, 1992]:
the force per unit area that air exerts on any surface in contact with it. (SI Units, Pascal (Pa) 1 Pa is equivalent to 1 N/m^2).

air quality

(see acceptable air quality).

air quality, acceptable

[AIVC, Air infiltration and ventilation glossary, 1992]:
air in which there are no known contaminates at harmful concentrations as determined by specialist authorities and with which a substantial majority (80 % or more) of the people exposed do not express dissatisfaction. (ASHRAE 62-1989).

air quality, acceptable indoor

[ASHRAE Standard 62.1]:
air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities and with which a substantial majority (80% or more) of the people exposed do not express dissatisfaction.

[ASHRAE Standard 62.2]:
air toward which a substantial majority of occupants express no dissatisfaction with respect to odour and sensory irritation and in which there are not likely to be contaminants at concentrations that are known to pose a health risk.

[ISO 16814:2008, 3.1]
air in an occupied space toward which a substantial majority of occupants express no dissatisfaction and that is not likely to contain contaminants at concentrations leading to exposures that pose a significant health risk.

air quality, acceptable perceived indoor

[ISO 16814:2008, 3.2]
air in an occupied space toward which a substantial majority of occupants express no dissatisfaction on the basis of odour and sensory irritation-
NOTE Acceptable perceived IAQ is necessary, but not sufficient, to meet acceptable IAQ.

air quality, indoor

[EN 12792:2003, 218]:
attributes of the respirable atmosphere (climate) inside a building including gaseous composition, humidity, temperature and contaminants.

air recirculating cooker hood

[EN 12792:2003, 30]:
cooker hood containing filters to remove contaminants after which the treated air is recirculated to the room.
(see also cooker hood)

air speed

[AIVC, Air infiltration and ventilation glossary, 1992]:
the speed of the air relative to its surroundings.

air supply free cooling

[EN 16573-2017, 3.1.6]:
recovering of cooling energy produced by the heat pump while producing hot water.

air terminal device (ATD)

[EN 12792:2003, 31]:
component of a ventilation installation which is designed with the purpose of achieving the predetermined movement of air into or from a treated space. They can be divided into the following categories:

- **automatically controlled**
  - devices having moving parts which interact with a change in local conditions,
  - such as temperature, humidity, CO2 concentration, pressure difference, air
  - flow rate, etc.
- **fixed**
  - devices without any adjustable parts
- **manually adjustable**
  - devices having adjustable parts which can be manually adjusted

(see also components of air diffusion)

air terminal device, extract

[EN 12792-2003, 146]:
air terminal device through which air leaves a treated space.

air terminal device, window mounted

[EN 12792:2003, 399]:
air terminal device designed to be integrated with window units.
(see also air terminal devices, externally mounted)

air terminal unit (ATU)

[EN 12792:2003, 32]:
equipment for air distribution purposes which fulfils either manually or automatically one or more of the following functions:

- controls the velocity or pressure and/or temperature of the air;
- controls the air flow rate;
- mixes primary streams of different temperatures or humidities;
- mixes within the device primary air with air from the treated space

(see also components of air distribution)

air terminal unit assembly

[EN 12792:2003, 33]:
assembly made from an appropriate selection of the following component parts to achieve the functions mentioned in 'Air Terminal Unit':

- Casing;

- Mixing section;
- Flow rate control devices;
- Manual damper or valve.

ATU assemblies may also incorporate heat exchangers, fans, nozzles, air filters, air terminal devices and/or means of sound attenuation.

air terminal unit with integral air terminal device:

- **discharge control type**
  [EN 12792:2003, 34]:
  assembly within which a device controls the air flow rate discharged to the treated space through an integral air terminal device
- **entry air control type**
  [EN 12792:2003, 34]:
  assembly within which a device controls the air flow rate entering the unit

air transfer device

[EN 12792:2003, 36]:
air terminal device designed to allow the transfer of air from one space/room to another space/room.
(see also air terminal device)

air transfer device, externally mounted

[EN 12792-2003, 144]:
device designed to allow the passage of air through the building envelope with the minimum ingress of rain, snow, foreign bodies etc. They can or can not include air flow rate control devices.

air treatment

[EN 12792:2003, 37]:
process by which the state of the air is modified with respect to various properties such as temperature, moisture content, dust content, bacterial count, gas and vapour contents.

air turning vane

[EN 12792:2003, 38]:
element inserted into components of ductwork, such as bends in duct to minimize the pressure loss of the air flowing through that component.
(see also flow equalisers)

air type

[EN 12792:2003, 39]:
designation of the air moving through a ventilation, air conditioning or air treatment installation as a function of its location relative to the installation, e.g. outdoor air, exhaust air, extract air, etc.

air velocity

[AIVC, Air infiltration and ventilation glossary, 1992]:
the rate and direction of air movement. (Important when considering cooling effects and comfort criteria).

[EN 12792:2003, 40]:
rate of motion of air in a given direction measured as distance per unit time.

air velocity, relative

[EN 12792:2003, 386]:
air velocity relative to an occupant

air velocity, room

[EN 12792:2003, 315]:
arithmetical average value of velocity conventionally derived from the various locally measured mean air velocities within the occupied zone

air vent

[AIVC, Air infiltration and ventilation glossary, 1992]:
a purpose provided air inlet or outlet.
(see also vent)

air vapour barrier

[AIVC, Air infiltration and ventilation glossary, 1992]:
a moisture impervious layer applied to the surfaces enclosing a space to limit moisture migration.

air volume flow, declared maximum

[EN 13141-4:2021, 3.6]:
[EN 13141-7:2021, 3.6]:
declared maximum air volume flow of the unit.

air volume flow, declared minimum

[EN 13141-7:2021, 3.8]:
minimum air volume flow of the unit declared at the reference pressure declared
Note 1 to entry: If the supply and exhaust air volume flows are different, then the minimum air volume flow is equal to the higher of the two air volume flows.

air volume flow, maximum

[EN 13141-7:2021, 3.7]:
air volume flow corresponding to the maximum achievable fan curve setting of the unit at the pressure p_{qvmax}, either declared or measured.
Note 1 to entry: To determine maximum air volume flow, see 7.2.2.2, Table 9.
Note 2 to entry: If the supply and exhaust air volume flows are different, then the maximum air volume flow is equal to the smaller of the two air volume flows.
[SOURCE: EN 13141-4:2021, 3.7, modified – Note 2 to entry has been added]

air volume flow, maximum at zero pressure

[EN 13141-7:2021, 3.5]:
measured air volume flow corresponding to the maximum achievable fan curve setting of the unit, at 0 Pa unit static pressure.
[SOURCE: EN 13141-4:2021, 3.4]

air volume flow, reference

[EN 13141-7:2021, 3.9]:
air volume flow (of the unit) corresponding to the reference pressure
Note 1 to entry: To determine reference air volume flow, see 7.2.2.3, Table 10.
[SOURCE: EN 13141-4:2021, 3.8]

airing

[EN 16798-1:2019, 3.4]:
intentional opening of windows, doors, vents, etc. for increasing the ventilation in a room.
Since airing is the air change by manually operating windows or other openings, it has to be observed that it cannot be considered to be the effect of a ventilation system.

[EN 12792:2003, 41]:
[EN 16798-7:2017, 3.7]
natural ventilation by window opening.

airtightness

[AIVC, Air infiltration and ventilation glossary, 1992]:
a general descriptive term for the leakage characteristics of a building. The smaller the air leakage rate at a given pressure difference across a building envelope, The greater the airtightness.
(see air leakage characteristic)

airtightness, indoor/outdoor

[EN 13141-4:2021, 3.13]:
maximum of air volume flow through a non-ducted ventilation unit at static pressure difference of – 20 Pa and + 20 Pa corresponding to the setting when the fans are "OFF" and all additional shutters are closed.
Note 1 to entry: Indoor/outdoor airtightness is not the external leakage.

airtightness class A, B, C and D (of a duct)

[EN 12792:2003, 35]:
measure of the tightness of a ductwork system, defined at the upper limit of the air leakage factor f
(see also leakage)

airtightness standard

[AIVC, Air infiltration and ventilation glossary, 1992]:
a standard value of building or component air leakage corresponding to a reference pressure difference across the building envelope or component. Standard values may be expressed in terms of air change rate, flow rate per unit area of opening, flow rate per unit length of crack, or equivalent leakage area.

ambient temperature

(see temperature, ambient)

annual exposure

[ASHRAE Standard 62.1]:
the time-integrated concentration taken over one year that would occur for a constant source strength.

apartment

[AIVC, Air infiltration and ventilation glossary, 1992]:
a separate room or suite of rooms in a building occupied by one party. Many of these apartments form apartment blocks, or blocks of flats.

atrium

[AIVC, Air infiltration and ventilation glossary, 1992]:
an open space in the middle or at the edge of a building, usually enclosed, but still allowing the penetration of light.

attic

[AIVC, Air infiltration and ventilation glossary, 1992]:
a low storey or structure above the main part of a dwelling. Alternatively known as a loft or roof space.

automatically controlled air terminal devices

(see air terminal device)

authority having jurisdiction (AHJ)

[ASHRAE Standard 241]:
the agency or agent responsible for determining compliance with this standard.

axial flow fan

(see fan types)

B

backdraughting

[AIVC, Air infiltration and ventilation glossary, 1992]:
the reversed flow of polluted air (or flue gases) in a chimney, flue or other air outlet, back into the room or building.

background leakage

(see leakage, background)

background pollutants

(see pollutants, background)

baffle

[EN 12792:2003, 50]:
component used for partial blanking of the air flow through an air terminal device. It generally consists of a plate or series of plates.

bag sampling method

[AIVC, Air infiltration and ventilation glossary, 1992]:
a) A method of measuring the air change rate using tracer gas and a two channel pump. One channel dispenses tracer gas from a bag of known volume, the other draws room air into a sample bag. The final concentration of tracer in the room air and the amount of tracer gas used, enables the calculation of the average inverse air change rate.
b) A method of measuring the air change rate by which tracer is discharged into a sample volume and mixed. Sample bags are inflated with room air at intervals and the concentration of tracer measured.

balanced fan pressurization

(see pressurization, balanced fan)

balanced system

(see ventilation system, (mechanical) balanced supply/extract)

balanced ventilation

(see ventilation)

balancing

[EN 12792:2003, 52]:
process of adjusting the flow rates in each circuit of an installation to comply with the design values.

basement

(see cellar)

bend or elbow

[EN 12792:2003, 53]:
duct fitting which affects a change in the direction of a flow.
(see also duct fitting)

bifurcated fan

(see fan types)

biological contaminant (biocontaminant)

[ISO 16814:2008, 3.8]:
any micro-organism or part of a living organism or substance of biological origin capable of producing an adverse effect on human health or discomfort or damage to human property.
NOTE Biological contaminants do include microbial contaminants and other substances, such as insects or dander.

blow-through unit

[EN 12792:2003, 55]:
air handling unit with a section or sections downstream of the supply air fan.

blower door

[AIVC, Air infiltration and ventilation glossary, 1992]:
a device that fits into a doorway of a building, containing a powerful fan, for supplying or extracting a measured rate of air flow. It is normally used for testing air leakage by pressurization or depressurization.

body odour

[AIVC, Air infiltration and ventilation glossary, 1992]:
the odour originating from sweat and secretions from the skin, foul breath, and gases from the digestive tract. Odour emission is dependent upon diet, activity, and persona} hygiene.

branch

[EN 12792:2003, 56]:
duct fitting which subdivides the flow from one or more ducts into two or more ducts, or conversely which unites the flow from two or more ducts into one duct (T-pieces, Y-pieces, cross-pieces, etc.). It can or can not include diverting elements (see also duct fitting).

breathing zone

[EN 16798-1:2019, 3.5]:
part of the occupied zone at the head level of the occupants
Note 1 to entry: Head level is 1,7 m standing, 1,1 m seated and 0,2 m for children on the floor.
Note 2 to entry: For a definition of occupied zone see EN 16798–3.

[ASHRAE Standard 62.1]**:**
the region within an occupied space between planes 3 and 72 in. (75 and 1800 mm) above the floor and more than 2 ft (600 mm) from the walls or fixed air-conditioning equipment.

brine

[EN 14511-1:2022, 3.4]:
heat transfer medium that has a freezing point lower than the freezing point of water.

bulging, caving of a duct or enclosure(s)

[EN 12792:2003, 59]:
largest deformation of the sides of a duct or enclosure when subjected to a negative (caving) or positive (bulging) pressure. It is given as the measured difference in distance between a reference plane and the maximum point of deflection when subjected to a negative or positive pressure.
(see damper and valve)

building, energy performance

[ISO 16818:2008, 3.84]:
calculated or measured amount of energy actually used or estimated to meet the different needs associated with a standard use of the building, which may include, inter alia, energy use for heating, cooling, ventilation, domestic hot water and lighting.

building, low-polluting

[EN 16798-1:2019, 3.7]:
building where predominantly low emitting materials are used and materials and activities with emission of pollutants are limited.
Note 1 to entry: Default criteria are listed in B.4.

building, non low-polluting

[EN 16798-1:2019, 3.8]:
building where no effort has been done to select low-emitting materials and where activities with emission of pollutants are not limited or prohibited.
Note 1 to entry: Default criteria are listed in B.4. Previous emissions (like tobacco smoke) may have taken place.

building, very low-polluting

[EN 16798-1:2019, 3.6]:
building where predominantly very low-emitting materials and furniture are used, activities with emission of pollutants are prohibited and no previous emitting sources (like tobacco smoke, from cleaning) were present.
Note 1 to entry: Default criteria are listed in B.4.

building envelope

[AIVC, Air infiltration and ventilation glossary, 1992]:
the total arca of the boundary surfaces of a building through which heat, light, air and moisture are transferred between the internal spaces and the outside environment.

building height

[EN 16798-7:2017, 3.3]:
height of the building from the entrance ground level to the roof top level.

building envelope airtightness

[EN 16798-7:2017, 3.4]:
overall leakage air flow rate for a given test pressure difference across building.

building performance

[EN ISO 16484-1:20224, 3.2]:
set of measurable building characteristics.
Note 1 to entry: This includes e.g. energy efficiency, indoor air quality, moisture management and thermal comfort.
Note 2 to entry: This is also influenced by building construction and utilization, installed technical services and their operation.

building readiness plan (BRP)

[ASHRAE Standard 241]:
a document that shall be created that documents the engineering and non-engineering controls that the facility systems will use for the facility to achieve its goals.

building related illness (BRI)

[IFMA, Glossary]:
a diagnosable illness resulting from exposure to specific agents encountered in buildings, such as bacteria, fungi, allergens, or chemicals.

bungalow

[AIVC, Air infiltration and ventilation glossary, 1992]:
a single storey building, which may be detached or semi-detached whose primary purpose is for living accommodation.

bypass factor

[EN 12792:2003, 60]:
ratio of the diverted flow to the sum of main flow and the diverted flow.

bypass leakage

(see leakage, bypass)

C

calibration

[EN 12792:2003, 62]:
all the operations for the purpose of determining the value of the errors of a measuring instrument.

capacity, rated
(see rated capacity)

casing

[EN 12792:2003, 63]:
enclosure normally housing other components and generally made of metal lined where necessary with material for thermal insulation and/or acoustic attenuation. Inlet and outlet orifice(s) are provided.

casing of an air handling unit

[EN 12792:2003, 64]:
enclosure of the unit, within which the components are mounted.

caulking

[AIVC, Air infiltration and ventilation glossary, 1992]:
technique for making airtight joints by applying a sealing material. A form of weatherstripping. *(see weatherstripping).*

caving

(see bulging)

cavity barrier

[AIVC, Air infiltration and ventilation glossary, 1992]:
a form of vapour barrier where a moisture impervious layer is introduced inside the "cavity" of a cavity wall, usually polythene sheeting.
(see vapour barrier; cavity wall)

cavity wall

[AIVC, Air infiltration and ventilation glossary, 1992]:
a wall built of two leaves, separated usually by a continuous gap. The two leaves are connected by ties at intervals. The inner layer may be double for floor bearing.

cellar

[AIVC, Air infiltration and ventilation glossary, 1992]:
a story in a building whose floor line is below ground level at any entrance or exit, the ceiling of which is not more than 5ft above ground level whose primary function can be accommodation or storage.

centrifugal fan

(see fan, centrifugal)

chiller

[EN 12792:2003, 67]:
heat exchangers in which heat is transferred from the air to a colder medium.
(see also heat exchanger)

chiller, comfort

[EN 14511-1:2022, 3.7]:
liquid chilling package whose indoor heat exchanger extracts heat from a water-based cooling system designed to operate at leaving chilled water temperatures greater than or equal to 2° C.

circulating fan

(see fan functions)

clean room

[EN 12792:2003, 69]:
specially constructed, enclosed area environmentally controlled with respect to airborne particulates, temperature, humidity, air pressure, air pressure flow patterns, air motion, vibration, viable organisms and lighting.

clearance (for ductwork connection)

[EN 12792:2003, 70]:
actual dimensional difference between the lower limit of size of a female connector of a duct and the upper limit of size of a male connector.

cleat

- **sheet metal**

[EN 12792:2003, 71]:
strip of sheet formed by roll-forming into a profile that is used to secure the sheet metal rolled jointing flanges added to rectangular ducts.

- **steel**

[EN 12792:2003, 71]:
short section of rolled steel angle used to connect two intersecting steel members.

clo-unit

[EN 12792:2003, 72]:
unit of measurement of the insulation or thermal resistance of clothing.

close control air conditioner

(see air conditioner, closed control)

coefficient of air change performance

[AIVC, Air infiltration and ventilation glossary, 1992]:
this is the ratio between the nominal time constant and the room mean age. The coefficient of air change performance equals twice the air change efficiency. This term is equivalent to the ventilation effectiveness definition of ASHRAE standard 62-1989, "Ventilation for Acceptable Indoor Air Quality".
(see also air change time; local air change index; nominal time constant; specific flow)

coefficient of performance (COP)

[EN 14511-1:2022, 3.6]:
ratio of the heating capacity to the effective power input of the unit.
NOTE Expressed in kW/kW

coefficient of performance, rated

(see rated coefficient of performance)

cognizant authority

[ASHRAE Standard 62.1]**:**
an agency or organization that has the expertise and jurisdiction to establish and regulate

concentration limits for airborne contaminants, or an agency or organization that is recognized as authoritative and has the scope and expertise to establish guidelines, limit values, or concentrations levels for airborne contaminants.

collar

[EN 12792:2003, 73]:
piece of metal that is added to shaped sheet metal components (e.g. tapers, transitions) to provide parallel ends to facilitate jointing with adjacent components.

collector chamber

[AIVC, Air infiltration and ventilation glossary, 1992]:
sealed box or other enclosure used to isolate a building component when conducting pressurization tests.

combined section of an air handling unit

[EN 12792:2003, 74]:
section within which two or more functions are combined.

comfort condition

[EN 12792:2003, 75]:
environmental condition in a space such that the majority of the occupants should, on a statistical basis, be comfortable.

comfort air conditioner or heat pump

[EN 14511-1, 3.3]
air conditioner or heat pump to satisfy the comfort requirements of the occupants of the air conditioned room.

comfort zone

[AIVC, Air infiltration and ventilation glossary, 1992]:
the range of indoor conditions considered acceptable by a certain proportion (e.g. usually more than 80%) of the people working or living in the space.

commercial building

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building whose primary purpose is to provide space for commercial activity rather than domestic. This includes offices, storage, plant, farm, public and some factory classifications.

component

[EN 12792:2003, 76]:
smallest functional element of an installation.

component leakage

[AIVC, Air infiltration and ventilation glossary, 1992]:
the leakage of air through the building envelope which is directly attributable to flow through cracks around specific doors, windows or other components.
Note: it refers to building envelope components.

component of an air handling unit

[EN 12792:2003, 77]:
smallest functional element of an air handling unit

components of air diffusion

[EN 12792:2003, 78]:
in air diffusion there are three main categories of components:

- **Air Terminal Devices (ATD's)**

[EN 12792:2003, 78]:
components of the installation which are designed for the purpose of achieving the predetermined movement of air into or from the treated space (e.g. grilles, diffusers, etc.) (Also see Air terminal device)

- **complementary accessories to air terminal devices**

[EN 12792:2003, 78]:
components of the installation which are used in conjunction with, and in some cases form an integral part of, the air terminal device for the purpose of achieving the predetermined profile or rate of flow into, or from, the air terminal device (e.g. air flow controllers, dampers, flow equalisers, baffles, etc.)

