

Glossary of

Refrigeration, heating, ventilating and air-conditioning terms

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- British Refrigeration and Air Conditioning Association
- Building Services Research and Information Association
- Chartered Institution of Building Services
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- Domestic Solid Fuel Appliances Approval Scheme
- Electricity Supply Industry in England and Wales
- Heating and Ventilating Contractors' Association
- Hevac Association
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Foreword

This revised British Standard has been prepared under the direction of the Refrigeration, Heating, and Air Conditioning Standards Committee. It includes a number of terms additional to those in the 1979 edition which is superseded and withdrawn.

The guiding principles during preparation of the glossary have been:

- a) to include all technical terms that are commonly used in the refrigeration, heating, ventilating, and air-conditioning industries to form a comprehensive and self-contained document;
- b) to provide definitions that are concise and definitive rather than descriptive;
- c) to rely on established definitions and those from other British Standards and from International Standards wherever possible.

In applying these principles, terms of very narrow application (such as those relating only to a point of detail in a piece of specialized equipment) have been omitted. Some commonplace terms have been included, however, where the technical meaning is narrower than, or differs from, the dictionary definition.

An overlap with other British Standard glossaries occurs with certain terms that are widely used both in this field and in other industries, examples being boiler plant, controls, fans, and valves. In these cases:

- a) overlap terms have been included only to the extent that they are in common use in the refrigeration, heating, ventilating, and air-conditioning industries;
- b) the definitions in this glossary relate to the usage in the field which the glossary covers and they may differ from the usage in other fields;
- c) for more comprehensive or alternative definitions of these overlap terms, reference should be made to the British Standard glossary for the particular industry.

Terms are in alphabetical order throughout. With terms comprising a noun and an adjective, the listing is generally under the noun with the adjective following so that related terms appear together. In a few cases the relationship is through the adjective rather than the noun, and these are listed under the first word. These cases are cross-indexed to facilitate ready reference.

As the definitions are not descriptive it will in some cases be necessary to refer to standard technical guides for practical applications or for statements of current practice.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 86 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Term	Definition
absolute humidity	<i>see</i> humidity, absolute.
absolute roughness	<i>see</i> roughness, absolute.
absorber	In an absorption refrigerating system, the part in which refrigerant vapour is absorbed.
absorption	A taking up of the molecules of a fluid by capillary, osmotic, chemical or solvent action.
absorption, sound	<i>see</i> sound absorption.
absorption coefficient, solar	The value of solar absorptivity for a surface.
absorption coefficient, sound	<i>see</i> sound absorption coefficient.
absorption refrigerating system	<i>see</i> refrigerating system, absorption.
absorptivity	The fraction of the incident radiation that is absorbed by a surface on which it falls.
absorptivity, solar	The ratio of the amount of solar radiation absorbed by a surface to that falling on the surface.
accelerated control	<i>see</i> control, accelerated.
access door	A door providing access to an installation for maintenance or inspection purposes.
acclimatization	Becoming accustomed to a particular climate or environment.
accumulator, hot water	A vessel in which heat is stored as hot water for use as required.
accumulator, refrigerant	A vessel in the low pressure side of a system to contain liquid refrigerant.
accumulator, steam	Vessel in which heat is stored as steam for use as required.
acid dewpoint	The temperature at which vapour in flue gases condenses when acid products of combustion are present.
acoustics	The science of sound waves including the properties of production and propagation.
activated carbon filter	<i>see</i> air filter, activated carbon.
actuator	A device which, on receipt of an electrical or pressure signal, produces a mechanical movement capable of regulating energy or fluid flow.
adiabatic mixing	The mixing of substances without the addition or removal of heat.
adiabatic process	A thermodynamic process in which there is no addition or removal of heat.
adiabatic saturation	The extent to which a gas can take up liquid without a change in heat content.
adiabatic saturation temperature	<i>see</i> temperature of adiabatic saturation.
adjustable flow rate (air) diffuser	<i>see</i> air diffuser, adjustable flow rate.
adjustable grille	<i>see</i> grille, adjustable.
adjustable pattern (air) diffuser	<i>see</i> air diffuser, adjustable pattern.
adjustable pitch fan	<i>see</i> fan, axial flow, adjustable pitch.
admittance	The measure of the ability of a surface to smooth out temperature variations.

Term	Definition
adsorber	In an adsorption refrigerating system, the part in which refrigerant or water vapour is adsorbed.
adsorption	A process whereby a solid takes up a fluid by surface adhesion.
adsorption refrigerating system	<i>see</i> refrigerating system, adsorption.
after cooler	a) A heat exchanger designed to treat air as the final cooling process in a system. b) A heat exchanger for the removal of heat from a fluid as the final cooling process in a system.
after filter	<i>see</i> air filter, after.
after heater	A heat exchanger designed to treat air as the final heating process in a system.
agitator	A device for causing turbulent motion in a fluid.
air, dry	<i>see</i> dry air.
air, excess	<i>see</i> excess air.
air, exhaust	Air flow leaving the treated space.
air, extract	Exhaust air that is discharged to atmosphere.
air, fresh	Air from free atmosphere that is sufficiently uncontaminated to be used for ventilation.
air, make-up	<i>see</i> make-up air.
air, primary	a) Air for combustion purposes admitted directly to or with the fuel. b) Air introduced into a ventilation or air conditioning system from outside. c) In an induction system, air supplied to the terminal units from a central plant.
air, recirculation	Exhaust air returned to the air treatment system.
air, relief	Exhaust air which is allowed to escape from the treated space if the pressure in the space rises above a specified level.
air, return	Air exhausted from a conditioned space and returned to central plant for recirculation or discharge to waste.
air, secondary	a) Combustion air admitted in proximity to the fuel for the purpose of completing the combustion. b) Room air entrained and set in motion by air discharge from a grille.
air, supply	Air flow entering the treated space.
air, transfer	Exhaust air which passes from the treated space to another treated space.
air assisted pressure jet oil burner	<i>see</i> oil burner, steam (or air) assisted pressure jet.
air blast freezer	<i>see</i> freezer, air blast.
air bottle	A container for collecting air, for example from a high point of a hot water heating system.
air change rate	The replacement of the volume of air in an enclosure in unit time.
air cock	<i>see</i> cock, air
air compressor	<i>see</i> compressor (air).