- **fixing accessories for air terminal devices**

[EN 12792:2003, 78]:
components of the installation which assist the fitting and fixing into place and/or maintenance of the air terminal devices and their complementary accessories (e.g. plaster frames, snap in fasteners, etc.)

components of air distribution

[EN 12792:2003, 79]:
in air distribution there are three main categories of components:

- **elements of distribution**

[EN 12792:2003, 79]:
components for the purpose of ensuring a correct distribution of the air. (Also see Air duct, Ductwork components, Damper and valve, etc.)

- **Air Terminal Units (ATU's)**

[EN 12792:2003, 79]:
equipment inserted into or added to the ends of ducts for the purpose of controlling one or more of various parameters such as velocity, pressure, flow rate and temperature. (See also Air Terminal Unit)

- **accessories of distribution**

[EN 12792:2003, 79]:
components ensuring the fitting and fixing in place of the elements of distribution and their inspection and maintenance. (See also Duct connection component, Door and Inspection panel, etc.)

component of ventilation or air conditioning

[EN 12792:2003, 80]:
single functional element forming a part of a ventilation or an air conditioning installation

concentration

[ASHRAE Standard 62.1]**:**
the quantity of one constituent dispersed in a defined amount of another.

condensation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the precipitation of liquid from its vapour phase resulting from the lowering of temperature at constant pressure: especially the deposition of water from moist, warm air onto a relatively cold surface or between two surfaces such as within a cavity wall.

conditioned space

[ASHRAE Standard 62.1]**:**
that part of a building that is heated or cooled, or both, for the comfort of occupants.

[ASHRAE Standard 62.2]**:**
the part of a building that is capable of being thermally conditioned for the comfort of occupants acceptability of that air.

conduction

[AIVC, Air infiltration and ventilation glossary, 1992]:
the transfer of heat from one part of a substance to another part of the same substance and then to another substance in physical contact with it, without appreciable displacement of the molecules forming the substance.
(see convection; radiation; heat transfer)

connector

[EN 12792:2003, 81]:
device employed to join two components of the same dimension together e.g.
- pipes;
- ducts;
- threaded rod

conservation of energy (also known as energy conservation *principle*)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the principle that in any system energy cannot be created or destroyed, although it can be changed from one form to another, e.g. from potential to kinetic to heat, etc.
(see energy conservation)

constant concentration

(see trace gas technique, constant concentration)

constant flow/emission

(see trace gas technique, constant flow/emission)

contaminant

[AIVC, Air infiltration and ventilation glossary, 1992]:
an unwanted airborne constituent that may reduce the acceptability of the air and may be detrimental to the health of building occupants.

[ASHRAE Standard 62.1]**:**
an unwanted airborne constituent with the potential to reduce acceptability of the air.

contaminant mixture

[ASHRAE Standard 62.1]**:**
two or more contaminants that target the same organ system.

contra rotating fan

(see fan types)

control cabinet air conditioner

(see air conditioner, control cabinet)

control device (air terminal unit)

[EN 12792:2003, 83]:
device which can be used to control other components within the air terminal unit such as a fan, heat exchanger, etc.

control system

[EN 12792:2003, 84]:
arrangement of elements interconnected and interacting in such a way as to maintain or influence in a prescribed manner specified conditions.

convection

[AIVC, Air infiltration and ventilation glossary, 1992]:
transference of heat through a liquid or gas by the actual movement of the fluid. Portions in contact with the source of heat become hotter, expand, become less dense, and rise: their place is then taken by colder portions, thus setting up convection currents.
(see free convection; forced convection; conduction; radiation; heat transfer)

cooker hood (range hood)

[EN 12792:2003, 85]:
device intended to collect contaminated air from above a cooking appliance and either discharge it into the room or remove it from the room, it may or may not incorporate one or more of the following components:
- filters;
- fan;
- fire damper;
- non return flow damper;
(see also range hood)

cooled area

[EN 16798-5-2:2017, 3.1]:
area that is cooled to a defined set-point temperature.

cooler

(see chiller)

cooling

[AIVC, Air infiltration and ventilation glossary, 1992]:
the transfer of energy from a body of solid liquid or gas by the existence of a temperature gradient from that body to its surroundings which are at a lower temperature, and may also be solid, liquid or gas. This process is the opposite of heating.

[EN 12792:2003, 87]:
removal of sensible and/or latent heat.

cooling capacity

[EN 14511-1, 3.9]
heat given off from the heat transfer medium to the unit per unit of time, corrected from any fan or pump heat where applicable
Note 1 to entry: Expressed in kW.
Note 2 to entry: For air to air and water(brine) to air units, cooling capacity is the total cooling capacity i.e. sum of latent and sensible cooling capacities.

cooling coil

[EN 12792:2003, 88]:
heat exchanger that extracts heat from the air stream by means of a heat transfer medium
cooling load amount of cooling per unit time required by the space being controlled.

cooling coil, required inlet temperature

[EN 16798-5-1:2017, 3.11]:
cooling coil inlet temperature required for cooling and dehumidification of the supply air to the setpoints.

cooling load

[EN 12792:2003, 89]:
amount of cooling per unit time required by the space being controlled.

cooling season

[EN 16798-1:2019, 3.9]:
part of the year (usually summer) during which cooling is needed to keep the indoor temperature within specified levels, at least part of the day and in part of the rooms.
Note 1 to entry: The length of the cooling season differs substantially from country to country and from region to region.

core area of an air terminal device

[EN 12792:2003, 90]:
area of an air terminal device located within a convex closed surface of minimum area, inside of which are all openings of the air terminal device through which the air can pass

core area of a sand trap louvre

[EN 12792:2003, 91]:
product of minimum height (h) and minimum width (b) of the front opening of a sand trap louvre assembly with the louvre blades removed (see also core area of an air terminal device)

cowl

[EN 12792:2003, 92]:
air terminal device intended to be installed above a natural ventilation exhaust duct with the aim, by creating negative pressure and depending on wind speed, of avoiding reverse flow and increasing flow rate. It may or may not include moving parts.

cowl, assisted

[EN 12792:2003, 46]:
cowl fitted with an auxiliary device, such as a fan and using another energy source than wind to compensate for lack of pressure difference.

crack/crackage

[AIVC, Air infiltration and ventilation glossary, 1992]:
small gaps around doors, windows and other parts of a building envelope through which ventilation air may pass.

crack length

[AIVC, Air infiltration and ventilation glossary, 1992]:
the total length of the narrow gaps found around doors and windows etc, through which ventilation air may pass.
(see component leakage)

crawlspace

[AIVC, Air infiltration and ventilation glossary, 1992]:
a shallow space in a building, usually under the floor, which provides access to pipes, wires and other equipment.

criteria

[EN 15665:2009, 3.4]:
way (method) to express the required performance (*for air pollution assessment*)
NOTE Criteria can be, for example, numbers of hours above 70 % RH in living room calculated on a standard week basis, number of minutes to reach 25 % of the initial pollution concentration based on a standard pollutant emission in a toilet, average level of CO2 above outside in bedroom on a 10 hours night with two standard persons.

cross contamination (of air or masses)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the contamination of one stream of air by pollutants in another, due to air movement between the two streams (or masses).

cross-sectional area of a duct

[EN 12792:2003, 93]:
for ducts with circular cross-section the cross-sectional area (Ac) is based on the internal diameter (d), unless otherwise specified. For ducts with rectangular cross-section the cross-sectional area (Ac) is based on the product of the internal height and internal breadth, unless otherwise specified.

cross-ventilation

(see ventilation, cross)

D

damper (or valve)

[EN 12792-2003, 95]:
element inserted into an air distribution system or element of an air distribution system permitting modification of the air resistance of the system, and consequently changing the air flow rate (dampers), or shutting off the air flow completely (valves), or controlling the air flow rate and in addition providing shut-off of the air flow (control valves). Examples of dampers (which can also be found as valves or control valves) are:

- **single leaf damper**

[EN 12792-2003, 95]:
Having the flap centrally mounted or at one end
(sometimes one or a combination of this damper is used as diverting element)

- **butterfly damper**

[EN 12792-2003, 95]:
Having two flaps in 'V' arrangement.

- **multiple leaf damper**

[EN 12792-2003, 95]:
Having a number of shutters in opposed blade or parallel arrangement.

- **iris damper**

[EN 12792-2003, 95]:
Having sectorised blades

- **hit and miss damper**

[EN 12792-2003, 95]:
Having two or more slotted slides in parallel arrangement and adjustable against each other.

- **slide damper**

[EN 12792-2003, 95]:
Having a sliding part, which is perpendicular to the direction of the air flow.

damper control (of a fan)

(see fan control methods)

damper section

[EN 12792-2003, 97]:
section of equipment including a damper or valve.

DC pressurization

(see pressurization, DC technique)

decay method (tracer gas)

(see tracer gas technique, decay method)

declared maximum air volume flow

EN 16573-2017, 3.1.1]:
maximum of the removed or fresh air volume flow corresponding to the declared total pressure of the unit at the maximum setting, without any recirculation, for standard air conditions (20 °C, 101 325 Pa)

[SOURCE: EN 13141-7:2010, 3.1.4, modified — The beginning of the definition has been redrafted and the expression “without any recirculation” has been added.]

declared total pressure difference

EN 16573-2017, 3.1.2]:
total pressure difference between the outlet and the inlet of the unit, without any recirculation, declared by the manufacturer, and corresponding to 100 Pa or to a lower total pressure if the intended use declared by the manufacturer is less than 100 Pa
[SOURCE: EN 13141-7:2010, 3.1.6, modified — The original term was “Ptud/2” and it was defined with the beginning of the present definition.]

deflection of a duct

[EN 12792-2003, 98]:
largest deformation of a duct when subjected to a load. It is given as the measured difference in distance between a plane through the points of support and a plane through the lowest point of the duct after a load has been applied.

deflection of a joint

[EN 12792-2003, 99]:
largest deformation of a joint when subjected to a positive or negative pressure. It is given as the measured difference in distance between a reference plane outside the joint to the joint with and without pressure.

defrost mode

[EN 14511-1:2022, 3.10]:
state of the unit in the heating mode where the operation is modified in order to defrost the outdoor air heat exchanger.

defrost period

[EN 14511-1:2022, 3.11]:
time for which the unit is in the defrost mode.

defrosting heat ratio

[EN 12792-2003, 100]:
ratio between the energy transferred into the supply air and the maximum recoverable energy in exhaust air, excluding the energy input for defrosting.

degree day

[AIVC, Air infiltration and ventilation glossary, 1992]:
the number of degrees of temperature difference on any one day between a given base temperature and the 24-hour mean outside air temperature for the particular location. The average number of degree days for a given period (For example during the heating season) is the sum of these degree days, divided by the given period.

dehumidification

[AIVC, Air infiltration and ventilation glossary, 1992]:
the process of reducing the moisture content of the air; serves to increase the cooling power of the air and can contribute to occupant comfort.
(See air conditioning; humidification; cooling; heating

[EN 16798-1:2019, 3.12]:
process of removing water vapour from air.

[EN 12792-2003, 101]:
reduction of water vapour from air.

demand controlled ventilation (DCV)

[AIVC, Air infiltration and ventilation glossary, 1992]:
A ventilation strategy where the airflow rate is governed by a chosen pollutant concentration level. This level is measured by air quality sensors located within the room or zone. When the pollutant concentration level rises above a preset level, the sensors activate the ventilation system. As the occupants leave the room the pollutant concentration levels are reduced, and ventilation is also reduced. Common pollutants are usually occupant dependent, such as, carbon dioxide, humidity or temperature.

[ASHRAE Standard 62.1]:
any means by which the breathing zone outdoor airflow (V_{bz}) can be varied to the occupied space or spaces based on the actual or estimated number of occupants, ventilation requirements of the occupied zone, or both.

[EN 16798-1:2019, 3.11]:
ventilation system where airflow rates are controlled automatically according to measured needs at room level.

[EN 16798-3:2017, 3.6]:
ventilation system where the ventilation rate is controlled by air quality, moisture, occupancy or some other indicator for the need of ventilation.

depressurization

[AIVC, Air infiltration and ventilation glossary, 1992]:
a measurement technique used to evaluate the airtightness of a building or component. The air inside the room or building is extracted by the use of a fan, creating a lower pressure inside than outside the room or building.
(see blower door; DC pressurization; pressurization)

design documents

[ISO 16814:2008, 3.9]:
drawing, specification, project manual, and other volumes used to document construction requirements and basis of design.

design nominal air flow condition

[EN 16798-3:2017, 3.10]:
declared nominal air volume flow at a density of 1,2 kg/m^3.

design pressure difference of an air handling unit

[EN 12792-2003, 102]:
difference between the total gauge pressure at the outlet of the air handling unit and the total gauge pressure at the inlet.

design ventilation airflow rate

[EN 16798-1:2019, 3.28]:
ventilation rate that the ventilation system is able to provide in design conditions (including boost, weather and loads)

deviation

[EN 12792-2003, 103]:
difference between the set point and the value of the controlled variable at any instant.

dewpoint (temperature)

(see temperature, dew point)

diffusion of air

(see air diffusion)

dilution index (DI)

[ISO 16814:2008, 3.10]:

ratio of the removal of a contaminant from an enclosure to the rate of its generation.
NOTE An enclosure with a higher dilution index represents a less contaminated enclosure. Dilution indices are calculated for each contaminant generated within the enclosure and the lowest DI value applied.

direct fired air heater

[EN 12792-2003, 106]:
heat generator where the heat from combustion is emitted directly to the air to be treated

discharge coefficient

[AIVC, Air infiltration and ventilation glossary, 1992]:
a dimensionless coefficient relating the mean flow rate through an opening to an area and the corresponding pressure difference across the opening.

discharge coefficient, louvre

[EN 12792-2003, 107]:
actual discharge air flow rate, divided by the theoretical discharge air flow rate at a given pressure difference across a louvre.

displacement air diffusion

[EN 12792-2003, 108]:
air diffusion where the mixing of supply air and room air external to the air terminal device is intended to be at a minimum.
(see also air diffusion and air terminal devices)

displacement air diffusion, distance to the v (m/s) isovel

[EN 12792-2003, 109]:
maximum horizontal distance (L_v) from the centre of an air terminal device to the rectangle circumscribing the specified isovel and independent of the distance from the floor.
(see isovel)

displacement air diffusion, height of the v (m/s) isovel

[EN 12792-2003, 205]:
maximum vertical distance from the floor (or reference plane) to the specified isovel.

displacement air diffusion, width of the v (m/s) isovel

[EN 12792:2003, 398]:
maximum width of the rectangle circumscribing the specified isovel perpendicular to the intended direction of flow and independent of the distance from the floor.

displacement flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
the displacement of internal room by incoming outdoor or conditioned air without appreciable mixing of the two masses. Very precise temperature and control} conditions are required.
(see piston flow)

distance to the v (m/s) isovel (for displacement air diffusion)

(see displacement air diffusion, distance to the v (m/s) isovel)

diverting element

[EN 12792-2003, 110]:
element to divert the flow of air from one duct to another.

door and inspection panel

[EN 12792-2003, 111]:
accessories intended to permit access into ducts, they are positioned in proximity to all those internal parts which require inspection and/or maintenance such as fire dampers.

double-duct air conditioner

[EN 14511-1:2022, 3.12]:
air conditioner in which, during cooling (or heating), the condenser (or evaporator) intake air is introduced from the outdoor environment to the unit by a duct and rejected to the outdoor environment by a second duct, and which is placed wholly inside the space to be conditioned.

downdraft

[AIVC, Air infiltration and ventilation glossary, 1992]:
an airstream with a significant downward directional component of velocity. Often occurs adjacent to cold surfaces. It may be generated artificially by air curtains, air doors etc.

drain cock

(see drain plug or cock)

drain plug or cock

[EN 12792-2003, 113]:
removable plug or key operated draw-off cock intended to permit the removal of incoming liquids or condensates.

draught

[AIVC, Air infiltration and ventilation glossary, 1992]:
excessive air movement in an occupied enclosure causing discomfort.

[EN 12792-2003, 114]:
unwanted local cooling of a body caused by movement of air and is related to temperature.

draught proofing

[AIVC, Air infiltration and ventilation glossary, 1992]:
the action of filling the gaps around doors and windows, in order to prevent outside cold air leaking into the building, causing draughts.
(see weatherstripping; caulking).

draught risk rating

[EN 12792-2003, 115]:
percentage of people predicted to be dissatisfied due to draught.

drop (of an air jet in mixing air diffusion)

[EN 12792-2003, 116]:
vertical distance (h_v) between the lowest horizontal plane tangent to a specified isovel and the centre of the core of an air jet

dry bulb temperature

(see temperature, dry bulb)

dry motor pump

[EN 14511-1:2022, 3.13]:
pump with a motor which is cooled by the ambient air.

dual duct unit

[EN 12792-2003, 117]:
air terminal unit assembly having two ducted air inlets and means of automatically adjusting the predetermined ratio of mixing of two air flows at different conditions and for regulating the air flow rate to the required value.

duct board

[EN 12792-2003, 118]:
rigid board composed of insulation material with one or both sides faced with a finishing material. The outer facing is normally a vapour barrier and can also be used as an air barrier

duct connection component

[EN 12792-2003, 119]:
means intended to facilitate the joining of two components of ductwork.
Typical examples are:
- Collars;
- Flanges;
- Connectors;
- Cleats;
- Slip joints

duct fitting

[EN 12792-2003, 120]:
components of ductwork incorporating one or several of the following changes relative to:
- the length of the duct;
- the orientation of the duct;
- the shape of the straight length of the duct;
- the area of the cross-section of the
duct.
Examples of duct fittings are:
- Bend or elbow;
- Transformation;
- Branch.
NOTE Apart from rigid components of ducting there are flexible sleeves which reduce the propagation of mechanical and/or acoustic vibrations between two components or ease the assembly of the installation.

duct heat loss

[EN 16798-5-2:2017, 3.2]:
heat loss by leakage and heat transfer of the ductwork.

duct heat loss, recoverable
[EN 16798-5-2:2017, 3.2]:
heat loss by leakage and heat transfer of the ductwork, recoverable for heating and cooling
Note 1 to entry: Negative values.

duct leakage air volume flow rate extracted from, ventilation zone i

[EN 16798-5-1:2017, 3.2]:
leakage air volume flow rate going to the extract air ducts, extracted from a ventilation zone.

duct leakage air volume flow rate going to, ventilation zone i

[EN 16798-5-1:2017, 3.3]:
leakage air volume flow rate from the supply air ducts going to a ventilation zone.

duct leakage volume flow from the zone, mean

[EN 16798-5-2:2017, 3.4]:
mean leakage air to the extract air ducts extracted from the zone.

duct leakage volume flow to the zone, mean

[EN 16798-5-2:2017, 3.5]:
mean leakage air from the supply air ducts going to the zone.

duct sealing

[EN 12792-2003, 121]:
means taken either to ensure the airtight sealing of the air distribution system or to minimize leakage there from
NOTE Various techniques can be used according to the type of joint used to achieve this objective such as welds, mastic seals and prefabricated joints.

duct support

[EN 12792-2003, 123]:
means used to suspend or support ductwork within a building structure

duct support spacing

[EN 12792-2003, 122]:
distance between or frequency of supports along the length of a duct route

duct transformation

(see duct fitting)

ducted fan

(see fan functions)

ductwork components

[EN 12792-2003, 126]:
in practice to facilitate manufacturing, storage, transportation and installation, ducts are made of components, which are intended to be joined together at the time of installation. These components are of various types. (see also straight duct component and duct fitting)

dwelling (unit)

[ASHRAE Standard 62.1]:
[ASHRAE Standard 62.2]:
a single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.

[EN 12792-2003, 127]:
building or part of a building where people normally live, sleep, cook and eat.

dwelling leakage

(see leakage, dwelling)

E

effective annual average infiltration rate

[ASHRAE Standard 62.2]:
the constant air infiltration rate that would result in the same average indoor pollutant concentration over the annual period as actually occurs under varying conditions.

effective area

(see equivalent area)

effective area of an air terminal device

[EN 12792-2003, 131]:
net area aerodynamically derived by means of the Ak-value of an air terminal device utilized by the air stream in passing through the air terminal device.

effective length of a duct

[EN 12792-2003, 132]:
dimension by which a straight duct contributes to the length of an air distribution installation

effective length of a fitting

[EN 12792-2003, 133]:
dimension by which a duct fitting contributes to the length of an air distribution installation

effective power input

[EN 14511-1:2022, 3.14]:
average electrical power input of the unit within the defined interval of time, obtained from:— power input for operation of the compressor and any power input for defrosting;— power input for all control and safety devices of the unit;— proportional power input of the conveying devices (e.g. fans, pumps) for ensuring the transport of the heat transfer media inside the unit
NOTE Expressed in kW.

electrical power input

[EN 13141-7:2021, 3.17]:
average overall electrical power input to the equipment within a defined interval of time for standard air conditions obtained from:
— the power input of the fans;
— controller(s), compressor(s), safety devices of the equipment(s) excluding additional electrical heating devices not used for defrosting.
Note 1 to entry: Electrical power consumption includes the consumption of the heating device for defrosting during the cold climate test.
[SOURCE: EN 13141-4:2021, 3.15] to which Note1 has been added.

electrical power input, maximum

[EN 13141-4:2021, 3.17]:
[EN 13141-7:2021, 3.18]:
electrical power input at maximum air volume flow, q_{vmax}, and its corresponding pressure, $p_{qvmax.}$

electrical power input at the reference air volume flow

[EN 13141-4:2021, 3.16]:
[EN 13141-7:2021, 3.19]:
electrical power input at reference air volume flow, q_{vref} , and reference pressure, $p_{ref.}$

element of distribution

(see components of air distribution)

emission (building environment design)

[ISO 16814:2008, 3.11]:
release of contaminant(s) from indoor source(s) into indoor air.

emission factor

[ISO 16814:2008, 3.12]:
ratio of the rate at which an air pollutant is entitled as a result of some activity, to the rate of that activity.
NOTE 1 Adapted from ISO 4225:1994 [46].
NOTE 2 The point or area from which the discharge takes place is called the "source". The term is used to describe the discharge and the rate of discharge. The term can also be applied to noise, heat, etc.

emission rate

[ISO 16814:2008, 3.13]:
mass (or other physical quality) of pollutant transferred into the atmosphere per unit time.
[SOURCE: ISO 4225:1994 [46]]

enclosure

[ISO 16814:2008, 3.14]:
individual room, space or part thereof.

energy balance

[AIVC, Air infiltration and ventilation glossary, 1992]:
the arithmetic balancing of energy inputs versus outputs of an object or processing equipment; it is positive if energy is released, and negative if energy is absorbed.

energy conservation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the deliberate design of a building or process to reduce its energy usage, or to increase its energy efficiency.
(see conservation of energy)

energy efficiency

[AIVC, Air infiltration and ventilation glossary, 1992]:
the efficient use of energy with minimum waste.

energy efficiency ratio (EER)

[EN 14511-1:2022, 3.15]:
ratio of the total cooling capacity to the effective power input of the unit
NOTE Expressed in kW/kW.

energy efficiency ratio, rated

(see rated energy efficiency ratio)

energy recovery ventilation system

[ASHRAE Standard 62.1]:
device or combination of devices applied to provide the outdoor air for ventilation in which energy is transferred between the intake and exhaust airstreams.

entry loss coefficient of a louvre

[EN 12792-2003, 135]:
actual entry air flow rate, divided by the theoretical entry air flow rate at a given pressure

environmental chamber

(see testing chamber)

environmental control

(see air conditioning)

environmental temperature

(see temperature, environmental)

environmental tobacco smoke (ETS):

[ASHRAE Standard 62.1]:
the "aged" and diluted combination of both side-stream smoke (smoke from the lit end of a cigarette or other tobacco product) and exhaled mainstream
smoke (smoke that is exhaled by a smoker). ETS is commonly referred to as *secondhand smoke*. This definition includes smoke produced from the combustion of cannabis and controlled substances and the emissions produced by electronic smoking devices.

equipment well

[ASHRAE Standard 62.1]:
an area (typically on the roof) enclosed on three or four sides by walls that are less than 75% free area, and the lesser of the length and width of the enclosure is less than three times the average height of the walls. The free area of the wall is the ratio of area of the openings through the wall, such as openings between louver blades and undercuts, divided by the gross area (length times height) of the wall.

equivalent area or effective area

[EN 12792-2003, 136]:
area of a sharp edged circular orifice which would pass the same air flow rate and the same applied pressure difference as the product or device being tested.

equivalent diameter of a straight rectangular parallel duct

[EN 12792-2003, 137]:
equivalent diameter de for a straight rectangular duct is that diameter of a circular duct which will cause the same pressure drop at equal air flow and equal friction coefficient

Equivalent Leakage Area (ELA)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the equivalent amount of orifice arca that would pass the same quantity of air as would pass collectively through a building envelope or component at a specified reference pressure difference.

equivalent outdoor air for infection control (EOAi)

[ASHRAE Standard 241]:
the equivalent flow rate of pathogen-free air per person that, if distributed uniformly within the breathing zone, would have the same effect on infectious aerosol as a given removal or inactivation mode.

ergonomics (human factor)

[EN ISO 26800:2011, 2.2]:
scientific discipline concerned with the understanding of interactions among human and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.
Note 1 to entry: This definition is consistent with that given by the International Ergonomics Association

[EPA, Terms & Acronyms Glossary]:
the study of people adjusting to their work environment; the science of adapting working conditions to the worker.

environmental tobacco smoke (ETS)

[ISO 16814:2008, 3.15]:
particulate and vapour-phase contaminants emitted to the atmosphere during the smoking of tobacco products, including side-stream smoke and exhaled mainstream smoke, also known as second-hand smoke (SHS)

ETS area

[ASHRAE Standard 62.1]:
spaces where smoking is permitted, as well as those not separated from spaces where smoking is permitted in accord with the requirements of Section 5 in this standard.

ETS-free area

[ASHRAE Standard 62.1]:
an area where no smoking occurs that is separated from ETS areas according to the requirements of this standard.
Informative Note: A no-smoking area is not necessarily an ETS-free area.

exfiltration

(see air, exfiltration)

exhaust air

(see air, exhaust)

Exhaust Air Transfer Ratio (EATR)

[EN 16798-3:2017, 3.8]:
level of carry-over of extract air to the supply air.

exhaust flow, net

[ASHRAE Standard 62.2]:
flow through an exhaust system minus the compensating outdoor airflow through any supply system that is interlocked to the exhaust system.

exhaust installation

[EN 12792-2003, 140]:
unitary package consisting of all components necessary to complete the exhaust installation of a single dwelling.

exhaust ventilation installation package

[EN 12792-2003, 141]:
ventilation installation package intended for exhaust purposes.
(see also ventilation installation package)

exhaust system

(see ventilation system, mechanical extract)

external fan pressure difference

(see pressure difference, external fan)

external leakage

(see leakage, external)

external static pressure difference

(see pressure difference, static external)

external work

[EN 12792-2003, 143]:
energy spent in overcoming external mechanical forces on the body. External work can also be expressed as a fraction of metabolic energy production, where the fraction value defines the mechanical efficiency. For most activities external work can be neglected.

externally mounted air transfer device

(see air transfer device, externally mounted)

extract air

(see air, extract)

extract air terminal device

(see air terminal device, extract)

extract temperature differential

(see temperature differential, extract)

extract ventilation

(see ventilation, extract)

external fan pressurization

(see pressurization, external fan).

F

fabric leakage

(see leakage, fabric)

fan

[AIVC, Air infiltration and ventilation glossary, 1992]:
a mechanical device employing rotating aero foil blades or vanes to continuously move air from one place to another.

[EN 12792:2003, 148]:
rotary bladed machine which receives mechanical energy and utilizes it by means of one or more impellers fitted with blades to maintain a continuous flow of air or other gas passing through it and whose work per unit mass does not normally exceed 25 kJ/kg. The term fan is taken to mean the fan as supplied without any addition to the inlet or outlet, except where such an addition is specified. (See ISO 5801)

fan, mixing

[AIVC, Air infiltration and ventilation glossary, 1992]:
small fan used to aid the mixing of room air and tracer gas before and/or during ventilation rate measurements.

fan assisted balanced ventilation

[EN 12792:2003, 149]:
ventilation which employs powered air movement components in both the supply and exhaust air sides in order to achieve a design flow rate/pressure ratio.

fan assisted exhaust ventilation

[EN 12792:2003, 150]:
ventilation which employs powered air movement components in the exhaust air side only

fan assisted induction terminal unit

[EN 12792:2003, 151]:
air terminal unit of the following types:

- **constant flow rate type** (also referred to as series type)

[EN 12792:2003, 151]:
assembly within which the primary air flow rate is modulated and mixed withair induced from the surrounding atmosphere, secondary air, by means of a continuously operating integral fan in order to provide a relatively constant flow rate of air to the treated space.

- **variable flow rate type** (also referred to as parallel type)

[EN 12792:2003, 151]:
assembly within which the primary air flow rate is modulated and mixed with air induced from the surrounding atmosphere, secondary air, by means of a non-continuously running fan, but which is operated in order to provide a variable flow rate to the treated space in response to thermal loads.

fan assisted induction terminal unit with constant flow rate

(see fan assisted induction terminal unit)

fan assisted induction terminal unit with variable flow rate

(see fan assisted induction terminal unit)

fan assisted supply air ventilation

[EN 12792:2003, 154]:
ventilation which employs powered air movement components in the supply air side only

fan control methods variable speed control

[EN 12792:2003, 155]:
speed can be varied either continuously or in steps by a variable speed motor, slipping coupling, gearbox or other means

- **damper control**

[EN 12792:2003, 155]:
fan performance is controlled by means of a damper, either on the inlet or on the outlet, creating a variable additional system resistance

- **vane control**

[EN 12792:2003, 155]:
vanes mounted at the fan inlet, which can be adjusted in order to change the fan performance by controlling the swirl at the fan inlet

- **variable blade pitch control** (normally only for axial-flow fans)

[EN 12792:2003, 155]:
the blade angle of the impeller can be varied whilst the impeller is rotating, all blades being simultaneously varied by one operation (i) adjustable pitch if the blade angle of the impeller can be altered only when the impeller is stationary, this method of control is termed 'adjustable pitch' (ii) fixed pitch when the blade angle cannot be changed, it is said that the fan has a 'fixed pitch'

fan dynamic pressure

[EN 12792:2003, 156]:
average dynamic pressure at the fan outlet, calculated from the mass flow, the average gas density at the outlet and fan outlet area

fan functions

- **ducted fan**

[EN 12792:2003, 157]:
fan for moving air within a duct (see also fan installation types)

- **partition fan**

[EN 12792:2003, 157]:
fan used for moving air from one free space to another (see also fan installation types)

- **jet fan**

[EN 12792:2003, 157]:
fan for producing a jet of air in a space (see also fan installation)

- **circulating fan**

[EN 12792:2003, 157]:
fan used for moving air within a space (see also ISO 13349 and fan installation types)

fan inlet

[EN 12792:2003, 158]:
opening usually circular or rectangular through which the air first enters the fan casing

fan installation types

[EN 12792:2003, 159]:
Type (A), free inlet, free outlet;

Type (B), free inlet, ducted outlet;

Type (C), ducted inlet, free outlet;

Type (D), ducted inlet, ducted outlet

(see also fan functions)

fan outlet

[EN 12792:2003, 160]:
opening usually circular or rectangular through which the air finally leaves the fan casing

fan pressure

[EN 12792:2003, 161]:
difference between stagnation pressure at the fan outlet and the stagnation pressure at the fan inlet

fan section

[EN 12792:2003, 162]:
section in which one or more fans are installed

fan static pressure f

[EN 12792:2003, 163]:
an pressure minus the fan dynamic pressure

fan types

[EN 12792:2003, 166]:
there are five main types of a fan are defined according the fluid path within the impeller

- **centrifugal fan**

[EN 12792:2003, 166]:
fan in which the air enters the impeller with a substantially axial direction and leaves it in a direction substantially parallel to a radial plane. The impeller is defined as 'backward curved' or 'inclined', 'radial' or forward curved' depending on whether the outward direction of the blade at the periphery is backward, radial or forward, relative to the direction of the rotation.

[AIVC, Air infiltration and ventilation glossary, 1992]:
a fan in which the air is turned from parallel to the axis of rotation on entry to a direction tangential to the are described by the tips of the rotating blades or vanes.

- **axial flow fan**

[EN 12792:2003, 166]:
fan in which the air enters and leaves the impeller axial to the fan.

[AIVC, Air infiltration and ventilation glossary, 1992]:
a fan in which the airflow, at all times, from entry to exit is predominately parallel to the axis of rotation.

- **contra rotating fan**

[EN 12792:2003, 166]:
axial flow fan which has two impellers arranged in series and rotating in opposite direction.

- **reversible axial flow fan**

[EN 12792:2003, 166]:
axial flow fan which is specially designed to rotate in either direction.

- **propeller fan.**

[EN 12792:2003, 166]:
fan having an impeller with a small number of broad blades of uniform material, thickness and designed to operate in an orifice.

- **plate mounted axial flow fan**

[EN 12792:2003, 166]:
axial fan mounted in an orifice or spigot.

- **bifurcated fan**

[EN 12792:2003, 166]:
fan where the direct drive motor is separated from the air stream.

fan unit

[EN 12792:2003, 164]:
casing incorporating a fan and provided with spigots.

fan work per unit mass

[EN 12792:2003, 165]:
increase in mechanical energy per unit mass of fluid passing through the fan.

female connector

[EN 12792:2003, 167]:
short circular sleeve used to join two duct components. The male ends of the components are inserted into each end of the female connectors.

filter

[EN 12792:2003, 168]:
device for removing particulate material from a fluid or gas.

filter, average efficiency

[EN 12792:2003, 48]:
weighted average of the efficiencies for the different specified dust loading levels (expressed in %)

filter bypass leakage

[EN 13141-7:2021, 3.4]:
air bypass around filter cells

filter section

[EN 12792:2003, 169]:
section including a filter or filters and associated framework.

filtration

[EN 12792:2003, 170]:
removal of particulate material from a fluid or gas.

final pressure drop of a filter

[EN 12792:2003, 171]:
maximum operating pressure of a filter as recommended by the manufacturer at rated air flow.

fine filter

[EN 12792:2003, 172]:
filter classified in the classes F5 to F9 according to EN 779.
Note: With the new EN ISO 16890-1:2016, in classes ePM1 50% to ePM1 90%

fire damper

(see fire and smoke damper)

fire and smoke damper

[EN 12792:2003, 174]:
device inserted between two fire separation compartments of an air distribution and diffusion system and intended to prevent the propagation of fire and smoke. The device is normally open and closes automatically under predetermined conditions.

fixed air terminal device

(see air terminal device)

fixed directional grille

(see grille)

fixed non-directional grille

(see grille)

fixing accessory for an air terminal device

- **plaster frame**

[EN 12792:2003, 178]:
separate mounting frame for an air terminal device designed to be incorporated into a plastered surface.

- **secret (or concealed) fixing**

[EN 12792:2003, 178]:
accessory by which an air terminal device can be secured to an opening without the outward appearance of screws or other fixing devices.

- **'snap in' fastener**

[EN 12792:2003, 178]:
accessory used with an air terminal device as a fixing arrangement designed for the easy removal of the air terminal device for maintenance or cleaning. It can also be used to make the air terminal device compatible with a ceiling suspension system.
(see also component of air diffusion)

flange

[EN 12792:2003, 179]:
means of enhancing the strength of a duct and to facilitate the joining of one component to another. It may also be provided on components or ducts that may require removal for servicing or maintenance.

flash chamber

[EN 12792:2003, 180]:
a separating tank in a refrigerating system placed between the expansion device and evaporator to separate and bypass any flash gas formed due to pressure reduction.

flashlight test

[ASHRAE Standard 241]:
a filter test to check how well the filters and spacers are installed in a central station air handling unit. The intent is that if light is visible through cracks or openings, that the air would go through this opening before going through the filter, thereby reducing filter efficiency.

flat

(see apartment)

flexible duct

[EN 12792:2003, 181]:
duct which can be manually longitudinally compressed or decompressed and flexed without permanently damaging the cross section area.

floor temperature dissatisfaction risk

[EN 12792:2003, 182]:
percentage of people predicted to be dissatisfied due to the temperature of the floor.

flow

[EN 12792:2003, 183]:
continuous motion of a fluid in pipes, ducts, channels or through openings.

flow Coefficient (C)

[AIVC, Air infiltration and ventilation glossary, 1992]:
parameter used in conjunction with the "flow exponent" in a flow equation.
(see flow exponent; flow equation)

flow equaliser

[EN 12792:2003, 184]:
component intended to even out the velocity and/or to decrease the relative magnitude of the fluctuations characteristic of the air flow and/or to reduce the magnitude of a possible swirl of the air flow
Examples of flow equalisers are:

- air turning vanes inserted in special duct components to decrease the fluctuations characteristic of the air flow and to reduce the nonuniformity of the velocity profile;
- straightening elements in cross or honeycomb form inserted to eliminate a possible swirl of the air flow;
- perforated plates, screens or other devices inserted to even out the velocity profile by increasing the pressure loss.

flow equation

[AIVC, Air infiltration and ventilation glossary, 1992]:
equation describing the airflow rate through a building (or component) in response to the pressure difference across the building (or component). This equation takes the form of $Q = C \Delta P^n$; Where C is the flow Coefficient, ΔP is the change in pressure over the component or envelope, and n is the flow exponent. Q represents the resulting volume flow rate expressed in m^3/h.
(see flow Coefficient, flow exponent)

flow exponent (n)

[AIVC, Air infiltration and ventilation glossary, 1992]:
parameter which characterises the type of flow through a building (or component) and is used in conjunction with 'flow coefficient' in a 'flow equation'.