Term	Definition
air-conditioner, room	<i>see</i> room air-conditioner.
air-conditioning	A form of air treatment whereby temperature, humidity, ventilation, and air cleanliness are all controlled within limits determined by the requirements of the air-conditioned enclosure.
air-conditioning, air-water system	<i>see</i> system, air-water.
air-conditioning, all air system	<i>see</i> system, all air.
air-conditioning, comfort	Air-conditioning to satisfy the comfort requirements of the occupants of the air-conditioned enclosure.
air-conditioning, complete	Air-conditioning in which the temperature and humidity are independently controlled.
air-conditioning, full	The application of air-conditioning to all the usable spaces in a building other than transit areas, stores, toilets and the like.
air-conditioning, partial	The application of air-conditioning to some, but not all, of the usable areas in a building.
air-conditioning, year round system	A complete system which ventilates, heats and humidifies in winter, cools and dehumidifies in summer, the air in the spaces under consideration and provides the desired degree of air cleanliness and motion.
air-conditioning convector (deprecated)	<i>see</i> convector, air-conditioning.
air cooled condenser	<i>see</i> condenser, air cooled.
air cooler	<i>see</i> cooler, air.
air cooler battery	<i>see</i> battery, air cooler.
air curtain	A stream of air that creates a barrier between two spaces which are at different conditions.
air cushion	A quantity of air deliberately collected at a point in a heating circuit to minimize variations in pressure with temperature.
air cycle refrigerating system	<i>see</i> refrigerating system, air cycle.
air diffuser	A supply air terminal device usually placed in the ceiling and generally of circular, square or rectangular form and composed of divergent deflecting members.
air diffuser, adjustable flow rate	An air diffuser incorporating a device for varying air flow rate without affecting the direction of the air jets.
air diffuser, adjustable pattern	An air diffuser that incorporates an integral device by means of which the direction of the air jets can be varied.
air diffuser, ceiling	An air diffuser suitable only for ceiling mounting.
air diffuser, fully adjustable	An air diffuser that incorporates independent devices to achieve the following: a) variation of the direction of the air jets without alteration of the air flow rate; and b) variation of the air flow rate without alteration of the direction of the air jets.
air diffusion	The distribution of the air in a space by means of air terminal devices.

Term	Definition
air distribution	The transportation of a specified air flow to or from the treated space or spaces, generally by means of ducts.
air filter	A device for removing particulate contaminants from an air stream.
air filter, activated carbon	A carbon pack filter.
air filter, after	A filter used to collect particulate matter downstream of another filter.
air filter, automatic roll	A time-controlled rotary screen, or panel viscous filter.
air filter, cleanable	A filter of which the medium can be washed or wiped.
air filter, coarse	An air filter used to remove the largest particles of dust.
air filter, dry	A filter with a processed foam plastic or brush type fabric.
air filter, electrostatic	An air filter that applies an electric charge to the dust particles in the airstream, and collects, precipitates or builds up the particles on plates of opposite charge.
air filter, fabric	A filter using a fabric medium panel construction with a filter medium of fabric.
air filter, graduated density	An automatic dry type of filter in which advancement of various grades of filter media is normally controlled by a pressure differential switch.
air filter, grease	A washable filter normally located within the hood over kitchen appliances.
air filter, high efficiency	A filter that can remove a high proportion of all particle sizes.
air filter, impingement	An all metal construction viscous filter with a high dust-loading capacity.
air filter, mechanical	A filter that depends on dynamical principles.
air filter, panel	An air filter in which the medium is constructed on one or more frames to facilitate withdrawal.
air filter, pre-	A filter used to remove coarse particles and some initial dust load from the air before it passes to other filters.
air filter, replaceable media	A non-cleanable filter in which the filter medium, when dirty, is discarded and replaced by a new one.
air filter, rotary viscous	A time-switch controlled rotary screen or rotary panel viscous type filter.
air filter, self-cleaning	A moving curtain dry or viscous impingement type of filter.
air filter, terminal	A filter located in ductwork close to the outlet grille from the same duct.
air filter, throw-away	A filter comprising one or more panels which, when used, are replaced by new ones.
air filter, viscous	An air filter comprising a number of wetted surfaces for collecting dust from the airstream.
air filter, wet	Air washers that act as air cleaning devices.
air filter blow-off	Collected dust inadvertently blown from a filter into the airstream.
air filter cell	An interchangeable frame containing a filtering material.