(When n = 1 flow is laminar, and when n = 0.5 flow is assumed turbulent). For most openings, n takes a value between these two extremes.

flow network

[AIVC, Air infiltration and ventilation glossary, 1992]:
a network of zones or cells of differing pressure connected by a series of flow paths.

flow path

(wee leakage path)

flow rate control device

[EN 12792:2003, 185]:
device having the purpose of maintaining a flow rate across it at a required constant value when the pressure differential between high and low pressure sides vary within the limits for which the equipment is designed. There are different types of flow rate control devices such as:

- **mechanical constant flow rate controller**

self actuating and deriving its energy from the air stream to maintain the constant flow rate function.

- **mechanical variable flow rate controller**

self actuating and deriving its energy from the air stream to maintain the constant flow rate function and having facilities for resetting the required value depending on an external signal.

- **pneumatic, electric etc. flow rate controller**

deriving the energy for maintaining the constant flow rate function from an external source. It can be either of the constant or variable type.

- **system powered flow rate controller**

deriving its energy from the dynamic pressure in the air stream to maintain its constant flow rate function and can be either a constant or variable type.

flow rate controller

(see flow rate control device)

flow rate pressure characteristic

[EN 12792:2003, 187]:
relationship between the flow rate through a device and the pressure difference across it.

flue

[AIVC, Air infiltration and ventilation glossary, 1992]:
a passage/duct for smoke and fumes from a boiler/fire etc.

forced convection

[AIVC, Air infiltration and ventilation glossary, 1992]:
heat transmission by mechanically induced movement of a fluid.

fortuitous leakage

(leakage, fortuitous)

free area

[EN 12792:2003, 188]:
sum of the cross-sectional areas of all unobstructed openings measured in the plane of maximum restriction and at right angles to the flow through the opening.

free area of an air terminal device

[EN 12792:2003, 189]:
sum of the smallest areas of the cross-section of all openings of the air terminal device.

free area ratio

[EN 12792:2003, 190]:
ratio of the free area to the core area of an air terminal device.

free area velocity

[EN 12792:2003, 191]:
air flow rate divided by the free area of an air terminal device. This may be either primary or exhaust air flow rate.

free convection

[AIVC, Air infiltration and ventilation glossary, 1992]:
heat transmission by movement of a fluid caused by density differences.
(see convection; forced convection)

fresh air

(see air, outdoor)

fully adjustable air diffuser

[EN 12792:2003, 193]:
air diffuser which incorporates two independent integral devices, each of them achieving one of the following purposes:
a) to vary the direction or directions of the air delivered to the treated space without alteration of the air flow rate;
b) to vary the primary air flow rate without alteration of the direction or directions of the air delivered to the treated space.
(see also air diffuser)

functional check

[EN 12792:2003, 193]:
observation of the operation of a system or devices, against a specification without resorting to specific measurements.

functional measurement

[EN 12792:2003, 194]:
measurement of the performance of a system or device against specification.

G

gap leakage

(see component leakage)

gas chromatography

[AIVC, Air infiltration and ventilation glossary, 1992]:
a process by which gases can be separated from one another. This technique is used to separate tracer gases from each other and from the constituents of air, thus allowing individual quantitative analysis to be performed.

glandless circulator

[EN 14511-1:2022, 3.17]:
circulator with the rotor directly coupled to the impeller and the rotor immersed in the pumped medium.

glide

[EN 14511-1:2022, 3.18]:
difference between dew point temperature and bubble point temperature at a given pressure-
NOTE Expressed in K.

grease absorption efficiency

[EN 12792:2003, 195]:
ratio by weight of the quantity of grease retained by a grease filter against a reference quantity.

grille air terminal device with multiple passages for air

- **adjustable grille**

[EN 12792:2003, 196]:
grille intended to vary the direction or directions of the air delivered to the treated space. It consists of one or more series of adjustable parallel ribs

- **fixed directional grille**

[EN 12792:2003, 196]:
grille intended to diffuse the air in one or more fixed directions. It consists of one or more series of fixed parallel ribs

- **fixed non-directional grille**

[EN 12792:2003, 196]:
grille not intended to change the direction of air. It can consist of parallel laminae, ribs, perforated metal, grid, wired grid, etc.

3.17

guideline value (in air pollution)

[ISO 16814:20, 3.17]:
concentration of a pollutant in the air, below which the risk for occurrence of adverse health effects is negligibly low
NOTE It is linked to a time-averaged value.

H

habitable space

[ASHRAE Standard 62.2]:
building space intended for continual human occupancy; such space generally includes areas used for living, sleeping, dining, and cooking but does not generally include bathrooms, toilets, hallways, storage areas, closets, or utility rooms.

handing over the installation

[EN 12792-2003, 197]:
advancement of an installation from the stage of static completion to full working order to specified requirements.

heat exchanger

[EN 12792-2003, 198]:
device to transfer heat from one medium to another.

heat exchanger, Air-to-Air

[AIVC, Air infiltration and ventilation glossary, 1992]:
A device designed to transfer heat from two physically separated fluid streams. In buildings, it as generally used to transfer heat from exhaust warm air to incoming cooler outdoor air.

heat exchanger, indoor

[EN 14511-1:2022, 3.29]:
heat exchanger which is designed to transfer heat between the refrigerant and the indoor heat transfer medium
NOTE In the case of an air conditioner or heat pump operating in the cooling mode, this is the evaporator. In the case of an air conditioner or heat pump operating in the heating mode, this is the condenser.

heat balance

[AIVC, Air infiltration and ventilation glossary, 1992]:
a statement of the heat input to, and heat loss from, an appliance, plant or structure, intended to account for all sources of heat and equivalent energy.

heat pump, Air-to-Air

[AIVC, Air infiltration and ventilation glossary, 1992]:
a device operating on a refrigeration cycle in which both evaporator and condenser are refrigerant/air heat exchangers. As a heating season heat recovery device, the evaporator transfers heat from the exhaust warm air to the refrigerant and the condenser transfers heat from the refrigerant to the incoming air.
Arrangements are often made to allow the refrigerant flow to be reversed making the condenser the evaporator and vice versa - thus energy may be recovered in the cooling season.

heat pump, Air-to-Water

[AIVC, Air infiltration and ventilation glossary, 1992]:
a device operating on a refrigeration cycle in which the evaporator is a water/refrigerant heat exchanger and the condenser a refrigerant/air heat exchanger. The circuit normally includes an arrangement which allows the refrigerant flow to be reversed thus allowing heat to be transferred in either direction. In one system, a number of small air/water heat pumps installed in various zones around a building are used to transfer heat into or from a common water circuit. Thus, heat unwanted in one zone may be transferred to another where it is needed.

heat pump, (electrical)

[EN 14511-1:2022, 3.19]:
encased assembly or assemblies designed as a unit, using a vapour compression cycle driven by an electric compressor, to provide delivery of heat.
NOTE It can have means for cleaning and dehumidifying the air, circulating and cooling. The cooling is by means of reversing the refrigerating cycle.

heat pump combination heater

[EN 16147-2017, 3.2]:
heat pump space heater that is designed to also provide heat to deliver hot drinking or sanitary water at given temperature levels, quantities and flow rates during given intervals, and is connected to an external supply of drinking or sanitary water.

heat pump water heater

[EN 16147-2017, 3.1]:
water heater that uses ambient heat from air source, water source or ground source, and/or waste heat for heat generation

heat recovery

[AIVC, Air infiltration and ventilation glossary, 1992]:
(see heat exchanger (Air-to-Air); heat recovery effectiveness)

[EN 14511-1:2022, 3.20]:
recovery of heat rejected by the unit whose primary control is in the cooling mode by means of either an additional heat exchanger (e.g. a liquid chiller with an additional condenser) or by transferring the heat through the refrigerating system for use to unit whose primary control remains in the heating mode (e.g. variable refrigerant flow).

[EN 12792-2003, 199]:
heat utilized from a heating system, which would otherwise be wasted.

heat recovery capacity

[EN 14511-1:2022, 3.21]:
heat removed by the heat transfer medium of the heat recovery heat exchanger per unit of time, corrected from any fan or pump heat where applicable.
Note 1 to entry: This applies only to heat recovery liquid chilling packages.
Note 2 to entry: Expressed in kW.

heat recovery effectiveness (often referred to as heat recovery efficiency)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the proportion of heat recovered from otherwise waste heat passing through a heat recovery system. Normally expressed as a percentage

[EN 14511-1:2022, 3.22]: (**efficiency)**
ratio of the total capacity of the system (heating plus cooling capacity) to the effective power input when operating in the heat recovery mode
NOTE Expressed in kW/kW.

heat recovery heat exchanger

[EN 14511-1:2022, 3.23]:
heat exchanger assembly which is designed to transfer heat to the heat recovery medium.

heat recovery liquid chilling package

[EN 14511-1:2022, 3.24]:
factory-made liquid chilling package designed for the purpose of chilling liquid and recovering of heat.

heat recovery section

[EN 12792-2003, 200]:
section in which heat and possibly moisture is transferred from one air stream to another, either directly or by using an intermediary heat transfer medium

heat rejection capacity

[EN 14511-1:2022, 3.25]:
heat removed by the heat transfer medium of the condenser per unit of time, corrected from any fan or pump heat where applicable.
Note 1 to entry: This applies only to heat recovery liquid chilling packages.
Note 2 to entry: Expressed in kW.

heat removal luminaire

[EN 12792-2003, 201]:
combined luminaire and air terminal device which, by exhausting the air, either reduces the heat gain transmitted to the treated space and/or recovers some of the heat generated by the luminaire

heat transfer medium

[EN 14511-1:2022, 3.26]:
fluid (water, brine, air...) used for the transfer of the heat without change of state.
EXAMPLE Examples are cooled liquid circulating in the evaporator; cooling medium circulating in the condenser; heat recovery medium circulating in the heat recovery heat exchanger.

heat transferred by ground preheating/cooling

[EN 16798-5-1:2017, 3.4]:
heat transferred to the outdoor air by ground preheating and cooling.

heat transferred by preheating/precooling

[EN 16798-5-2:2017, 3.7]
heat transferred from environment by ground heat exchanger or solar air panel to the outside air by preheating and precooling.

heat transferred by recirculation

[EN 16798-5-1:2017, 3.5]:
[EN 16798-5-2:2017, 3.8]
heat transferred to the outdoor air by recirculation of extract air.

heat transferred by heat recovery

[EN 16798-5-1:2017, 3.6]:
[EN 16798-5-2:2017, 3.9]
heat transferred to the outdoor air by heat recovery from extract air.

heating capacity

[EN 14511-1:2022, 3.27]:
heat given off by the unit to the heat transfer medium per unit of time, corrected from any fan or pump heat where applicable.
Note 1 to entry: If heat is removed from the indoor heat exchanger for defrosting, it is taken into account.
Note 2 to entry: Expressed in kW.

high-polluting events

[ASHRAE Standard 62.2]:
isolated and occupant-controllable events that release pollutants in excess quantities. Typical cooking, bathing, and laundry activities are not considered high-polluting events.

heating

[AIVC, Air infiltration and ventilation glossary, 1992]:
the transfer of energy to a space or to the air by the existence of a temperature gradient between the source and the space or air. This process may take different forms, i.e., conduction, convection or radiation.
(see conduction; convection; heat 'transfer; radiation)

[EN 12792-2003, 202]:
transfer of heat from one body or medium to another.

heating season

[EN 16798-1:2019, 3.15]
part of the year during which heating is needed to keep the indoor temperature within specified levels, at least part of the day and in part of the rooms.
Note 1 to entry: The length of the heating season differs substantially from country to country and from region to region.

heating coil

[EN 12792-2003, 203]:
heat exchanger which adds heat to the air stream by means of a heat transfer medium.

heating coil, required inlet temperature

[EN 16798-5-1:2017, 3.12]:
heating coil inlet temperature required to heat the supply air to the setpoint.

heating load

[EN 12792-2003, 204]:
heating rate required to replace heat loss from the space being controlled.

heating load, internal

[EN 12792-2003, 330]:
heat generated within the building envelope by sources other than those associated with the installation

height of the v (m/s) isovel (for displacement air diffusion)

(see displacement air diffusion, height of the v (m/s) isovel)

HEPA-filter

[EN 12792-2003, 206]:
High Efficiency Particulate Air filter, classes H10 to H14, according to EN 779

high temperature process chiller

[EN 14511-1:2022, 3.28]:
process chiller that is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet chilled water temperature of 7 °C, at standard rating conditions.

hit and miss damper or valve

(see damper and valve)

humidification

[AIVC, Air infiltration and ventilation glossary, 1992]:
the process of transferring a mass of water to the atmospheric air.
(see latent heat transfer)

[EN 16798-1:2019, 3.12]:
process of adding water vapour to air to increase humidity.

[EN 12792:2003, 208]:
addition of water vapour to an air stream or space.

humidification auxiliary energy

[EN 16798-5-1:2017, 3.7]:
auxiliary energy needed for humidification (for pumps, etc.).

humidification efficiency

[EN 12792:2003, 209]:
ratio between the mass of water evaporated by the humidifier and the theoretical mass needed to achieve saturation at a given temperature.

humidification generation input

[EN 16798-5-1:2017, 3.8]:
energy required by the humidifier (for steam humidifiers).

humidifier section

[EN 12792:2003, 210]:
section in which water vapour is added to the air

humidifier section of an air handling unit

[EN 12792:2003, 211]:
section in which the water vapour is added to the air

humidity, (air)

[EN 12792:2003, 24, 212]:
water vapour within a given space.

humidity, absolute (air)

[EN 12792:2003, 1,24]:
mass of water vapour present per unit mass of dry air.

humidity, relative

[EN 12792:2003, 24]: **relative air**
in humid air, the ratio expressed as a percentage of the water vapour's actual pressure to the saturated vapour pressure at the same dry bulb temperature.

[ISO 16814:2008, 3.34]:
mass of water vapour in the air by volume divided by mass of water vapour by volume at saturation at the same temperature.

humidity ratio (two flows ventilation unit)

[EN 13141-7:2021, 3.16]:
difference of *vapour mixing ratio* between inlet and outlet of one of the air flows divided by the difference of *vapour mixing ratio* between the inlets of both air flows.
Note*: vapour mixing ratio* is the absolute humidity.

HVAC system

[ISO 16814:2008, 3.18]:
system that provides heating, ventilation or air conditioning for buildings.

hybrid ventilation

(see ventilation, hybrid)

hydraulic diameter

[EN 12792:2003, 214]:
diameter of a circular duct which will cause the same pressure drop at equal air velocity and equal friction coefficient than the considered (rectangular) duct

hydronic heating/cooling

[EN 16573-2017, 3.1.4]:
heating or cooling supplied by a water or brine circuit.

hygrometer

[EN 12792:2003, 215]:
device that enables the value of the humidity of a sample of air or other media to be determined.

I

impeller tip diameter (of a fan)

[EN 12792:2003, 216]:
impeller tip diameter is defined as the maximum diameter measured over the tips of the blades of the impeller

imperfect mixing

[AIVC, Air infiltration and ventilation glossary, 1992]:
the combination of two or more substances such that the parts of one are unevenly distributed among the parts of another.

indoor air

(see air, indoor)

indoor air pollution

(see air pollution, indoor)

indoor air quality

(see air quality, indoor)

indoor climate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the synthesis of day-to-day values of physical variables in a building e.g. temperature, humidity, air movement and air quality, etc, which affect the health and/or comfort of the occupants.

indoor environment

(see indoor climate)

induced air

(see air, induced)

induced air temperature

(see temperature, air induced)

induction rate (of an AirTerminal Device)

[EN 12792:2003, 221]:
ratio of the internally induced air flow rate and the primary air flow rate of an air terminal device

induction supply air terminal device

[EN 12792:2003, 222]:
air terminal device in which the primary air from the duct induces an air flow from the treated space (secondary air) in such a way that a high rate of mixing between the air from these two sources takes place within the device. Such a device does not include any means of air treatment

induction terminal unit (excluding fan-powered terminal unit)

[EN 12792:2003, 2223]:
air terminal unit assembly which by virtue of the configuration of the primary air inlet(s) within the unit can induce secondary air from the surrounding atmosphere before being discharged to the treated space. The flow rate of the primary air may or may not be variable. The inlet aperture(s) for the secondary air may be fixed or adjustable by means of manual remote control. The assembly may be fitted with a heat exchanger at either the secondary air or primary air inlet(s)

industrial building

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building in which the main purpose is to provide space for manufacturing and assembly processes. These are characterised by high levels of activity both mechanical and human, and often by the generation of internal pollution and heat.

industrial space

[ASHRAE Standard 62.1]:
an indoor environment where the primary activity is production or manufacturing processes.

infection risk management mode (IRMM)

[ASHRAE Standard 241]:
the mode at which HVAC systems and procedures should be operating, per the building readiness plan, to achieve the level of infectious aerosol control delivered by this standard.

infiltration

(see air, infiltration)

infiltration heat loss/or gains

[AIVC, Air infiltration and ventilation glossary, 1992]:
heat lost from a building which is directly attributable to the effects of the cooler outside air leaking into a building and of warm indoor air leaking out.

infiltration rate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the rate at which outside air infiltrates a room or building. Equivalent to the fresh air change rate, usually expressed in air changes per hour (ach) or litres per second (L/s).
(see air change rate)

infrared gas analyser

[AIVC, Air infiltration and ventilation glossary, 1992]:
an instrument used to determine tracer gas concentrations by determining the transmission of infra-red radiation at a specific absorption frequency through a fixed path length.

insertion length

(see overlap length)

insertion loss of a weather louvre

[EN 12792:2003, 226]:
difference in simulated rain penetration between a test specimen and a calibration plate at the same test conditions

inspection panel

(see door and inspection panel)

institutional building

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building with mixed occupational activities where special requirements arising from those activities may be needed; such buildings include hospitals, prisons etc.

insulation of clothing

[EN 12792:2003, 228]:
resistance of sensible heat transfer provided by clothing ensemble. It is described as the

intrinsic insulation between the skin and the surface of the clothing, excluding the resistance provided by the layer of air surrounding the clothed body.
(see clo-unit)

intentional opening

(see purpose provided opening)

intentional ventilation

[AIVC, Air infiltration and ventilation glossary, 1992]:
ventilation provided through the use of purpose provided openings, such as through windows or airbricks.

intermittent ventilation

[ASHRAE Standard 62.2]:
intermittently operated whole building ventilation that is automatically controlled.

intermittent mechanical ventilation

[ASHRAE Standard 62.2]:
whole-building mechanical systems designed to provide intermittent ventilation.

internal air leakage rate

(see air leakage rate, internal)

internal heating load

(see heating load, internal)

internally induced air flow rate (air terminal device)

[EN 12792:2003, 231]:
volume of air in unit time induced into the primary air flow inside the air terminal device

internally mounted air transfer device

[EN 12792:2003, 232]:
device designed to allow the passage of air between two internal spaces
(see also Air Transfer Device)

internal fan pressurization

(see pressurization, internal fan)

internal pressure

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pressure inside a building envelope or space. Usually expressed with respect to outside or atmospheric pressure.

internal pressure distribution

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pattern of static pressure variation at various points inside a building due to variations in air density and air flow into and out of the building.

internal static pressure difference

(see pressure difference, internal static)

interzonal air flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
the process of air exchange between internal zones of a building.

iris damper and valve

(see damper and valve)

isovel

[EN 12792:2003, 234]:
boundary line of points of equal mean velocity.

J

jet fan

(see fan functions)

K

kitchen

[ASHRAE Standard 62.2]:
any room containing cooking appliances.