Term	Definition
air filter dust holding capacity	The mass of dust which a filter can retain at rated air flow during an increase in resistance from that under “clean” conditions to the resistance at some arbitrarily chosen value. It is usually twice the value of the pressure drop at clean conditions.
air filter efficiency	The measure of the ability of a filter to remove dust from the air.
air filter life	The duration before the efficiency of filtration falls to an unacceptable level.
air filter medium	The material forming the operative part of a mechanical filter.
air filter resistance	The drop in pressure across a filter at some specified condition of the filter itself.
air filter resistance, final	The drop in pressure across a filter at the end of a specified period and conditions of use.
air filter resistance, initial	The drop in pressure across a filter in the “unused” condition.
air filter test, blackness	An on-site optical test which uses normal airborne impurity instead of methylene blue dust.
air filter test, gravimetric	A test in which efficiency is defined as the ratio of the mass of dust retained on the filter to the mass of dust fed to it.
air filter test, methylene blue	A test using methylene blue dust in which the staining power of the dust before and after passage through the filter is determined from optical density measurements of samples taken in the determination of efficiency.
air filter test, optical	A test in which the relationship of change in optical density of the filter paper to volume of the sample is a measure of efficiency.
air filter test, sodium flame	A test based on the characteristic yellowing of a hydrogen flame by sodium chloride.
air flow pattern	The variation of air velocity and direction over a given cross section or in an enclosure.
air flow rate	The mass or volume of air moved in unit time.
air flow rate controller	That type of controller in which the measured variable is the rate of air flow.
air flow switch	<i>see</i> switch, air flow.
air heater battery	<i>see</i> battery, air heater.
air, intake	The air drawn into a system by mechanical means.
air lighting troffer	<i>see</i> lighting troffer, air.
air lock	The obstruction by air of the movement of a liquid in a system.
air-lock	An ancillary chamber giving access to an enclosure without changing the conditions in it and restricting leakage of air from or into the enclosure.
air movement	That flow element of a microclimate of an enclosure that relates to velocity and direction of air.
air pollution	The contamination of air by noxious gases or dust particles.
air space	A volume of air that may or may not be completely enclosed.
air temperature	<i>see</i> temperature, air

Term	Definition
air terminal device	A device located in an opening provided at the boundaries of the treated space in order to ensure a predetermined air movement within the space.
air transport factor	The ratio between the rate of sensible heat removal from a ventilated or air-conditioned space and the power input to the supply, return, recirculating and extract fan motor(s).
air treatment	A process by which one or more of the following characteristics of air are modified: a) temperature; b) humidity; c) cleanliness.
air vessel	An air-containing vessel fitted to the delivery side of a reciprocatory water pump to smooth out the pulsating discharge.
air washer	A device for intimately mixing water and air, the air leaving the device at a condition approaching saturation.
air washer, capillary cell	An air washer having a series of pads sprayed with water through which the air passes.
air washer, spinning disc	An air washer that utilizes a spinning disc to produce a fine spray of water through which the air passes.
air washer, spray	An air washer with one or more banks of nozzles spraying atomized water into or with the air stream.
air washer, saturation efficiency of	The proportion of water added to the air leaving the washer expressed as a percentage of the amount of water that could have been added if the air had left the washer in a fully saturated condition.
air-water system	<i>see</i> system, air-water.
all air system	<i>see</i> system, all air.
all water fan coil system	<i>see</i> system, all water fan coil.
altitude, solar	<i>see</i> solar altitude.
altitude gauge	<i>see</i> gauge, altitude.
amines, filming	Nitrogen-containing compounds that form a protective film on metal surfaces in closed water or steam systems.
amines, neutralizing	Nitrogen-containing compounds that reduce corrosion within water or steam systems by raising pH and neutralizing carbon dioxide.
analyzer, refrigerant	In an absorption refrigerating system a small fractionating column between the generator and the rectifier or condenser.
anchor, equipment	In a pipeline, a securing device to maintain a point fixed both in position and direction under the design condition of temperature and loading.
anchor, pipe	A form of pipe support that restrains movement.
anechoic	<i>see</i> non-reverberant (anechoic).
anemometer	A device used for measuring air or gas velocities.
angle of divergence	The undivided angle of the spread of a jet issuing from a grille.
angle screw down stop valve	<i>see</i> valve, screw down stop, angle.

Term	Definition
anodic protection	A system for passivating steel by making it the anode of a protective system.
anthracite	<i>see</i> coal, anthracite.
anti-vibration mounting	A resilient support to attenuate the transmission of vibration between machinery and the structure on which it is supported.
apparatus dew point	The point on a psychrometric chart where the straight line passing through the state points representing the air entering and the air leaving a cooling coil or air washer cuts the saturation line.
appliance, balanced flue	<i>see</i> balanced flue appliance.
appliance, domestic heating	<i>see</i> domestic heating appliance.
apportioning heat meter	<i>see</i> meter, heat apportioning.
articulated bellows	<i>see</i> bellows, articulated.
ash	The solid matter remaining after the incineration of organic material.
aspect ratio	The ratio of breadth to width of a rectangular duct.
assisted circulation boiler	<i>see</i> boiler, assisted circulation.
Assmann psychrometer	<i>see</i> psychrometer, Assmann.
atmospheric condenser	<i>see</i> condenser, atmospheric.
atomization	a) Reduction of liquid fuel to finely divided droplets preparatory to combustion. b) Reduction of water in an air washer into fine droplets to assist saturation of the air.
atomizing oil burner	<i>see</i> oil burner, atomizing.
atomizing pressure jet oil burner	<i>see</i> oil burner, atomizing pressure jet.
attenuator	A desuperheating device to permit control of the final superheated steam temperature.
attenuation, sound	<i>see</i> sound attenuation.
automatic air valve	<i>see</i> valve, automatic air.
automatic control valve	<i>see</i> valve, automatic control.
automatic roll filter	<i>see</i> air filter, automatic roll.
auxiliary switch	<i>see</i> switch, auxiliary.
averaging relay	<i>see</i> relay, averaging.
axial bellows	<i>see</i> bellows, axial.
axial flow fan	<i>see</i> fan, axial flow.
axial velocity	<i>see</i> velocity, axial.
azeotrope	A liquid phase of a two or more component solution that is in equilibrium with a vapour phase of identical composition.
azimuth, solar	<i>see</i> solar azimuth.
Bacharach number	A number on a scale that indicates the level of discoloration of a standard filter paper by carbon in flue gases drawn in under standard conditions.
back boiler	<i>see</i> boiler, back.
back pressure	<i>see</i> a) pressure, back