L

laminar flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
flow in which fluid moves smoothly. In this flow form cross stream momentum transfer takes place by viscous action alone and mixing between flow strata does not occur.
(see transition flow; turbulent flow)

large opening

[AIVC, Air infiltration and ventilation glossary, 1992]:
hole or gap in a building envelope which is generally purpose made, for example, a door window or vent.

latent heat transfer

[AIVC, Air infiltration and ventilation glossary, 1992]:
heat added or removed during a change of state of a substance i.e. solid, to a liquid to a gas or vice versa, the temperature remaining constant.
(see sensible heat transfer)

latent cooling capacity

[EN 14511-1:2022,3.31]:
capacity of the unit for removing latent heat from the evaporator intake air
NOTE Expressed in kW.

leakage, adventitious

(see leakage, fortuitous)

leakage, air

(see air leakage).

leakage, background

[AIVC, Air infiltration and ventilation glossary, 1992]:
unidentified openings or gaps in a building envelope through which infiltration can take place.

Leakage, bypass

[EN 12792:2003, 61]:
unwanted passing of untreated air into the treated air between the components within a casing such as filters or coils within a section.

leakage, dwelling

[EN 12792-2003, 128]:
overall leakage of the dwelling, characterized by the air flow rate at a given pressure difference across the envelope of the dwelling.
(see also air infiltration)

leakage, fabric

(see leakage, background)

leakage, fortuitous

(see air infiltration)

leakage, of an installation

[EN 12792:2003, 236]:
in-flow or out-flow through cracks in a specific part of a ventilation or air conditioning installation, due to pressure differences

leakage, external

[EN 13141-4:2021, 3.11]:
[EN 13141-7:2021, 3.1]:
leakage to or from the air flowing inside the casing of the ventilation unit to or from the surrounding air.

leakage, internal

[EN 13141-7:2021, 3.2]:
leakage inside the unit between the exhaust and the supply air flows.

leakage area

[AIVC, Air infiltration and ventilation glossary, 1992]:
the actual open area of a hole or gap.

leakage area, equivalent

(see equivalent leakage area)

leakage area, normalized

[AIVC, Air infiltration and ventilation glossary, 1992]:
equivalent leakage area expressed per unit area of building envelope.
(see leakage area, equivalent)

leakage area, specific

[AIVC, Air infiltration and ventilation glossary, 1992]:
leakage area, expressed per unit floor or wall area.

leakage component

(see component leakage)

leakage distribution

[AIVC, Air infiltration and ventilation glossary, 1992]:
the apportionment of leakage openings (flow paths) comprising a flow network.

leakage path

[AIVC, Air infiltration and ventilation glossary, 1992]:
a route by which air enters or leaves a building or flows through a component.

linear air diffuser

[EN 12792-2003, 237]:
air terminal device with single or multiple slots, each of which has an aspect ratio not less than 10:1. Each slot may consist of a number of separate elements. Each slot can or can not have an adjustable member or members to vary the direction or directions of the air or the air flow rate delivered to the treated space.

linear grille

[EN 12792-2003, 238]:
grille with an aspect ratio not less than 10:1.
(see also grille)

liquid chilling package

[EN 14511-1:2022, 3.32]:
factory-made unit designed to cool liquid, using an evaporator, a refrigerant compressor, an integral or remote condenser and appropriate controls.
NOTE It can have means for heating which can be reversing the thermodynamic cycle such as a heat pump.

local air change index

[AIVC, Air infiltration and ventilation glossary, 1992]:
an index that characterises conditions at a particular point within the room and may be largely due to the position of the measurement point. (Equation 40 Sutcliffe)
(see air change efficiency; air change time; coefficient of air change performance; nominal time constant; specific flow)

local air velocity

[EN 12792-2003, 239]:
velocity at a specific point in an air stream at a specific time

local exhaust

[ISO 16814:2008, 3.21]:
extraction of objectionable or hazardous contaminants close to the source and discharged safely to the external atmosphere.

local mean air velocity

[EN 12792-2003, 240]:
magnitude of the time-averaged vector of velocity at a point of an air stream. The velocity vector (and therefore its three mutually perpendicular components u v w) in any point of a turbulent stream is submitted to fluctuations with respect to time. The time-averaged vector of velocity is a vector for which each component is averaged with respect to time

Local Mean Age of air

[AIVC, Air infiltration and ventilation glossary, 1992]:
the average time it takes for air to travel from the inlet to any point P in a room or enclosure. The mean age of the air at the point P can be found from the centroid of the frequency curve, by taking moments about the vertical axis.

local measured mean air velocity

[EN 12792-2003, 241]:
measured value of local mean air velocity

loft

(see attic)

long-range transmission

[ASHRAE Standard 241]:
disease transmission that is due to aerosols emitted by an infector who is not in close proximity to a susceptible occupant.

louvre

[EN 12792-2003, 243]:
device, consisting of an assembly of parallel sloping vanes, intended to permit the passage of air, while providing a measure of protection against environmental influences
(see also externally mounted air terminal device

low temperature process chiller

[EN 14511-1:2022,3.33]:
process chiller that is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of −25 °C, at standard rating conditions.

low velocity air terminal device

[EN 12792-2003, 243]:
air terminal device which is designed for thermally controlled ventilation e.g. displacement flow applications.
(see also air terminal device)

lower limit (of a duct)

[EN 12792-2003, 244]:
algebraic difference between the minimum limit of size and the corresponding nominal size.

M

make up air

(see air, makeup)

male connector

[EN 12792-2003, 245]:
short circular sleeve used to join two pieces of spiral duct together. The ends of the male connector are inserted into the spiral tube ends.

manometer

[EN 12792-2003, 246]:
device for measuring pressure in a fluid.

manual damper

[EN 12792-2003, 247]:
device which can be used to manually adjust the air flow rate.
(see also damper and valve)

manual valve

[EN 12792-2003, 248]:
device which can be used to shut off the air flow by manual operation.
(see also damper and valve)

manually adjusted air terminal device

(see air terminal device)

mass flow rate

[EN 12792-2003, 250]:
mass of matter which crosses a given surface, divided by time.

mean measured air temperature of the occupied zone

(see temperature, mean measured air *temperature* of the occupied zone)

mean radiant temperature

(see temperature, mean radiant)

measurement station

[EN 12792-2003, 253]:
element inserted in the ductwork which facilitates the determination of air temperature, air humidity, air flow rate and/or pressure.

mechanical cooling

[ASHRAE Standard 62.2]:
reducing the temperature of a fluid by using vapor compression, absorption, desiccant dehumidification combined with evaporative cooling, or other energy-driven thermodynamic means. Indirect or direct evaporative cooling alone is not considered mechanical cooling.

[EN 16798-1:2019, 3.17]:
cooling of the indoor environment by mechanical means used to provide cooling of supply air
Note 1 to entry: This includes fan coil units, chilled ceilings and beams cooled surfaces, etc.
Note 2 to entry: Opening of windows during night and day time or mechanical supply of cold outdoor air is not regarded as mechanical cooling.

mechanical constant flow rate controller

(see flow rate control device)

mechanical variable flow rate controller

(see flow rate control device)

mechanical ventilation

[AIVC, Air infiltration and ventilation glossary, 1992]:
ventilation by means of one or more fans.

[ASHRAE Standard 62.1]:
ventilation provided by mechanically powered equipment such as motor-driven fans and blowers but not by devices such as wind-driven turbine ventilators and mechanically operated windows.

[ASHRAE Standard 62.2]:
the active process of supplying air to or removing air from an indoor space by powered equipment such as motor-driven fans and blowers but not by devices such as wind-driven turbine ventilators and mechanically operated windows.

[EN 16798-1:2019, 3.18]:
ventilation system where air is supplied or extracted from the building or both by a fan using air terminal devices, ducts and roof/wall devices.

[EN 12792:2003- 256]:
[EN 16798-7:2017, 3.11]:
ventilation with the aid of powered air movement components.

[ISO 16814:2008, 3.22]:
ventilation provided by mechanically powered equipment.

mechanical ventilation system

(see ventilation system, mechanical)

mechanical extract ventilation system

(see ventilation system, mechanical extract)

mechanical supply ventilation system

(see ventilation system, mechanical supply)

mean duct leakage volume flow from the zone

(see duct leakage volume flow from the zone, mean)

mean duct leakage volume flow to the zone

(see duct leakage volume flow to the zone, mean)

medium temperature process chiller

(see process chiller, medium temperature)

met-unit

[EN 12792-2003, 257]:
metabolic rate of a sedentary person at rest (1 met = 58,2 W/m^2).

metabolic rate

[EN 12792-2003, 258]:
rate of energy production of the body and which varies with the type of activity.

microbial contaminant

[ISO 16814:2008, 3.23]:
fungal, bacterial, or viral organisms, toxins they produce, or particles bearing such organisms or toxins that are airborne or deposited on indoor surfaces and that can cause disease, irritation, allergic reaction, discomfort or damage to human property.

microorganism

[ASHRAE Standard 62.1]:
a microscopic organism, especially a bacterium, fungus, or protozoan.

mildew

[EPA, Terms & Acronyms Glossary]:
a common name for a fungus that leaves a thin white coating on the surface of plants and other materials where it grows. [USDA National Agricultural Library Glossary]

[ISO 7482-1:1998, 3.3.3.6]:
visible development of saprophytic fungus on the flesh side of the skin, promoted by prolonged storage in too humid an atmosphere ; it can also result in an alteration in the grain on the tanned skin.

minimum ventilation requirement

(see ventilation requirement, minimum)

mixed air

(see air, mixed)

mixing air diffusion

(see air diffusion, mixing)

mixing fan

(see fan, mixing)

mixing section of an air handling unit

[EN 12792-2003, 261]:
section where the outdoor air flow and the recirculation air flow are mixed in a controlled way. The section generally consists of one damper per air flow and a mixing chamber.

mixing section of an air terminal unit

[EN 12792-2003, 261]:
section for mixing two air streams at different temperatures or humidities having two inlets with damper or dampers controlling the flow rate of air being discharged into the casing. The dampers may be operated by electric or pneumatic actuators or by direct system pressure actuation. This section may be separated from or part of the casing.

mould

[EPA, Terms & Acronyms Glossary]
a group of organisms that belong to the kingdom Fungi. In this course, the terms fungi and mold are used interchangeably.

[ISO 24294:2021, 13.17]:
woolly or powdery fungal growth that can form on the surface of wood in damp conditions.

multifunctional balanced ventilation unit

[EN 16573-2017, 3.13]
unit intended for use in a single family dwelling to primary provide balanced ventilation and in

addition heating and/or cooling and/or hot water production and contains at least, within one or more modular casing supply and exhaust air fans, air filters, common control system and one more of the additional components, air to water heat pump, air to air heat pump, air-to-air heat exchanger.

multiple leaf damper or valve

(see damper and valve)

multiple tracer gas technique

(see tracer gas technique, multiple)

multisplit system

[EN 14511-1:2022, 3.36]:
split system incorporating more than one indoor units, one or more refrigerant circuits, one or more compressors, and one or more outdoor units.
NOTE The indoor units can be individually controlled or not.

modular heat recovery multisplit system

[EN 14511-1:2022, 3.35]:
split system air conditioner or heat pump incorporating a single refrigerant circuit providing variable capacity with three or more steps, multiple indoor units, each capable of being individually controlled and one or more outdoor units.
Note 1 to entry: This system is capable of operating as a heat pump where recovered heat from the indoor units operating in the cooling mode can be transferred to one or more units operating in the heating mode.
Note 2 to entry: This can be achieved by a gas/liquid separator or a third line in the refrigeration circuit.

multizone

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building or part of a building that comprises a number of zones or cells.

N

natural ventilation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the movement of outdoor air into a space through intentionally provided openings, such as windows and doors, or through non powered ventilators or by infiltration.

[ASHRAE Standard 62.1]:
ventilation provided by thermal, wind, or diffusion effects through doors, windows, or other intentional openings in the building.

[ASHRAE Standard 62.2]:
ventilation occurring as a result of only natural forces, such as wind pressure or differences in air density, through intentional openings such as open windows and doors.

[EN 16798-1:2019, 3.19]:
ventilation provided by thermal, wind, or diffusion effects through doors, windows, or other intentional devices in the building designed for ventilation.
Note 1 to entry: Natural ventilation systems may be either manually or automatically controlled.

[EN 12792:2003, 264]:
ventilation through leakage paths (infiltration) and openings (ventilation) in the building which relies on pressure differences without the aid of powered air movement components:
– airing;
– shaft ventilation;
– cross ventilation.

[ISO 16814:2008,3.24]:
ventilation through leakage paths (infiltration) and intentional openings (ventilation) in the building envelope or room enclosure, which relies on pressure differences without the aid of powered air-moving components.

negative rated operating pressure

[EN 12792:2003, 265]:
tested maximum negative pressure at which a duct is rated.

net occupiable area

[ASHRAE Standard 62.1]:
the floor area of an occupiable space defined by the inside surfaces of its walls but excluding shafts, column enclosures, and other permanently enclosed, inaccessible, and unoccupiable areas. Obstructions in the space, such as furnishings, display or storage racks, and other obstructions, whether temporary or permanent, are considered to be part of the net occupiable area.

network technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
theoretical method for estimating the magnitude of air infiltration ventilation and interzonal air movement using a model which considers a building to comprise a number of enclosed spaces each at its own internal pressure and linked by flow paths.

neutral pressure level

[AIVC, Air infiltration and ventilation glossary, 1992]:
level at which the air pressure difference, derived from the stack effect between inside and outside a building is zero.

nominal length of a flexible duct

[EN 12792:2003, 266]:
is the actual length of a flexible duct after decompression and in an unstressed state.

nominal length of a rigid duct

[EN 12792:2003, 267]:
is the actual length of a rigid duct without fittings or components.

nominal size of an air terminal device

[EN 12792:2003, 268]:
nominal value of dimensions of the prepared opening (duct) into which the air terminal device is to be fitted.
NOTE For an air diffuser the nominal size is generally defined as the duct size into which the neck of the device will be fitted.

nominal size of duct and fitting

[EN 12792:2003, 269]:
reference dimension used for designation, calculation and application of duct and fitting.

non-ducted ventilation units

(see ventilation units, non-ducted)

non return damper

[EN 12792:2003, 270]:
device that allows air to flow only in a predetermined direction.

non reverse flow ability

[EN 12792:2003, 271]:
ability of an air transfer device to prevent the air flow from reversing when the pressure difference Δp across it is inverted.

nontransient

[ASHRAE Standard 62.1]:
occupancy of a dwelling unit or sleeping unit for more than 30 days.

normalized leakage area

[(see leakage area, normalized)

Nominal Time Constant

[AIVC, Air infiltration and ventilation glossary, 1992]:
the inverse of specific flow. Under piston conditions the nominal time constant is the time it will take to exchange all of the air in a room or zone with fresh air.
(see also air change efficiency; air change time; coefficient of air change performance; local air change index; specific flow)

nozzle

[EN 12792:2003, 272]:
air terminal device designed to achieve the maximum conversion from static pressure energy to dynamic energy and thus produces a maximum throw due to minimum entrainment.

O

occupancy

[AIVC, Air infiltration and ventilation glossary, 1992]:
the time during which people are in a building (generally expressed in hours per day)

occupancy density

[ISO 16814:2008, 3.25]:
number of persons in a space, per unit of net occupiable area.
NOTE Expressed in units of persons per square metre or persons per cubic metre.

occupant behaviour

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pattern of activity of occupants in a building, including the number of occupants, their distribution, activities and time spent within the building, and how they interact with the buildings facilities, such as ventilation systems, window opening etc.

occupant sensor:

[ASHRAE Standard 62.1]:
a device such as a motion detector or a captive key system that detects the presence of one or more persons within a space.

occupational exposure limit (OEL) (occupational exposure standard value)

[ISO 16814:2008, 3.26]:
values set by competent national authorities or other relevant national institutions as limits for concentrations of hazardous compounds in workplace air to prevent adverse health effects on healthy adult workers.

occupational exposure time-weighted average values (ES-TWA)

[ISO 16814:2008, 3.27]:
airborne concentration standard values set by competent national authorities as limits for time-weighted average (TWA) concentration of hazardous compounds over an 8/h working day, for a 5/day working week.

occupiable space

[ASHRAE Standard 62.1]:
an enclosed space intended for human activities, excluding those spaces that are intended primarily for other purposes, such as storage rooms and equipment rooms, and that are only occupied occasionally and for short periods of time.

[ASHRAE Standard 62.2]:
any enclosed space inside the pressure boundary and intended for human activities, including but not limited to all habitable spaces, toilets, closets, halls, storage and utility areas, and laundry areas.

occupied hours

[EN 16798-1:2019, 3.20]:
hours when the majority of the building or part of the building being considered is in its intended use.

occupied mode

[ASHRAE Standard 62.1]:
when a zone is scheduled to be occupied.

occupied-standby mode

[ASHRAE Standard 62.1]:
when a zone is scheduled to be occupied and an occupant sensor indicates zero population within the zone.

occupied zone

[EN 16798-3:2017, 3.3]:
volume designed for human occupancy specified by horizontal and vertical planes.

[EN 12792:2003, 273]:
volume of air, which is confined to horizontal and vertical planes. The vertical planes are usually parallel with the walls of the room. Typical definitions for the occupied zone are given in the following table. Except when agreed otherwise the default values shall be applied.
NOTE The occupied zone in a room is that space in which persons normally reside and where the requirements of the indoor environment shall be satisfied.

Element	Distance from the inner surface of the elements	
	Typical range m	Default value m
External windows, doors and radiators	0,50 to 1,50	1,00
External and internal walls	0,25 to 0,75	0,50
Floor (lower boundary)	0,00 to 0,20	0,10
Floor (upper boundary)	1,30 [a] to 2,00 [b]	1,80
[a] mainly seated occupants [b] mainly standing occupants For external walls with windows or doors the element with the weaker requirement is taken as valid for the whole surface.		

[ISO 16814:2008, 3.28]:
area designed for occupancy that is dependent on the geometry and the use of the room and specified case by case.
NOTE Usually used only for areas designed for human occupancy and defined as a volume of air that is confined by horizontal and vertical planes. The vertical planes are usually parallel with the walls of the room.

odour

[ASHRAE Standard 62.1]:
a quality of gases, liquids, or particles that stimulates the olfactory organ.

[EN 12792:2003, 274]:
quality of gases, liquids or particles that stimulates the olfactory organ.

[ISO 16814:2008, 3.29]:
quality of a substance that stimulates the sense of smell.
NOTE Adapted from ISO 4225:1994 [46]

odour dispersion time

[EN 12792:2003, 275]:
time taken to reduce odour to a defined level from a given concentration and resulting from a standard test.

odour reduction factor

[EN 12792:2003, 276]:
efficiency of the reduction of odours by a device.

off mode

[EN 14511-1:2022, 3.37]:
mode wherein the unit is completely switched off and cannot be reactivated by a control device, by an external signal or by a timer.
NOTE Off mode means a condition in which the equipment is connected to the mains power source and is not providing any function. The following can also be considered as off mode: conditions providing only an indication of off mode condition; conditions providing only functionalities intended to ensure electromagnetic compatibility.

openings of an air handling unit

(see air handling unit, openings of)

operating cycle with defrost

[EN 14511-1:2022, 3.38]:
cycle consisting of a heating period and a defrost period.

operating range

[EN 14511-1:2022, 3.39]:
range indicated by the manufacturer and limited by the upper and lower limits of use (e.g. temperatures, air humidity, voltage) within which the unit is deemed to be fit for use and has the characteristics published by the manufacturer.

operative temperature

(see temperature, operative)

optimum operative temperature

(see temperature, optimum operative)

outdoor air

(see air, outdoor)

outdoor air correction factor

(see air, outdoor, correction factor

outdoor air fraction

(see air, outdoor, fraction

outdoor air intake

[ISO 16814:2008, 3.30]:
any opening through which outdoor air is admitted

outdoor heat exchanger

[EN 14511-1:2022, 3.41]:
heat exchanger which is designed to transfer heat between any available heat source and the refrigerant.
NOTE In the case of an air conditioner or heat pump operating in the cooling mode, this is the condenser. In the case of an air conditioner or heat pump operating in the heating mode, this is the evaporator.

outdoor temperature, daily mean

[EN 16798-1:2019, 3.13]:
average of the hourly mean outdoor air temperature for one calendar day (24 h).

outdoor temperature, running mean

[EN 16798-1:2019, 3.14]:
exponentially weighted running mean of the daily mean outdoor air temperature overpressure.

overpressure

[AIVC, Air infiltration and ventilation glossary, 1992]:
an induced pressure above ambient atmospheric pressure or other given reference pressure.

overall heat transfer coefficient

[EN 12792:2003, 281]:
heat flow per area for a given construction and for an overall temperature difference of one degree.

overlap length

[EN 12792:2003, 82]:
length by which a fitting or duct overlaps a connecting duct.

P

packaged unit

[EN 14511-1:2022, 3.42]:
factory assembly of components of refrigeration system fixed on a common mounting to form a discrete unit.

parameter (in air pollution)

[EN 15665:2009, 3.3]:
pollutant or marker that is used in the expression of a requirement.
NOTE 1 More than one parameter may be used at the same time and combined.
NOTE 2 Relative humidity, odours, CO_2 are examples of parameters.

particle number concentration

[EN 12792:2003, 283]:
number of particles per unit of volume of the test air

particulate matter

[ISO 16814:2008, 3,32]:
solid or liquid particles in air, typically in the size range 0,01 µm to 100 µm in diameter.
NOTE PM10 is particulate matter smaller than 10 µm in aerodynamic diameter.

particulate tracer

[AIVC, Air infiltration and ventilation glossary, 1992]:
solid particles of aerosol or bubbles used as a tracer for measuring the rate of air movement. These particles usually have diameters of 2 to 3 microns, and can be detected by using either a) a fluorescent light scattering detector; b) a photomultiplier (P-M) detector, or c)a phosphorescence with a P-M detector.

partition fan

(see fan functions)

passive adsorption

[AIVC, Air infiltration and ventilation glossary, 1992]:
a process by which a gas or vapour is condensed (out of the air) and held on the surface of a piece of solid material by natural forces only.

passive duct ventilation system

(see ventilation system, passive duct)

passive sampling

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of sampling tracer gas in a building by the process of passive adsorption.

penetration through filter

[EN 12792:2003, 285]:
ratio of particle concentration measured downstream of the filter (expressed in %)

passive smoker

[AIVC, Air infiltration and ventilation glossary, 1992]:
a non smoker who shares the same room, building, or space as a smoker, and thus is exposed to the products of tobacco combustion.

perceived air quality (PAQ)

[ISO 16814:2008, 3.33]:
quality of the air perceived by the occupants and expressed by the percentage of persons that perceive the air quality as unacceptable (percent dissatisfied).

perfect mixing

(see uniform mixing)

perforated plate

(see flow equaliser)

permissible range

[EN 12792:2003, 287]:
range of a physical quantity that satisfies the different parameters for each of the categories of the specified environment.

piston flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
Also known as plug flow, and displacement flow, and is regarded as the most efficient form of ventilation. The ventilation air acts as a piston, which pushes the “old" air in the room in front of it without actually mixing. Therefore all of the air that reaches an arbitrary point from a small packet of fresh air at the inlet does so at the same time; this time is by definition, the local mean age of air at this point.
(see local Mean Age of Air)

plane radiant temperature

(see temperature, plane radiant)

plaster frame

(see fixing accessory for air terminal device)

plate mounted axial flow fan

(see fan types)

plenum box

[EN 12792:2003, 291]:
component forming an interface between a ductwork and one or more air terminal devices, by virtue of its design or by the inclusion of accessories, it can also be used to equalise the pressure/velocity across the Air Terminal Device

plenum chamber

[AIVC, Air infiltration and ventilation glossary, 1992]:
a chamber, at higher/lower pressure than surrounding air, that receives air before/after delivery to a conditioned space or combustion system.

plug flow

(see piston flow)

pollutant

(see contaminant)

pollutant concentration

[AIVC, Air infiltration and ventilation glossary, 1992]:
the concentration within a given portion of air of harmful or unpleasant contaminants such as

noxious gases or dust particles. Concentrations are often expressed as time weighted values over 24 hours, a working day or a working week.

pollutant migration

[AIVC, Air infiltration and ventilation glossary, 1992]:
the movement of indoor air pollutants throughout the building between rooms or zones.

pollutant removal effectiveness

[AIVC, Air infiltration and ventilation glossary, 1992]:
a measure of how effectively pollutant from an internal contaminant source is diluted and removed from an enclosure.
(see also ventilation efficiency)

pollutants, background

[EN 15665:2009, 3.1]:
group of indoor pollutants which are continuous and diffuse.
NOTE 1 These pollutants are represented by materials, furnishings and products used in the dwelling.
NOTE 2 These pollutants also include those resulting from human occupation such as water vapour and carbon dioxide from respiration.

pollutants, specific

[EN 15665:2009, 3.2]:
group of indoor pollutants which are of short duration, and in specific locations in the dwelling.
NOTE These pollutants are mainly represented by water vapour, carbon dioxide and odours, whose production is related to specific human activities in the dwelling (such as cooking, washing, bathing).

pollution

[EN 12792:2003, 292]:
presence of undesired elements which are deleterious to the comfort, health and welfare of persons or the environment (pollution includes elements such as noise, vibration, odours and gases)

pollution source

[AIVC, Air infiltration and ventilation glossary, 1992]:
any object, usually within the building, which produces a substance which will contaminate the internal environment, for example, human bio effluents caused by man, or pollutants outgassed from carpets or furniture.

positive rated operating pressure

[EN 12792:2003, 293]:
tested maximum positive pressure at which a duct is rated.

post-occupancy evaluation

[EN ISO 41011:2024, 3.5.11]:
process of analysing how functional and comfortable a building is after users have been occupying it for some time.

power input, rated

(see rated power input)

power input, total

(see total power input)

predicted Mean Vote (PMV)

[EN 12792:2003, 294]:
index that predicts the mean value of thermal sensation votes of a large group of persons expressed on a 7-point scale.

predicted Percentage of Dissatisfied (PPD)

[EN 12792:2003, 295]:
index that predicts the percentage of a large group of people who are likely to feel thermally dissatisfied for the body as a whole; i.e. feel either too warm or too cold.

pressure (air)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the force per unit area that air exerts on any surface in contact with it. (SI Units, Pascal (Pa) 1 Pa is equivalent to 1 N/m^2).

pressure, dynamic

[EN 12792:2003, 129]:
pressure equivalent of fluid velocity at any particular point.

pressure, stack

(see stack pressure)

pressure, stagnation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pressure of air if it were brought to rest.

pressure, static

[EN 12792:2003, 341]:
total pressure minus velocity (dynamic) pressure.

pressure, static gauge

[EN 12792:2003, 342]:
static pressure relative to the atmosphere.

pressure, total, absolute total (stagnation pressure)

[EN 12792:2003, 2]:
algebraic sum of the total static pressure and velocity pressure at any particular point in a fluid.

pressure, total gauge

[EN 12792:2003, 372]:
absolute pressure with the atmosphere as a zero reference.

pressure, unit

[EN 13141-7:2021, 3.10]
pressure increase induced by the ventilation unit given as difference between the total pressures at the unit outlet and the unit inlet.
Note 1 to entry: In case of equal cross-section areas of the inlet and outlet, the total pressure difference is equal to the external static pressure difference.
Note 2 to entry: The parameter pu for a ventilation unit is defined as the parameter pf described in EN ISO 5801 for a stand alone fan.

pressure, unit static

[EN 13141-7:2021, 3.11]
pressure increase induced by the ventilation unit given as difference between the static pressure at the unit outlet and the total pressure at the unit inlet.
Note 1 to entry: The parameter pus for a ventilation unit is defined as the parameter pfs described in EN ISO 5801 for a stand alone fan.

pressure at maximum air volume flow

[EN 13141-4:2021, 3.5]:
[EN 13141-7:2021, 3.13]
external static pressure difference corresponding to the maximum air volume flow.

pressure attenuation technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
A method of estimating the leakage of a building by releasing air inside the building causing instant pressurization, the pressure returning to normal as the air leaks out. The rate of reduction of the pressure is proportional to the leakage.

pressure boundary

[ASHRAE Standard 62.2]:
primary air enclosure boundary separating indoor and outdoor air. For example, a volume that has more leakage to the outside than to the conditioned space would be considered outside the pressure boundary. Exposed earth in a crawlspace or basement shall not be considered part of the pressure boundary.

pressure coefficient

[AIVC, Air infiltration and ventilation glossary, 1992]:
a dimensionless coefficient relating the velocity pressure on the outer surface of the building to the velocity pressure derived from the mean wind velocity at a reference point.

pressure difference

[EN 12792:2003, 296]:
difference between pressures measured at two points or levels in fluids or gases.

pressure difference, external fan

[EN 12792-2003, 142]:
difference between the total gauge pressure at the outlet of a unit and the total gauge pressure at the inlet

pressure difference, available external static

[EN 14511-1:2022, 3.3]:
positive pressure difference measured between the air (or water) outlet section and the air (or water) inlet section of the unit, which is available for overcoming the pressure drop of any additional ducted air (or water) circuit.
NOTE Expressed in Pa

pressure difference, external static

[EN 13141-7:2021, 3.12]:
pressure increase induced by the ventilation unit given as difference between the static pressures at the unit outlet and the unit inlet.
Note 1 to entry: The external static pressure difference is used to determine the maximum air volume flow, the reference air volume flow and the minimum air volume flow.
[SOURCE: EN 13141-4:2021, 3.3, modified – “and the minimum air volume flow” has been added in Note 1]

pressure difference, internal static

[EN 14511-1:2022, 3.30]:
negative pressure difference measured between the air (or water) outlet section and the air (or water) inlet section of the unit, which corresponds to the total pressure drop of all components on the air (or water) side of the unit.
NOTE Expressed in Pa

pressure differential

[AIVC, Air infiltration and ventilation glossary, 1992]:
the difference in pressure across a building envelope or component whether caused by natural or artificial means.

pressure distribution. internal

(see internal pressure distribution)

pressure distribution, surface

(see surface pressure distribution)

pressure drop

[EN 12792:2003, 297]:
difference in total pressure between two points in an installation usually caused by frictional resistance to flow in a duct or component.

pressure drop, design load condition P_{SFPd}

[EN 16798-3:2017, 3.14]:
design load condition for pressure drop are: Average of clean filters and recommended maximum pressure drop and for other components (heat exchanger, cooling coil, humidifier, etc.) the average of dry and wet values.

pressure drop, reference conditions P_{SFP}

[EN 16798-3:2017, 3.13]:
reference conditions for pressure drop are: Clean filters and dry conditions for other components (e.g. heat exchanger, cooling coil and humidifier).

pressure drop, reference load condition for air handling units

[EN 16798-3:2017, 3.11]:
~~filter~~ pressure drop of clean filters, dry heat exchangers and humidifiers at reference condition.

pressure factor

[EN 12792:2003, 298]:
test ratio between the pressure suction effect and the pressure due to an air velocity passing over a cowl or roof outlet.

pressure limit of watertightness

[EN 12792:2003, 299]:
maximum pressure difference at which the rated watertightness is assured under test conditions.

pressure limit of watertightness of an air terminal device

[EN 12792:2003, 300]:
maximum pressure difference at which the rated watertightness is assured under test conditions.

pressure loss

[EN 12792:2003, 301]:
see pressure drop.

pressure loss coefficient

[EN 12792:2003, 302]:
factor for mechanical energy loss as a result of flow.

pressurization

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of testing air leakage of a building or component by installing a fan in the building envelope, for example through a door or window, and creating a static pressure excess inside the building. The airflow rate through the fan and the pressure difference across the envelope are measured from which the air leakage is assessed.

pressurization, AC technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
this technique allows building airtightness to be examined at small (Pa) pressure differentials with minimal interference from climatic forces. Tue air flow through the building envelope can be evaluated by using a piston assembly to vary the effective volume of the structure. Measuring the amplitude of the pressure response inside the building and phase relationship between this pressure and the velocity of the piston, enables the air flow through the building to be determined.
(See DC Pressurization)

pressurization, balanced fan

[AIVC, Air infiltration and ventilation glossary, 1992]:
a measurement technique using two or more blower doors to evaluate the leakage of individual internal partitions and external walls of multizone buildings. The technique involves using the fans to induce a zero pressure difference across certain building components, thus eliminating their leakage from the measurement.

pressurization, DC technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
building airtightness levels can be measured by using a fan, temporarily installed in the building envelope (a blower door) to pressurize the building. Air flow through the fan creates an internal, uniform, static pressure within the building. The aim of this type of measurement is to relate the pressure differential across the envelope to the air flow rate required to produce it. Generally, the higher the flow rate required to produce a given pressure difference, the less airtight the building.

pressurization, external fan

[AIVC, Air infiltration and ventilation glossary, 1992]:
a blower door is fitted to a building, induced air flow through the fan creates an artificial, uniform static pressure within the building. Internal and external pressure taps are made, and a manometer is used to measure the air flow required to produce a given pressure difference. The higher the flow rate required to produce a given pressure difference, the less airtight the building.

pressurization, internal fan

[AIVC, Air infiltration and ventilation glossary, 1992]:
the building's own mechanical ventilation system can be used to provide the required pressure differential from within. The supply fans are operated while al1 return and exhaust fans are

turned off, and all return dampers are closed, so that air can only leave through the doors, windows and other leakage sites.

primary air flow rate

(see air flow rate, primary)

primary air temperature

(see temperature, primary air)

process chiller

[EN 14511-1:2022, 3.43]:
factory-made product integrating at least one compressor and one evaporator, capable of cooling down and continuously maintaining the temperature of a liquid in order to provide cooling to a refrigerated appliance or to a process cooling system
NOTE It may or may not integrate the condenser, the coolant circuit hardware and other ancillary equipment.

process chiller, medium temperature

[EN 14511-1:2022, 3.34]:
process chiller that is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of −8 °C, at standard rating conditions.

propeller fan

(see fan types)

purpose provided opening

[AIVC, Air infiltration and ventilation glossary, 1992]:
an opening in the building envelope for the specific purpose of supplying or extracting ventilation air, i.e., air bricks, vents, extractor fans, intake and exhaust for HVAC systems, etc.

purpose provided ventilation

(see ventilation, purpose provided))

public building

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building which is open to the public, such as museums, clubs, public houses, exhibition halls etc.

R

radiation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the transmission of heat through space by the propagation of infra-red energy; the passage of heat from one object to another without necessarily warming the space between.
(see conduction; convection; heat transfer)

radon

[EPA, IAQ Glossary]:
A colorless, odorless gas that occurs naturally in almost all soil and rock. Radon migrates through the soil and groundwater and can enter buildings through cracks or other openings in the foundation. Radon can also enter well water. Exposure to radon can cause lung cancer.

rain louvre (commonly called weather louvre)

[EN 12792-2003, 307]:
device intended to allow the passage of outdoor air or exhaust air while minimizing the ingress of rain.
(see also louvre)

rand rejection efficiency of a sand trap louvre

[EN 12792-2003, 316]:
efficiency of a sand trap louvre, at any velocity through the louvre, is the total weight of sand rejected (η_u) divided by the total weight of the sand injected (η_i)

range hood

(see cooker hood)

rated capacity

[EN 14511-1:2022, 3.44]:
cooling or heating capacity of the vapour compression cycle of the unit at standard rating conditions.
NOTE Expressed in kW.

rated coefficient of performance

[EN 14511-1:2022, 3.45]:
declared capacity for heating divided by the rated power input for heating of a unit when providing heating at standard rating conditions.
NOTE Expressed in kW/kW.

rated energy efficiency ratio

[EN 14511-1:2022, 3.47]:
declared capacity for cooling divided by the rated power input for cooling of a unit when providing cooling at standard rating conditions.
NOTE Expressed in kW/kW.

rated power input

[EN 14511-1:2022, 3.46]:
cooling or heating effective power input of the vapour compression cycle of the unit at standard rating conditions.
NOTE Expressed in kW.

rating conditions

[EN 14511-1:2022, 3.48]:
standardized conditions provided for the determination of data which are characteristic for the unit, especially: heating capacity, power input, COP in heating mode; cooling capacity, power input, EER, SHR in cooling mode.

readily accessible

[ASHRAE Standard 62.1]:
capable of being reached quickly for operation without requiring personnel to climb over or remove obstacles or to resort to the use of unsafe climbing aids such as tables or chairs.

[ASHRAE Standard 62.2]:
capable of being quickly and easily reached for operation, maintenance, and inspection.

recirculated air

(see air, recirculated)

recirculation air

(see air, recirculation)

recirculation air handling unit

(see air handling unit, recirculation)

recoverable AHU heat loss

(see air handling unit, recoverable AHU heat loss)

recoverable duct heat loss

(see duct heat loss, recoverable)

recycled air

(see air, recycled)

reductive sealing method

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of determining the leakage of specific building components by pressurizing the building and recording the leakage changes as the components are successively sealed.

reference air temperature of a room with displacement ventilation

(see temperature, reference air *temperature* of a room with displacement ventilation)

reference fresh air volume flow

[EN 16573-2017, 3.1.7]:
fresh air volume flow $q_{V,ref,fresh}$ at the reference point defined at $p_{tUd/2}$ and 70 % of declared maximum air volume flow
($p_{tUd/2}$ = declared total pressure difference between the outlet and the inlet of the unit)

reference pressure

[EN 16798-7:2017, 3.14]:
external static pressure difference corresponding to the reference air volume flow.
[SOURCE: EN 13141-4:2021, 3.9]

reference wind speed at site

[EN 16798-7:2017, 3.6]:
wind speed at site, at building height, in undisturbed shielding conditions.

Note 1 to entry: Obstacles nearby the building are accounted for in the wind pressure coefficients which depend on the shielding class.

relative humidity

(see humidity, relative)

relative ventilation efficiency

(see ventilation efficiency, relative)

required AHU cooling coil output

(see air handling unit, required AHU cooling coil output)

required AHU heating coil input

(see air handling unit, required AHU heating coil input)

required cooling coil inlet temperature

(see cooling coil, required inlet temperature)

required heating coil inlet temperature

(see heating coil, required inlet temperature)

required supply air moisture content

(see air, supply required moisture content)

requirement (in air pollution)

[EN 15665:2009, 3.5]:
level of required performance.
NOTE Requirements can be, for example, "maximum of 100 hours above 70 % in living room", "less than 10 minutes to reach 25 % of initial ", "less than 800 10-6 CO2 (generally named ppm) as an average", "minimum of 8 l/s in toilet", "35 l/s for global ventilation in standard inside/outside conditions".

residential building

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building whose main purpose is to provide living space for the occupants. Activities within them are limited to those of a domestic nature. Such buildings include single-family; multi-family, communal, institutional and intermittent use building classifications.

residential occupancies

[ASHRAE Standard 62.1]:
occupancies that are not classified as institutional by the authority having jurisdiction and that contain permanent provisions for sleeping.

respirable particle

[ISO 16814:2008, 3.36]:
particle that can penetrate into, and be deposited in, the nonciliated portion of the lung.

retrofit

[AIVC, Air infiltration and ventilation glossary, 1992]:
the action of improving a buildings performance by increasing various aspects for its design. For example, improving the energy efficiency of existing buildings, by enhancing its thermal performance and by systematically sealing infiltration flow paths.
(see weatherization)

reversible axial flow fan

(see fan types)

reverse cycle unit

[EN 14511-1:2022, 3.50]:
unit capable of both cooling and heating.

rise (of an air jet in mixing air diffusion)

[EN 12792-2003, 313]:
vertical distance (h_v) between the highest horizontal plane tangent to a specified isovel and the centre of the core of an air jet.

roof outlet

[EN 12792-2003, 314]:
air terminal device used for mechanical ventilation installations.

roofspace

(see attic)

room air velocity

(see air velocity, room)

room conditioning system

[EN 16798-1:2019, 3.23]:
system installed and used to keep comfortable conditions in a room within a defined range.
Note 1 to entry: Air conditioning, chilled beams and radiant, surface heating and cooling systems are included.