Term	Definition
	b) pressure, suction (back).
back pressure regulation valve	<i>see</i> valve, back pressure regulation.
background central heating	<i>see</i> heating, central, background.
background heating	<i>see</i> heating, background.
backward curve fan	<i>see</i> fan, backward curve.
baffle	a) A partition fitted in a fluid circulating system for the purpose of redirecting fluid flow. b) A refractory construction the function of which is to change the direction of flow of the products of combustion.
baffle plate	A partition fitted in a fluid circulating system for the purpose of redirecting fluid flow.
balance pipe	A low resistance pipe connecting a flow and return in a multipump system to prevent the main pump interfering with the branch flow.
balanced draught	<i>see</i> draught, balanced.
balanced flue appliance	A room-sealed appliance having the inlet for combustion air and the outlet for products of combustion in adjacent external positions and so disposed that wind effects are substantially balanced between them.
balanced flue boiler	<i>see</i> boiler, balanced flue.
balanced flue heater	<i>see</i> heater, balanced flue.
balancing of system	<i>see</i> system, balancing of.
balancing valve	<i>see</i> valve, balancing.
ball float valve	<i>see</i> valve, ball float.
ball joint	A joint comprising a partly spherical (or semi-spherical) element and a corresponding cavity permitting relative movement or change of alignment.
ball valve	<i>see</i> valve, ball.
barograph	A device that measures and records atmospheric pressure.
barometer	A device that measures atmospheric pressure.
baseboard heating	<i>see</i> heating, skirting.
battery, air cooler	A heat exchanging device for cooling the air which is passed through it.
battery, air heater	A heat exchanging device for heating the air which is passed through it.
Baudelot cooler	<i>see</i> cooler, Baudelot.
bellows, articulated	An assembly incorporating expansion bellows to accommodate lateral movement in a pipeline.
bellows, axial	An assembly incorporating expansion bellows to accommodate axial movement in a pipeline.
bellows, expansion	A flexible, corrugated, tubular element for transmitting or accommodating movement of a pipeline.
bellows seal	<i>see</i> seal, bellows.

Term	Definition
bend	A pipe or duct fitting which changes the direction of flow through an angle of 90° or other specified angle with a significant radius of turn.
bifurcated fan	<i>see</i> fan, bifurcated.
bituminous coal	<i>see</i> coal, bituminous.
black smoke	<i>see</i> smoke, black.
blackness test	<i>see</i> air filter test, blackness.
bleed(ing)	Releasing of unwanted air from a water system.
bleed off	Cooling water run to waste to prevent the build-up of undissolved solids.
bleed pipe (refrigerant)	a) In an absorption system (aqua-ammonia): a pipe through which water-ammonia solution is drawn from the evaporator and passed to the absorber. b) In a vapour compression system: a pipe through which oil-refrigerant solution is drawn from the evaporator parallel with the main flow.
blender	A device to mix fluids at different conditions.
block heating	<i>see</i> heating, block.
block storage heater	<i>see</i> heater, block storage.
block valve	<i>see</i> valve, block.
blow down	The release of water under pressure from the lowest part of a boiler to free it of sludge and reduce the dissolved solids content of the water.
blow down valve	<i>see</i> valve, blow down.
blow-off	<i>see</i> air filter blow-off.
blow through system	<i>see</i> system, blow through.
blower	A rotary air compressor for supplying a relatively large volume of air at low pressure.
boiler	A vessel in which heat is applied to water and, depending on the chosen working pressure of the system, is used either to produce a supply of hot water or to evaporate water to steam.
boiler, assisted circulation	A boiler in which natural circulation of water is assisted by mechanical means.
boiler, back	A boiler integral with a direct-fired solid fuel or gas fire.
boiler, balanced flue	A room-sealed boiler having the inlet for combustion air and the outlet for products of combustion in adjacent external positions and so disposed that wind effects are substantially balanced between them.
boiler, corner tube	A water-tube boiler having a box-shaped furnace that derives structural support from downcorner tubes of relatively large diameter at each corner.
boiler, domestic	A hot water boiler of suitable size and design for use in a dwelling.
boiler, dual fuel	A boiler that can be operated with two different fuels.