[EN 16798-3:2017, 3.2]:
combination of appliances designed to keep comfort conditions in a room within a defined range.
Note 1 to entry: Air conditioning systems as well as surface-based systems, such as embedded systems, chilled ceilings and chilled beams, are included.

room mean age

[AIVC, Air infiltration and ventilation glossary, 1992]:
the average value of the Local Mean Ages of air flow for all points in a room. The Room Mean Age cannot therefore be measured easily. It is necessary to express the Room Mean Age in terms of a measurable quantity, such as a tracer gas concentration in the exhaust duct. This requires a mass balance equation to be constructed for the room.
(see air change rate; Local Mean Age)

room temperature

(see temperature, room)

S

sand trap louvre

[EN 12792-2003, 317]:
device intended to allow the passage of outdoor air or exhaust air, while minimizing the ingress of airborne sand.
(see also louvre)

saturation pressure of vapour

[EN 12792-2003, 318]:
pressure at which vapour and liquid or vapour and solid can exist in equilibrium at a given temperature.

secondary air

(see air, secondary)

secret (or concealed fixing)

(see air terminal devices, fixing accessories for)

section of air handling unit

(see air handling unit, section)

sensible cooling capacity

[EN 14511-1:2022, 3.51]:
capacity of the unit for removing sensible heat from the evaporator intake air.
NOTE Expressed in kW.

sensible heat ratio (SHR)

[EN 14511-1:2022, 3.52]:
ratio of the sensible cooling capacity to the total cooling capacity
NOTE Expressed in kW/kW.

sensible heat transfer

[AIVC, Air infiltration and ventilation glossary, 1992]:
the heat absorbed or evolved by a substance during a change of temperature that is not accompanied by a change of state.
(see latent heat transfer)

sensor

[EN 12792-2003, 322]:
device or instrument designed to detect and measure a variable.

sensory pollution load

[ISO 16814:2008, 3.37]:
pollution load caused by those pollution sources that have an impact on the perceived air quality.
NOTE The load is often expressed by a sensory unit, the olf.

set point

[EN 12792-2003, 323]:
value of the controlled variable to which a control device is set.

shaft ventilation

(see ventilation, shaft)

shaft-type buildings

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building with large vertical connecting openings.

shelter belt

[AIVC, Air infiltration and ventilation glossary, 1992]:
a natural or planned barrier of trees or shrubs used to reduce wind velocity, giving shelter.

shielding

[AIVC, Air infiltration and ventilation glossary, 1992]:
the degree of protection from wind offered to a building by upstream obstacles. These may be windbreaks, shelter belts, or other buildings.

shielding coefficient

[AIVC, Air infiltration and ventilation glossary, 1992]:
the ratio of average total exterior wind pressure to the stagnation pressure at ceiling height.

shielding of a dwelling

[EN 12792-2003, 325]:
obstacle in the neighbourhood of the dwelling by which the infiltration or ventilation is influenced.

short circuit of air external

[EN 12792-2003, 326]:
direct recirculation of exhaust air with outdoor air.

short circuit of air internal

[EN 12792-2003, 327]:
direct extraction of supply air before it contributes to the treatment of the space.

sick building syndrome (SBS)

[AIVC, Air infiltration and ventilation glossary, 1992]:
collective term for symptoms exhibited by occupants of some buildings. These include headaches, eye/skin irritation, shortness of breath and nausea.

sink (in air pollution)

[ISO 16814:2008, 3.38]:
object on which contaminants are deposited and remain, either permanently or temporarily.
NOTE Sinks can become sources when they release deposited contaminants.

single-duct air conditioner

(see air conditioner, single-duct)

single duct unit

[EN 12792-2003, 328]:
air terminal unit assembly having one ducted air inlet and a device for regulating the air flow rate either manually (pressure dependent) or by automatic means at a value which may be maintained constant or variable (pressure independent).

single leaf damper or valve

(see damper and valve)

single-sided ventilation

(see ventilation, single-sided)

single split unit

[EN 14511-1:2022, 3.54]:
factory assembly of components of refrigeration system fixed on two mountings to form a discrete matched functional unit.

single tracer gas technique

(see tracer gas technique, single)

single zone

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building or part of a building comprising of one zone of uniform pressure.

size designation of a fan

[EN 12792-2003, 330]:
size designation of a fan is the nominal impeller tip diameter, which is defined as the impeller tip diameter on which the design of the fan is based.

sleeping unit

[ASHRAE Standard 62.1]:
a room or space in which people sleep that includes permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

slide damper or valve

(see damper and valve)

slip joint

[EN 12792-2003, 332]:
normally used on small rectangular ducts to join one component to another. The joint normally comprises of a female end on one component into which the male end of the adjacent component is inserted. Slip joints can also be made with an extended male end to provide some linear tolerance in the assembly.

smoke damper

(see fire and smoke damper)

smoke visualization

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of detecting leaks in the building fabric, by pressurizing the building and using smoke to trace the paths followed by the escaping air.

'snap in' fastener

(see air terminal device, fixing accessory for)

sound attenuating section

[EN 12792-2003, 335]:
section in which a sound transferred into ductwork or to ambient is reduced.

sound attenuator

[EN 12792-2003, 336]:
element inserted into the air distribution system and intended to reduce the airborne noise in the system,

sound reduction (attenuation)

[EN 12792-2003, 337]:
reduction of sound energy

source (in air pollution)

[ASHRAE Standard 62.2]:
an indoor object, person, or activity from which indoor air contaminants are released, or a route of entry of contaminants from outdoors or sub-building soil.

[ISO 16814:2008, 3.39]:
persons, materials or processes (activities) from which indoor air contaminants are released.
NOTE A source can also be a route of entry of contaminants from outdoor (e.g. air, soil, clothes).

source control (source management)

[ISO 16814:2008, 3.40]:
manner of controlling IAQ by preventing or reducing the emission of air contaminants or entry of air contaminants into an occupied space

specific flow (a)

[AIVC, Air infiltration and ventilation glossary, 1992]:
defined as the total volumetric supply airflow rate per unit volume of the room. Specific flow is expressed by the equation; a= Q/V , where Q is the ventilation air flow rate (m^3/s) and V is the total volume of the room (m^3). Specific flow is often called the Air Change Rate
(NOTE: Specific flow is usually expressed by the letter "n", but "a" is used here as not to confuse with the flow exponent "n".)
(see also air change rate; air change time; coefficient of air change performance; local air change index; nominal time constant)

specific fan power

[EN 16798-3:2017, 3.5]:
amount of electric fan power divided by the air volume flow.

specific leakage area

(see leakage area, specific)

specific pollutants

(see pollutants, specific)

spread (of an air jet in mixing air diffusion)

[EN 12792-2003, 338]:
maximum distance (dv) between two vertical planes tangent to a specified isovel and perpendicular to a plane through the centre of the core of an air jet. There may be two different spreads, not always equal: one for the left side, the other for the right side (considered when looking at the treated space from the supply air terminal device)

stack

[AIVC, Air infiltration and ventilation glossary, 1992]:
a single chimney/flue or a cluster of chimneys/flues. That part of a flue above roof level.

stack effect

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pressure differential across a building caused by the differences in the density of the air due to an indoor-outdoor temperature difference.
(see neutral pressure level).

[EN 16798-7:2017, 3.12]:
pressure difference caused by the difference in density between indoor and outdoor air due to an indoor/outdoor temperature difference.
[SOURCE: EN 12792:2003, definition 339]

stack pressure

(see stack effect)

stagnation pressure

(see pressure, stagnation)

standard air

(see air, standard)

standard rating conditions

[EN 14511-1:2022, 3.56]:
operating conditions while establishing the rated capacity (P rated), rated air flow rate [and/or rated liquid flow rate], rated energy efficiency ratio (EER rated) and/or rated coefficient of performance (COP rated)

standby mode

[EN 14511-1:2022, 3.57]:
mode wherein the unit is switched off partially and can be reactivated by a control device (such as a remote control), an external signal or a timer.
NOTE The unit is connected to the mains power source, depends on energy input to work as intended and provides only the following functions, which can persist for an indefinite time: reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or information or status display.

stiffener

[EN 12792:2003, 343]:
frames, tie rods or the like, which increase the stiffness of the walls of the ducts in order to reduce the risk of vibration due to the velocity of the air and/or to reinforce the duct against the pressure of the air.

storey-type buildings

[AIVC, Air infiltration and ventilation glossary, 1992]:
a building comprising of floors separated by impermeable layers.

straight duct component

[EN 12792:2003, 344]:
duct component with a constant straight section along the considered element; it can be either rigid or flexible, a flexible duct is one which can change orientation without the use of a fitting.

straight duct surface area

[EN 12792:2003, 345]:
product of the internal perimeter of the duct and its length

straightening element

(see flow equaliser)

stratified air

(see air, stratified)

supply air

(see air, supply)

supply air flow rate

(see air flow rate, supply)

supply air terminal device

[EN 12792:2003, 349]:
air terminal device through which air enters the treated space. It is designed in order to ensure the predetermined comfort conditions of temperature, velocity, humidity and sound in the occupied zone.
(see air terminal device)

supply system

(see ventilation, mechanical supply system)

supply temperature differential

(see temperature differential, supply)

supply ventilation

(see ventilation, supply)

supply ventilation installation package

(see ventilation installation package, supply)

surface pressure distribution

[AIVC, Air infiltration and ventilation glossary, 1992]:
the pattern of positive (or negative) pressure relative to the static pressure of the prevailing free wind, at various points on the external surface of a building, caused by the flow of the wind onto or around the building.

system (HVAC context)

[ASHRAE Standard 62.2]:
equipment and other components that collectively perform a specific function, such as mechanical cooling or ventilation.

system capacity ratio

[EN 14511-1:2022, 3.58]:
ratio of the total stated cooling (heating) capacity of all operating indoor units to the stated cooling (heating) capacity of the outdoor unit(s) at the rating conditions.

system powered flow rate controller

(see flow rate control device)

T

temperature

[AIVC, Air infiltration and ventilation glossary, 1992]:
a property of an object which determines the direction of heat flow. When the object is placed in thermal contact with another object, heat flows from the higher temperature object to the lower temperature one. It is measured either by an empirical temperature scale based on some convenient property of a material or instrument, such as the Celsius scale, or by a scale of absolute temperature, such as the Kelvin scale.

[EN 12792:2003, 353]:
measurement of warmth or coldness with respect to an arbitrary zero or to the absolute zero.

temperature, ambient

[AIVC, Air infiltration and ventilation glossary, 1992]:
the temperature of the air within a room or zone.

temperature, asymmetry, radiant

[EN 12792:2003, 353]:
difference between the plane radiant temperature of the two opposite sides of a small plane element

temperature, dry bulb

[AIVC, Air infiltration and ventilation glossary, 1992]:
the [air] temperature indicated by a dry temperature sensing element (such as the bulb of a mercury in glass thermometer) shielded from the effects of radiation.

temperature, dewpoint

[EN 12792:2003, 353]:
temperature of a mixture of air and water vapour at which further cooling or adding more water vapour results in condensation of water vapour from the air.

temperature, environmental

[AIVC, Air infiltration and ventilation glossary, 1992]:
the temperature of the air outside a room or zone.

temperature, induced air

[EN 12792:2003, 353]:
air temperature of the internally induced air flow.

temperature, mean radiant

[EN 12792:2003, 353]:
theoretical uniform surface temperature of an enclosure, in which an occupant would exchange the same amount of radiant heat as in the actual non-uniform enclosure.

temperature, mean measured air *temperature* of the occupied zone

[EN 12792:2003, 353]:
arithmetical average of the measured values of air temperature within the occupied zone

temperature, operative

[EN 16798-1:2019, 3.21]:
uniform temperature of an imaginary black enclosure in which an occupant would exchange the same amount of heat by radiation plus convection as in the actual non-uniform environment.
Note 1 to entry: Further information is given in EN ISO 7726 [9] and FprCEN/TR 16798–2 [7].

[EN 12792:2003, 352]:
theoretical uniform temperature of an enclosure in which an occupant would exchange the same amount of heat by radiation and convection as in the actual non-uniform space.

temperature, optimum operative

[EN 16798-1:2019, 3.32]:
operative temperature that satisfies the greatest percentage of occupants at a given clothing and activity level in the current thermal environment.
Note 1 to entry: Further information is given in EN ISO 7726 [9] and FprCEN/TR 16798–2 [7].

[EN 12792:2003, 353]:
operative temperature that satisfies the greatest possible number of people at a given clothing and activity level.

temperature, plane radiant

[EN 12792:2003, 353]:
uniform temperature of an enclosure where the radiance on one side of a small plane element is the same as in the non-uniform actual environment.

temperature, primary air

[EN 12792:2003, 353]:
air temperature of the primary air flow

temperature, primary air *temperature* difference

[EN 12792:2003, 353]:
algebraic difference of the primary air temperature and the reference air temperature of the occupied zone

temperature, reference air *temperature* of a room

[EN 12792:2003, 353]:
average of at least five measurements of the air temperature at a height of 1,1 m from the floor and outside the area directly influenced by a device.

temperature, reference air *temperature* of a room with displacement ventilation

[EN 12792:2003, 311]:
average of at least five measurements of the air temperature at a height of 1,1 m from the floor and outside the area directly influenced by a device by ATD.

temperature, room

[EN 16798-1:2019, 3.24]:
operative temperature.

temperature, total air

[EN 12792:2003, 353]:
air temperature of the total air flow supplied by an air terminal device.

temperature, wet bulb

[AIVC, Air infiltration and ventilation glossary, 1992]:
air temperature indicated by a sensing element kept wet (usually by a wick), the indicated temperature thus being related to the rate of evaporation from the wetted bulb. This Wet Bulb Temperature is used by psychrometers to measure the relative humidity.

temperature difference, vertical air

[EN 12792:2003, 354]:
difference in air temperature measured at 1,1 m and 0,1 m above the floor. The distances 1,1 m and 0,1 m are theoretical average values for head and ankle height of a sedentary person

temperature differential, extract

[EN 12792-2003, 147]:
algebraic difference between the extract air temperature and the mean measured air temperature of the occupied zone.

temperature differential, supply

[EN 12792:2003, 350]:
algebraic difference between the supply air temperature and the mean measured air temperature of the occupied zone.

temperature differential within the occupied zone

[EN 12792:2003, 355]:
largest value of the difference between the measured air temperatures within the occupied zone

temperature gradient risk

[EN 12792:2003, 356]:
percentage of people predicted to be dissatisfied due to a difference in air temperature between ankle and head

temperature of saturated liquid

[EN 14511-1:2022, 3.59]:
temperature of liquid at the bubble point of the refrigerant corresponding to the discharge pressure of the compressor, measured at the outlet piping connection of the unit.
NOTE Expressed in °C.

temperature of the liquid refrigerant

[EN 14511-1:2022, 3.60]:
temperature of the refrigerant measured at the inlet of the expansion device.
NOTE Expressed in °C.

temperature ratio

[EN 13141-7:2021, 3.15]:
temperature difference between inlet and outlet of one of the air flows divided by the temperature difference between the inlets of both air flows

terrain roughness

[AIVC, Air infiltration and ventilation glossary, 1992]:
the character of the terrain over which wind passes upstream of a building, causing the wind velocity to be modified. It is common practice to characterise terrain according to roughness and express the variation in terms of roughness constants.

test pressure

[EN 12792:2003, 357]:
static gauge pressure measured in the device to be tested

testing chamber (Also known as Environmental Chamber)

[AIVC, Air infiltration and ventilation glossary, 1992]:
a specially designed room, to enable experimenters to vary all of the environmental parameters. Thus, given conditions can be tested. It is used mainly for the reconstruction of environmental

conditions that represent extreme cases, and to simulate conditions which are difficult to measure in the field.

theoretical air flow rate of a louvre

[EN 12792:2003, 358]:
product of the core area and the air velocity calculated, using the pressure difference across the louvre as a dynamic pressure, assuming a pressure loss coefficient equal to 1.

thermal bridging factor (of an air handling unit)

[EN 12792:2003, 359]:
ratio of the lowest temperature difference between any point on the external surface and the mean internal air temperature, and the mean air to air temperature difference

thermal comfort

[AIVC, Air infiltration and ventilation glossary, 1992]:
a condition of satisfaction expressed by occupants within a building to their thermal environment. The thermal comfort condition is a subjective feeling of satisfaction, building designers attempt to satisfy as many of the occupants as possible (usually 80 % or more).