Term	Definition
boiler, economic	A horizontal cylindrical shell boiler with one or more furnace tubes from front to rear tube plate from which the gases pass to a combustion chamber. From the chamber the gases pass through a bank of small diameter smoke tubes either to the front of the boiler whence they are discharged (double pass), or to a second bank of smoke tubes through which the gases are returned from the front to the back of the boiler whence they are discharged (treble pass).
boiler, economic, dryback	An economic boiler having the combustion chamber attached to the boiler and not surrounded by water.
boiler, economic, semi-wetback	A treble pass economic boiler having an unlined combustion chamber surrounded by boiler water except at the end, which is sealed by a refractory-lined door.
boiler, economic, wetback	A treble pass economic boiler having an unlined combustion chamber surrounded by boiler water.
boiler, electrode	A boiler in which heat is produced by the passage of an electric current through the liquid to be heated.
boiler, forced circulation	A boiler within which the water is circulated mechanically.
boiler, gas	A boiler that burns gaseous fuel.
boiler, gravity feed	An independent solid fuel boiler in which the fuel travels by gravity from an integral fuel hopper to a static grate.
boiler, (central) heating	A boiler applied to a closed hot water circulating system from which water is not directly drawn off for domestic purposes.
boiler, high pressure hot water	A boiler in which pressure is increased in order that heat may be added and higher temperatures allowed without reaching boiling point.
boiler, hot water	A boiler in which water is heated to a temperature less than the boiling point at the working pressure.
boiler, h.w.s.	A boiler used for direct hot water supply.
boiler, independent	A freestanding closed domestic appliance designed solely for a water heating service. There are three types: a) Boilers that have fixed or shaking bottom grates and may be thermostatically controlled. b) Boilers that are gravity fed and thermostatically controlled, the ash normally being removed as clinker. c) Boilers that have integral underfeed stokers and are thermostatically controlled.
boiler, natural circulation	A boiler within which circulation of the water takes place because of changes in density.
boiler, oil-fired	A boiler that burns liquid fuel.
boiler, packaged	A boiler, together with its ancillary equipment, fabricated and delivered in a minimum number of units, designed to expedite installation and commissioning.
boiler, sectional	A boiler built up of component sections, usually cast iron, each having individual integral waterways. The sections are generally produced in several standardized size ranges and the rated output of the boiler is determined by the number of sections incorporated.

Term	Definition
boiler, shell type	A boiler in which water is contained in a cylindrical shell, heat being transmitted to the water from furnace or smoke tubes or through the shell.
boiler, solid fuel	A boiler that burns solid fuel.
boiler, standby	A boiler in a boiler plant capable of satisfying the demand peak when another boiler is inoperative.
boiler, steam	A boiler in which heat is applied to evaporate water.
boiler, summer	A boiler that is selected to match the demand during summer months.
boiler, vertical	A shell type boiler having the axis of the cylinder vertical.
boiler, vertical, cross-tube	A vertical shell boiler in which a single vertical uptake leads the products of combustion from the furnace through the water space and steam space of the boiler and in which the furnace is traversed by one or more large diameter water tubes.
boiler, waste heat	A boiler that utilizes waste heat from gases supplied from an external source.
boiler, water-tube	A boiler in which water is contained inside tubes alone or inside tubes, drums and headers, some or all of which are heated by the products of combustion.
boiler capacity	<i>see</i> boiler power.
boiler efficiency	The ratio of the useful energy output from a boiler to the energy input to the boiler.
boiler flow temperature	<i>see</i> temperature, boiler flow.
boiler house	A building housing boiler plant and associated equipment.
boiler plant	One or more boilers and associated equipment.
boiler power	The maximum useful energy obtained from a boiler operating under normal conditions.
boiler rating	Boiler power as designated by the manufacturer.
boiler room	An area within a building housing boiler plant.
bourdon gauge	<i>see</i> gauge, bourdon.
boost	<i>see</i> early morning boost.
booster	A supplementary pump or compressor to assist the circulation of fluid, especially the low stage compressor in a compound compression refrigerating system.
booster station	A sub-station containing equipment for supplementing the main plant by increasing the circulating temperature or pressure.
boundary layer	A thin layer of fluid adjacent to a conduit wall. The velocity is zero at the wall, and at the outer limit of the layer the velocity is that of the free stream flowing through the conduit.
bracket	A projecting support.
brine	An aqueous solution of a salt used as a cooling medium or as a defrosting medium.
brine cooler	<i>see</i> cooler, brine.
bucket (steam) trap	<i>see</i> steam trap, bucket.

Term	Definition
building services	The energy-consuming systems in a building and all other engineering elements of the built environment excluding its structure.
bund wall	A wall surrounding one or more oil storage tanks to retain the contents in the event of tank failure.
bunker	A storage room or container for solid or liquid fuel.
burner	A device for admitting fuel and air to a furnace in controlled proportion for combustion.
burner, oil	<i>see</i> oil burner.
bursting disc	A safety device that will rupture at a predetermined pressure.
bush	A pipe fitting to reduce the effective size of a female fitting or increase the effective size of a male fitting.
butane	<i>see</i> gas, liquefied petroleum.
butterfly damper	<i>see</i> damper, butterfly.
butterfly valve	<i>see</i> valve, butterfly.
button, control	A push button to operate a switch or release mechanism.
button, control, emergency	A control having a prominent head for the specific purpose of initiating predetermined safety measures.
button, reset	A push button to reset a circuit to normal after an abnormal condition.
button, start	A push button that completes a circuit and either directly or indirectly connects a power source to start a machine or process.
button, stop	A push button that interrupts a circuit and either directly or indirectly disconnects a power source to stop a machine or process.
button, stop and reset	A push button that combines the duties of “stop” and “reset” functions.
bypass	A pipe or duct, usually controlled by a valve or damper, for conveying fluid around an element of a system.
bypass valve	<i>see</i> valve, bypass.
cabinet, refrigerator	A thermally insulated enclosure of reach-in dimensions. That part of a refrigerator intended for the storage of perishables.
calibration	All the operations for the purpose of determining the values of the errors of a measuring instrument (and, if necessary, to determine other metrological properties).
calorific value	The number of heat units obtained by the complete combustion of unit mass of fuel.
calorific value, gross	Calorific value where the water produced by the combustion of the fuel is assumed to be completely condensed and its latent heat released.
calorific value, net	Calorific value where the water produced by the combustion of the fuel is assumed to remain as a vapour.
calorifier	An apparatus used for the transfer of heat to water in a vessel by indirect means, the source of heat being contained within a pipe or coil (annulus) immersed in the water.

Term	Definition
calorifier, heating	A calorifier used primarily for space heating, usually in a closed circuit.
calorifier, hot water	A calorifier used in open-circuit domestic hot water systems.
calorifier, non-storage	A calorifier with no storage capacity.
calorifier, storage	A calorifier incorporating a capacity from which hot water can be drawn off.
calorimeter room	An enclosure in which controlled air conditions of pressure, temperature and humidity, etc., can be used in the testing of heating, ventilating and refrigerating equipment.
capacity reducer	In a compressor: a device by which the capacity of the compressor can be adjusted, such as clearance pocket, moveable cylinder head, suction valve lifter, or suction bypass.
capillary cell air washer	<i>see</i> air washer, capillary cell.
capillary tube	A tube having a small diameter bore, e.g. connecting the temperature sensing phial with the bellows or the diaphragm of a control device.
capillary tube restrictor	A device for controlling refrigerant flow rate. A length of small bore tube employed to feed liquid refrigerant to an evaporator.
capture velocity	<i>see</i> velocity, capture.
carcass	The shell of a building.
carry-over	a) Condensation from the fins of a cooler battery, blown forward by the velocity of the air passing through the battery. b) Excess moisture in the air leaving an air washer as a result of inefficient elimination. c) Water droplets and impurities carried by steam from a boiler to a superheater.
cascade heat exchanger	<i>see</i> heat exchanger, cascade.
cascade system	<i>see</i> system, cascade.
casing drain	Pipe allowing drainage of moisture from equipment.
cathodic protection	A means of protecting metal against corrosion by water by control of the electro-chemical potential, using a sacrificial metal anode suspended in the water.
cavitation	A phenomenon that may occur at points of low pressure within a liquid (such as at the suction side of a pump) whereby a cavity is formed, separated from the rest of the liquid by a surface of discontinuity, and filled with a non-homogeneous liquid/vapour mixture.
cell, air filter	<i>see</i> air filter cell.
cellular dust collector	<i>see</i> dust collector, cellular or multi-cell.
ceiling (air) diffuser	<i>see</i> air diffuser, ceiling.
ceiling effect	The tendency for air discharged from an outlet to stay close to the ceiling thus increasing the throw of the outlet.
central heating	<i>see</i> heating, central.
central heating boiler	<i>see</i> boiler, (central) heating.
central station	The concept of centralized plant as opposed to local units.
centrifugal compressor	<i>see</i> compressor, centrifugal.

Term	Definition
centrifugal fan	<i>see</i> fan, centrifugal.
centrifugal pump	<i>see</i> pump, centrifugal.
centrifugal separator	<i>see</i> separator, centrifugal.
chain grate stoker	<i>see</i> stoker, chain grate.
change pole controller	<i>see</i> controller, change pole.
change pole switch	<i>see</i> switch, change pole.
characteristics	Key values that designate the performance of plant or equipment under different operating conditions.
characteristic curve	A graphical representation of equipment characteristics.
charge	The amount of fluid, e.g. refrigerant or lubricating oil, in a system.
check valve	<i>see</i> valve, check.
chemical energy	<i>see</i> energy, chemical.
chill	A condition similar to cold but of a lesser intensity.
chill storage	The process of preserving perishable materials by refrigeration at a temperature slightly higher than the freezing point of water.
chiller, water	Any type of unit in which water is cooled by refrigerant.
chiller, water, packaged	A self-contained unit incorporating equipment for lowering the temperature of flowing water.
chimney	Any structure or any part of the structure of a building, other than a flue pipe, that forms part of a flue.
chimney effect	The tendency of air or gas in a duct or other vertical passage to rise because of its lower density compared with that of the surrounding air or gas.
chlorination	A process in water that treatment consists of the addition of chlorine.
circuit^a	The pipe or duct configurations in which fluid flows.
circuit, primary	a) A closed circuit between a boiler and an indirect calorifier. b) In a cascade heat exchange process, the circuit associated with the principal heat exchanger. c) In any series of circuits interconnected by heat exchangers, that circuit connected to the principal energy transforming device.
circuit, secondary	a) The draw-off circuit from a hot water supply calorifier. b) Any circuit of pipework deriving its energy from a primary circuit.
circulating pressure	<i>see</i> pressure, circulating.
circulation, assisted	The enhancement of natural circulation of fluid by mechanical means.
circulation, forced	<i>see</i> forced circulation.
circulation, gravity	<i>see</i> gravity circulation.
circulation, natural	<i>see</i> natural circulation.

^a Other circuits such as electrical circuits are not referred to here.