[EN 12792:2003, 360]:
condition of mind, which expresses satisfaction with the thermal environment.

thermal environment

[EN 12792:2003, 361]:
characteristics of the environment, which affect the heat exchange between the human body and the environment.

thermal insulation

(see acoustic and/or thermal insulation)

thermal radiation

[EN 12792:2003, 363]:
transmission of energy by means of electromagnetic waves emitted due to temperature.

thermal sensation

[EN 12792:2003, 364]:
conscious feeling commonly graded into the categories cold, cool, slightly cool, neutral, slightly warm, warm and hot.

thermal stratification

(see air, stratified)

thermal transmittance ("U"-Value)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the heat flow transmitted through a unit area of a given structure, divided by the difference between the effective ambient temperature on either side of the structure, under steady state conditions. Expressed as a "U''-value.

thermography

[AIVC, Air infiltration and ventilation glossary, 1992]:
the process of converting the heat emitted from an object into visible pictures. It is used to indicate the temperature distribution over part of a building envelope and is useful for locating infiltration flow paths.

thermometer

[EN 12792:2003, 365]:
device for measuring temperature,

threshold Limit Value (TLV)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the limit of an environmental condition to which any person may be exposed repeatedly without adverse effect.

throttling

[EN 12792:2003, 366]:
irreversible adiabatic process in which pressure is lowered by expansion without work.

throw (of an air jet in mixing air diffusion)

[EN 12792:2003, 367]:
maximum distance (Lv) between the centre of the core and a plane which is tangent to a specified isovel and perpendicular to the intended direction of flow.

time constant

[EN 12792:2003, 368]:
time required for response of a device to reach a specified percentage of its final value after a step change.

time average airflow rate

[ASHRAE Standard 62.2]:
the total volume of air provided during a period of time divided by the time period.

toilet

[ASHRAE Standard 62.2]:
space containing a toilet, water closet, urinal, or similar sanitary service.

tolerance

[EN 12792:2003, 369]:
difference between upper and lower limits of size for a given nominal dimension.

total power input

[EN 14511-1:2022, 3.61]:
power input of all components of the unit
NOTE Expressed in kW.

total air flow rate

(see air flow rate, total)

total air temperature

(see temperature, total air)

total organic vapours (total volatile organic compounds) (TVOC)

[ISO 16814:2008, 3.42]:
sum of organic vapours in air measured by an appropriate sampling and analysis procedure.

total pressure difference over the air handling unit

(see air handling unit, total pressure difference over the)

tracer gas

[AIVC, Air infiltration and ventilation glossary, 1992]:
a detectable, non toxic, non reactable gas used to determine the rate of air interchange between a space and its surroundings.

tracer gas analyser

[AIVC, Air infiltration and ventilation glossary, 1992]:
any instrument used to evaluate the concentration of tracer gas in a sample of air over time.

tracer gas technique

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method employing tracer gases to determine air infiltration and ventilation rates.
(see constant concentration, constant emission; decay trace gas method)

tracer gas technique, constat concentration

[AIVC, Air infiltration and ventilation glossary, 1992]:
a Tracer gas method for measuring ventilation rates, whereby an automated system injects tracer gas at a rate required to maintain the concentration of tracer gas within a room or zone at a fixed, pre-determined level. The ventilation rate is proportional to the rate at which the tracer gas must be injected.

tracer gas technique, constat flow/emission

[AIVC, Air infiltration and ventilation glossary, 1992]:
a Tracer gas method for measuring ventilation rates whereby tracer gas is continually emitted at a uniform rate. The equilibrium concentration of tracer gas in air is then measured.

tracer gas technique, decay

[AIVC, Air infiltration and ventilation glossary, 1992]:
a tracer gas method for measuring the ventilation rate whereby a quantity of tracer gas is released and the decrease in concentration is measured as a function of time.

tracer gas technique, multiple

[AIVC, Air infiltration and ventilation glossary, 1992]:
a measurement method using two or more tracer gases. This method is often used to evaluate interzonal airflows.

tracer gas technique, single

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method for determining the air change rate within a room or zone using only one tracer gas.

transfer index method

[AIVC, Air infiltration and ventilation glossary, 1992]:
a method of measuring ventilation rates, by determining the transfer index between two points. The time integral of tracer gas concentrations is determined at one point, following the liberation of a fixed volume of tracer to another. Several sample points are usually employed. The reciprocal of the transfer index has dimensions of ventilation rate.

transfer ratio (Rs)

[EN 13141-7:2021, 3.3]:
mass transfer of the discharged air to a zone that is actually recirculated air from the same zone, due to internal leakage and external casing leakage
Note 1 to entry: If the transfer ratio is determined with the induct method then it is called Rs,int and if it is determined with the chamber method then it is called Rs,tot .

transferred air

(see air, transferred)

transformation (fitting)

[EN 12792:2003, 375]:
affects a change of area and/or the form of the cross-section. If the transformation is continuous then a reduction in the area is termed convergent and an increase in area is termed divergent. If the transformation is abrupt the reduction in area is termed an abrupt contraction and an increase in area is termed an abrupt enlargement.
(see also duct fitting)

transition flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
the unstable region of flow that occurs when there is a change from a laminar to a turbulent flow regime.
(see laminar flow; turbulent flow)

treated space

[EN 12792:2003, 376]:
enclosure served by an air distribution system.

troffer luminaire air terminal device

[EN 12792:2003, 377]:
air terminal device, usually in the form of a slot or combination of slots for use with, but functionally independent from, a linear luminaire

turbulence intensity

[EN 12792:2003, 378]:
ratio of the standard deviation of the air velocity to the mean air velocity

turbulent flow

[AIVC, Air infiltration and ventilation glossary, 1992]:
motion of fluids in which local velocities and pressures fluctuate irregularly.
(see laminar flow; transition flow)

[EN 12792:2003, 379]:
flow that is characterized by a forward motion accompanied by irregular eddies associated with momentum transfer between fluid layers.

U

unadapted person (visitor)

[ISO 16814:2008, 2.43]:
person entering a space from another area with acceptable perceived IAQ whose sensory perception has yet to become desensitized to some air constituents (such as body odours) in the space.

unintentional opening

[AIVC, Air infiltration and ventilation glossary, 1992]:
(see adventitious opening; fortuitous opening)

uniform mixing

[AIVC, Air infiltration and ventilation glossary, 1992]:
the combining of two or more substances such that the parts of one are wholly distributed throughout the parts of another.

3.10

unit pressure

(see pressure, unit)

unit static pressure

(see pressure, unit static)

unoccupied mode

[ASHRAE Standard 62.1]:
when a zone is not scheduled to be occupied.

upper limit (of a duct)

[EN 12792:2003, 380]:
algebraic difference between the maximum limit of size and the corresponding nominal size

utility

[ASHRAE Standard 62.2]:
laundry, lavatory, or other utility room containing sinks or washing equipment.

"U"-Value

(see thermal transmittance)

V

vane control (of a fan)

(see fan control methods)

vane ratio (of a grille)

[EN 12792:2003, 382]:
ratio of the chord length to the vane pitch.

vapour barrier

[AIVC, Air infiltration and ventilation glossary, 1992]:
a moisture impervious layer applied to the surfaces enclosing a space or to the surface of thermal insulation to limit moisture migration through the surface.

vapour barrier (duct)

[EN 12792:2003, 383]:
vapour resistant coating applied to the exterior of the thermal insulation used on ductwork through which air flows at sub-ambient temperature. Also used for the same purpose in other building constructions. Its purpose is to avoid migration of water vapour into and condensation of water within the thermal insulation. A vapour barrier can also be necessary to prevent corrosion of a metallic sheath caused by condensation.

variable air volume (VAV)

[AIVC, Air infiltration and ventilation glossary, 1992]:
a ventilation system that controls the dry bulb temperature within a space by varying the volume of supply air, rather than the supply air temperature.

variable blade pitch control (of a fan)

(see fan control methods)

variable speed control (of a fan)

(see fan control methods)

velocity profile (for a room)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the relationship between the height above a surface and the mean velocity of a fluid (air) at that point.

velocity, relative air

(see air velocity, relative)

vent

[EN 16798-7:2017, 3.5]:
any opening in the building intended for ventilation.
[SOURCE: EN 12792:2003, definition 387]

ventilation

[AIVC, Air infiltration and ventilation glossary, 1992]:
the process of supplying or removing air, by natural or mechanical means to and from a space.

[ASHRAE 62.1]:
the process of supplying outdoor air to or removing indoor air from a dwelling by natural or mechanical means. Such air may or may not have been conditioned.

[ASHRAE 62.2]:
the process of supplying air to or removing air from a space for the purpose of controlling air contaminant levels, humidity, or temperature within the space.

[EN 16798-1:2019, 3.25]:
process of providing outdoor air by natural or mechanical means to a space or building.

[EN 12792:2003, 388]:
ventilation designed supply and removal of air to and from a treated space.

[ISO 16814:2008, 3.44]:
process of supplying or removing air by natural means or mechanical means to or from a space for the purpose of controlling air contaminant levels, humidity, odours or temperature within the space.

ventilation, balanced

[EN 12792:2003, 51]:
ventilation installation where the supply air flow and the exhaust air flow rates comply with the design values.

ventilation, cross

[EN 16798-7:2017, 3.10]:
natural ventilation in which the air flow mainly results from wind pressure effects on the building facades and where stack effects in the building are of less importance.
[SOURCE: EN 12792:2003, definition 94].

ventilation, extract

[AIVC, Air infiltration and ventilation glossary, 1992]:
a mechanical ventilation system in which air is extracted from a space or spaces, so creating an internal negative pressure. Supply air is drawn through adventitious or intentional openings. Such a system allows heat to be recovered, using an exhaust air heat pump.

ventilation, hybrid

[EN 12792:2003, 213]:
ventilation where natural ventilation may be at least in a certain period supported or replaced by mechanical ventilation.

ventilation, mechanical

[AIVC, Air infiltration and ventilation glossary, 1992]:
ventilation by means of one or more fans.

[EN 12792:2003, 256]:
ventilation with the aid of powered air movement components.

ventilation, natural

[EN 12792:2003, 264]:
ventilation through leakage paths (infiltration) and openings (ventilation) in the building which relies on pressure differences without the aid of powered air movement components:
– airing;
– shaft ventilation;
– cross ventilation

ventilation, purpose provided

[AIVC, Air infiltration and ventilation glossary, 1992]:
ventilation provided to a space as the result of specific action to ensure its introduction. Such

ventilation may be provided by natural means through purpose provided openings of the required size and position, or by mechanical means.

ventilation, shaft

[EN 12792:2003, 324]:
natural ventilation by means of a duct mounted vertically (i.e. with an angle of 90°) or mounted with an angle of 45° at least.

ventilation, single-sided

[EN 16798-7:2017, 3.9]:
airing with windows located on only one side of the ventilation zone.

ventilation, supply

[AIVC, Air infiltration and ventilation glossary, 1992]:
a system in which air is supplied to a space, so creating an internal positive pressure. Air leaves the bui1ding through adventitious or purpose provided openings.
(see adventitious opening; fortuitous leakage purpose provided opening)

ventilation air

(see air, ventilation)

ventilation auxiliary energy

[EN 16798-5-1:2017, 3.14]:
auxiliary energy for the service of ventilation (for heat recovery drives, electrical preheating and for control)

[EN 16798-5-2:2017, 3.14]:
auxiliary energy for the service of ventilation.
Note 1 to entry: For heat recovery drives, electrical preheating and for control.

ventilation effectiveness

[AIVC, Air infiltration and ventilation glossary, 1992]:
an expression describing the ability of a mechanical (or natural) ventilation system to remove pollution originating in a space, either of a steady state or transient nature.
(see pollutant removal effectiveness)

[EN 16798-3:2017, 3.4]:
performance of air diffusion system in removing the pollutants from the occupied zone of a room given by relation between the pollution concentrations in the supply air, the extract air and the indoor air in the breathing zone (within the occupied zone).

[ISO 16814:2008, 3.46]:
measure of the relationship between the pollutant concentration in the exhaust air and the pollutant concentration in the breathing zone.

ventilation effectiveness concentration

[EN 12792:2003, 389]:
measure of the relationship between the pollutant concentration in the exhaust air and the pollutant concentration in the specified zone.

ventilation efficiency

[AIVC, Air infiltration and ventilation glossary, 1992]:
a series of indices which indicate the mixing characteristics of incoming outdoor air with the air already present in an enclosure and which characterise the pollutant distribution within that enclosure resulting from the interaction of air flow with internal pollutant sources.

(see air change efficiency; pollutant removal effectiveness; absolute ventilation efficiency; relative ventilation efficiency)

ventilation efficiency, absolute

[AIVC, Air infiltration and ventilation glossary, 1992]:
a quantity which expresses the ability of a ventilation system to reduce a pollution concentration relative to the feasible theoretical maximum performance.

ventilation efficiency, relative

[AIVC, Air infiltration and ventilation glossary, 1992]:
a quantity describing how the ventilation ability of a system varies between different parts of a room.

ventilation installation

[EN 12792:2003, 390]:
combination of all components required to provide ventilation.

ventilation installation package (for a single dwelling)

[EN 12792:2003, 391]:
combination of compatible components, which are tested, sold and installed as a single product and specified by the manufacturer to complete a residential ventilation installation.
NOTE It may include minor parts, such as tapes, sealants and screws.

ventilation installation package, supply

[EN 12792:2003, 351]:
installation package intended for supply of air see ventilation installation package.

ventilation flow rate

[EN 12792:2003, 392]:
volume flow rate at which ventilation air is supplied or removed.

ventilation heat Loss/or gains

[AIVC, Air infiltration and ventilation glossary, 1992]:
the heat lost or gained by virtue of warm and/or humid air flowing into or leaking from a space.

ventilation rate

[AIVC, Air infiltration and ventilation glossary, 1992]:
the rate at which outside air is intentionally supplied to a building or zone. Sometimes ventilation is used to describe the total mechanical air change in a room or building. This rate may then frequently comprise a considerable proportion of recirculated rather than outdoor air. Hence when apparently very large ventilation rates are quoted, it is important to establish the proportion of flow representing outside supply air. The remainder will be recirculated air.

[ASHRAE 62.2]:
a mechanical exhaust system, supply system, or combination thereof shall be installed to operate for each dwelling unit to provide continuous whole-building ventilation with outdoor air at a rate not less than specified in Section 4.1.1.

[EN 16798-1:2019, 3.26]:
magnitude of outdoor air flow to a room or building through the ventilation system or device.

[ISO 16814:2008, 3.45]:
airflow rate at which outdoor air enters a building or enclosed space.

ventilation requirement, minimum

[AIVC, Air infiltration and ventilation glossary, 1992]:
the minimum quantity of outdoor or conditioned air entering a building, which is needed to maintain acceptable indoor air quality.
(see air quality, acceptable)

ventilation strategy

[AIVC, Air infiltration and ventilation glossary, 1992]:
a pian by which ventilation air is purposefully provided to a space. When such a strategy is employed, it is normal to take action to minimise background Leakage.

ventilation system

[AIVC, Air infiltration and ventilation glossary, 1992]:
(see mechanical ventilation system; mechanical extract ventilation system; mechanical supply ventilation system; balanced supply/extract ventilation system)

[EN 16798-1:2019, 3.27]:
combination of appliances or building components designed to supply indoor spaces with outdoor air and/or to extract polluted indoor air.
Note 1 to entry: A ventilation system can refer to mechanical, natural and hybrid ventilation systems.
Note 2 to entry: The ventilation system can consist of mechanical components (e.g. combination of air handling unit, ducts and terminal units). A ventilation system can also refer to natural ventilation systems making use of temperature differences and wind with facade grills. A combination of mechanical and natural ventilation is possible (hybrid systems).

[EN 16798-3:2017, 3.7]:
combination of appliances designed to supply interior spaces with outdoor air and to extract polluted indoor air.
Note 1 to entry: The system can consist of mechanical components (e.g. combination of air handling unit, ducts and terminal units). Ventilation system can also refer to natural ventilation systems making use of temperature differences and wind with facade grills in combination with mechanical exhaust (e.g. in corridors, toilets etc.). Both mechanical and natural ventilation can be combined with operable windows. A combination of mechanical and non-mechanical components is possible (hybrid systems).

ventilation system, mechanical

[AIVC, Air infiltration and ventilation glossary, 1992]:
a ventilation system in which the motive force needed to introduce air in a space, or to extract air from a space, is provided by one or more fans.

ventilation system, (mechanical) balanced supply/extract

[AIVC, Air infiltration and ventilation glossary, 1992]:
a ventilation system in which fans both supply and extract air from an enclosed space at equal rates.

[ASHRAE Standard 62.2]:
one or more fans that supply outdoor air and exhaust building air at substantially equal rates.
(see ventilation, balanced)

ventilation system, mechanical extract

[AIVC, Air infiltration and ventilation glossary, 1992]:
a ventilation system in which air is extracted from a space so creating an internal negative pressure. Supply air is drawn through adventitious, or purpose provided openings.

[ASHRAE Standard 62.2]: (reported as ***exhaust system***)
one or more fans that remove air from the building, causing outdoor air to enter by ventilation inlets or normal leakage paths through the building envelope.

ventilation system, mechanical supply

[AIVC, Air infiltration and ventilation glossary, 1992]:
a ventilation system in which air is supplied to a space so creating an internal positive pressure. Air leaves the building through adventitious, or purpose provided openings.

[ASHRAE 62.2]:
one or more fans that supply outdoor air to the building, causing indoor air to leave by normal leakage paths through the building envelope.

ventilation system, passive duct

[EN 16798-7:2017, 3.8]:
natural ventilation by means of a duct mounted vertically or mounted with an angle of 45° or less with the vertical

ventilation or air conditioning system

[EN 12792:2003, 393]:
combination of the ventilation or air conditioning installation and the building itself.

ventilation unit

[EN 13141-4:2021, 3.10]:
[EN 13141-7:2021, 3.20]:
casing incorporating at least a fan, and that may include duct connections, filters, coils, electrical heating, or any other air treatment component.

ventilation units, non-ducted

[EN 13141-4:2021, 3.14]:
ventilation unit intended to be used without external ductwork (Cat. A)

ventilation zone

[ASHRAE 62.1]:
any indoor area that requires ventilation and comprises one or more spaces with the same occupancy category (see Table 6.2.2.1), occupant density, zone air distribution effectiveness (see Section 6.2.2.2), and design zone primary airflow (see Section 6.2.5.1) per unit area
Informative Note: A ventilation zone is not necessarily an independent thermal control zone; however, spaces that can be combined for load calculation purposes can often be combined into a single zone for ventilation calculations purposes.

[EN 16798-7:2017, 3.2]:
conditioned space which can be considered as air flow independent from other conditioned spaces (i.e. the air leakages between two adjacent zones are sufficiently low to be neglected, and there is no possibility of air transfer between two zones)
Note 1 to entry: A ventilation zone can be a set of rooms with enough air transfer between those rooms to consider they are all at the same pressure. It can also be a single room if there is no significant air transfer between this room and other ventilation zones.

vibration reduction device

[EN 12792:2003, 394]:
means intended to increase the natural frequency of duct walls in order to minimize the possible effects of vibration.

viscous flow

(see laminar flow)

vitiated air

[AIVC, Air infiltration and ventilation glossary, 1992]:
spoiled, impure or polluted air.

volume flow rate

[EN 12792:2003, 395]:
volume of matter, which passes a given surface, divided by time.

volume, space

[ASHRAE 62.1]:
the total volume of an occupiable space enclosed by the building envelope, plus that of any spaces permanently open to the occupiable space, such as a ceiling attic used as a ceiling return plenum.

vortex

[AIVC, Air infiltration and ventilation glossary, 1992]:
airflow with rotary, rather than translatory motion. It occurs in the wakes of buildings etc. and also in the presence of strong updraughts. A standing eddy or stationary vortex may be formed in the lee of a building arising from the airflow around it.

W

water loop

[EN 14511-1:2022, 3.62]:
closed circuit of water maintained within a temperature range on which the units in cooling mode reject heat and the units in heating mode take heat.

water rejection efficiency η_w of a weather louvre

[EN 12792:2003, 396]:
efficiency of a weather louvre at any air velocity under test conditions.

water tightness

[EN 12792:2003, 397]:
ability of an externally mounted air transfer device to resist water penetration.
NOTE It is observed in the conventional conditions of a standard.

weatherization

(see retrofit)

weathersealing

(see weatherstripping)

weatherstripping

[AIVC, Air infiltration and ventilation glossary, 1992]:
a) The fitting of a strip of flexible material to seal a joint between a movable component and its seating of the application of mastic sealants to seal infiltration openings. The strip is attached to one edge and excludes air by pressing tightly against the other. b) Fixing a piece of material to stop a draught passing through the joints of a closed component (such as a door or window).
(see caulking)

wet bulb temperature

(see temperature, wet bulb)

width of the v (m/s) isovel (for displacement air diffusion)

(see displacement air diffusion, width of the v (m/s) isovel)

wind barrier

(see windbreak)

windbreak

[AIVC, Air infiltration and ventilation glossary, 1992]:
a barrier designed to obstruct wind flow and intended for protection against excessive wind pressure.
(see shelterbelt)

wind pressure (on a facade)

[AIVC, Air infiltration and ventilation glossary, 1992]:
the difference between the local pressure on the exterior of a building induced by the action of the wind and static outdoor pressure far away from any building or shield.

window mounted air terminal device

(see air terminal device, window mounted)

Z

zone (comfort process control)

[EN 12792-2003, 400]:
space, or group of spaces with similar thermal characteristics, which enable the required internal conditions to be maintained by a single control system or a single element of a comprehensive control system.

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