Term	Definition
circulation pump	<i>see</i> pump, circulation.
cistern	A rigid open top enclosure for the containment of liquids.
cladding	A protective skin applied over damage-prone material.
clarification	A process in water treatment for the removal of turbidity.
clean room	A room in which a high level of freedom from contamination is maintained.
cleanable air filter	<i>see</i> air filter, cleanable.
cleaning door	A means of access to parts of equipment where dust may collect such as the combustion air passes of a boiler.
clearance fraction	In a positive displacement compressor, the clearance volume divided by the swept volume.
clearance volume	In a positive displacement compressor that volume not displaced by the piston or rotor at the end of the delivery stroke.
climatic test chamber	An enclosure within which the micro-climate can be controlled and varied to simulate the wide range of weather conditions that can be met in different parts of the world.
clinker	The fused material formed as a residue in high temperature processes.
closed system	<i>see</i> system closed.
coagulation	A process in water treatment to facilitate settling and flocculation of suspended matter.
coal	A combustible sedimentary rock, formed from variously altered plant remains consolidated under superimposed strata.
coal, anthracite	Coal of the highest rank with a semi-metallic lustre.
coal, bituminous	A general term descriptive of coal other than anthracite and low-volatile coal on the one hand and lignite on the other.
coal, dry steam	Coal of rank just below anthracite.
coal tar fuel (CTF)	The distillation product of high or low temperature carbonization of coal.
coarse air filter	<i>see</i> air filter, coarse.
cock	A shut-off device that can be operated to move its port or ports relative to the body ports to control the flow of fluid.
cock, air	A cock or valve for releasing air from a liquid system.
cock, bib	Tapered plug or gland packed cock.
cock, compound gland	A cock in which the plug is retained in the body by the cover, the stuffing box being formed in the cover.
cock, drain	<i>see</i> valve, drain.
cock, draw-off	<i>see</i> valve, draw-off.
cock, gland	A taper-seated cock in which the plug is retained in the body by means of a gland and gland packing.
cock, plug	A taper-seated cock in which the plug is retained in the body by means of a washer, screw and nut at the smaller end of the plug.
cock, plug, lubricated	<i>see</i> valve, plug, lubricated.

Term	Definition
cock, straight way	A cock in which the orifice of the plug is in line with the inlet and outlet connections and whose cross-sectional area is not less than 2/3 the area of the relevant inlet pipe.
cock, three-way	A cock of which the plug can be turned into one of three positions thereby allowing flow to be shut off, or discharged through one or other of two outlets.
coefficient of performance	Ratio of refrigerating capacity to the work supplied, each expressed in the same units.
coil	A heat-exchanging battery made of tubing formed into a compact shape by spiral or serpentine configuration.
coil, cooling	A heat exchanger of coil form intended to reduce the temperature of fluid passing in or around or through it.
coil, direct expansion	A cooling coil in which liquid refrigerant evaporates causing a cooling effect.
coil, dry expansion	A direct expansion coil in which the refrigerant is totally evaporated in a single pass.
coil, heating	A heat exchanger of coil form intended to raise the temperature of fluid passing in or around or through it.
coil, sprayed	A cooling coil that is sprayed with water.
coils, run-around	An arrangement of two air-to-water heat exchangers, with inter-connecting pipe work and a circulating pump, which reclaims heat from the exhaust air and transfers it to the incoming fresh air of a ventilation system.
coke	The coherent residue left when coal is carbonized.
coking stoker	<i>see</i> stoker, coking.
cold chain	A chain of sequential facilities whereby packaged frozen foods are transported, stored and distributed under refrigeration, ensuring that the food is maintained within prescribed temperature limits.
cold rated input	A manufacturer's recommended input to a gas appliance when the appliance is cold.
cold storage	The process of preserving perishables by refrigeration.
cold store	A thermally insulated building comprising one or more chambers, artificially cooled, holding perishables at a predetermined temperature.
colorimetric test	A test based on developing a colour in a sample of water proportional to the amount of substance present; this colour is then compared with a standard colour for a known concentration of the substance.
column radiator	<i>see</i> radiator, column.
combination grate	A built-in or self-setting appliance combining the functions of living-room fireplace, cooker and boiler, the oven being in the same room as the fire. This term is usually prefixed by "side" or "oven-over-fire" to indicate the position of the oven.
combustion air heater	A device for preheating air supplied for combustion by utilizing the hot combustion products.

Term	Definition
combustion chamber	A confined space in which the combustion of any unburnt products leaving a furnace may be completed or (especially with oil) a high temperature zone immediately down-stream of the burner in which combustion is generally completed.
combustion equipment	The units necessary to provide heat to a boiler.
comfort	Conscious well-being.
comfort air-conditioning	<i>see</i> air-conditioning, comfort.
comfort condition	An environmental condition in a space such that the majority of the occupants should, on statistical evidence, be comfortable.
comfort index	A numerical scale related to human comfort computed from measurements of: dry bulb temperature; wet bulb temperature; mean radiant temperature; air movement.
comfort zone	An area, usually presented graphically, expressing some or all of the parameters of comfort and defining the limits within which the majority of occupants will be comfortable.
commissioning	The advancement of an installation from the stage of static completion to full working order to specified requirements.
compensator	A control system in which the output is varied as a function of one or more input signals.
complete air-conditioning	<i>see</i> air-conditioning, complete.
compound compression	<i>see</i> compression, compound.
compound gland cock	<i>see</i> cock, compound gland.
compressibility factor	A component Z of the gas law deviation coefficient K , used in the calculation of the density of gases, in which the departure of a real from an ideal gas is significant.
compression, compound	Compression in several stages. In two stage compression the discharge of one compressor is connected with the suction of another, or compression by a single compressor having separate cylinders for each stage.
compression, single stage	Compression in one stage or step.
compressor	A mechanically operated component for compressing a gas into a smaller volume at a higher pressure.
compressor (air)	A machine to deliver air at high pressures.
compressor (refrigerant)	A mechanically operated component for compressing a specific refrigerant vapour drawing from an evaporating system and discharging to a condensing system.
compressor, centrifugal	A non-positive displacement compressor that depends on centrifugal effect for increasing the pressure.
compressor, hermetic	A compressor in which the housing is permanently sealed, e.g. by welding or brazing, and that is not provided with means of access for servicing internal parts in the field.
compressor, reciprocating	A positive displacement compressor having a piston or pistons moving in a cylinder in a straight line but alternating in direction.

Term	Definition
compressor, rotary	A positive displacement compressor in which pressure is increased by rotating a displacement member in a cylinder.
compressor, screw	A positive displacement compressor in which pressure is increased by contra-rotating intermeshing screw form members.
compressor, semi-hermetic	A compressor in which the housing is sealed by one or more joints and is provided with means of access for servicing internal parts in the field.
compressor, turbo	<i>see</i> compressor, centrifugal.
compressor unit	A unit consisting of one or more power driven compressors and ancillary equipment, assembled and mounted on a common base.
condensate	The liquid obtained as a result of removing from a vapour the latent heat of evaporation it may contain; especially water condensed from steam.
condensate collector	Fitment in a steam line for removing condensed steam for recovery or discharge.
condensation	The precipitation of liquid from its vapour resulting from the lowering of temperature at constant pressure; especially the deposition of water from warm moist air onto a relatively cold surface.
condensation, interstitial	<i>see</i> interstitial condensation.
condenser	A heat exchanger in the form of a vessel or arrangement of tubing in which vapour is liquefied by the removal of heat.
condenser, air cooled	A condenser in which heat is surrendered directly to the surrounding atmosphere.
condenser, atmospheric	A condenser in which heat is surrendered directly to water flowing in a film over the external surface of horizontal tubes with natural circulation of air.
condenser, double bundle	A shell and tube condenser with separate tube circuits for separate secondary media.
condenser, double pipe	A condenser formed by two concentric pipes: coolant flows through the inner pipe and vapour through the annulus in contra flow.
condenser, evaporative	An atmospheric condenser in which air is positively circulated over the heat exchange surfaces by mechanical means.
condenser, shell-and-tube	A vessel containing a condensing surface in the form of plain or finned tubes.
condenser, water cooled	A condenser in which heat is surrendered directly to water.
condensing unit	A unit consisting of one or more power driven compressors, condensers, liquid receiver(s) (when required) and ancillary equipment assembled and mounted on a common base.
conductance, surface	<i>see</i> surface conductance.
conductance, thermal	<i>see</i> thermal conductance.
conduction	The transfer of heat from one part of a body to another part of the same body, or from one body to another in physical contact with it, without appreciable displacement of the particles of the body.
conductivity, thermal	<i>see</i> thermal conductivity.

Term	Definition
conduit core	The air path into an air terminal device.
connected load	<i>see</i> load, connected.
conservator	A refrigerator, usually of cabinet proportions and having top access, primarily intended for the storage of pre-frozen commodities.
constant volume system	<i>see</i> system, constant volume.
contactor	A mechanical device for frequently making and breaking the load of an electrical circuit.
container (l.p. gas)	A pressure vessel for the storage of liquefied petroleum gas.
continuous heating	<i>see</i> heating, continuous.
control	To exert a restraining, governing or directing influence.
control, accelerated	A variation of two-position control to reduce the effective operating differential in room thermostats by a heating element.
control, derivative or rate action control	A control action in which the output signal is proportional to the rate of change of its input signal.
control, floating	A control action that moves the controlled device towards its maximum or minimum position with a neutral zone within which the controlled device may stop at any position.
control, integral	A control action in which the output signal changes at a rate proportional to its input signal.
control, optimum start	A control system applied to an intermittently operated heating plant in which the time of starting the plant is an automatically controlled variable.
control, proportional	The control action producing a controller output proportional to the magnitude of any deviation from the desired value of a measured variable condition.
control, sequence (or step control)	A controlled system in which the controller provides a sequence of predetermined actions.
control, slave	A control system in which one or more secondary controlled devices are made to repeat the movement and position of a master control device.
control, sound	<i>see</i> sound control.
control, two-position (or on-off control)	A central system that operates at predetermined values of deviation and can position the controlled device only in either a maximum or minimum position.
control, unison	A control system in which two or more controlled devices react simultaneously to the impulses received from one controller.
control, vibration	<i>see</i> vibration control.
control action	The kind of correction a controller makes for a deviation.
control button	<i>see</i> button, control.
control differential	The difference between the values of the controlled condition at which a controller using a two-position control action operates from one position to the other.
control point	The actual value of a controlled condition. (<i>See</i> desired value and set point.)

Term	Definition
control system	An arrangement of elements interconnected and interacting in such a way as to maintain or effect in a prescribed manner some specified condition.
controlled atmosphere store	A refrigerated storage room in which the composition of the atmosphere is modified.
controlled atmosphere store, ventilated	A controlled atmosphere store in which the carbon dioxide level only is controlled by ventilation.
controlled condition (or controlled variable)	The condition of a process which is the direct purpose of the control system to control.
controlled device	A device which reacts to a impulse received from a controller and regulates energy or fluid flow.
controlled temperature	<i>see</i> temperature, controlled.
controlled variable	<i>see</i> controlled condition.
controller	A device that receives and measures a variable condition and produces a suitable action or impulse for transmission to a controlled device.
controller, change pole	A controller designed to start a change pole motor at any of its various speeds and to change speed without interrupting the supply elsewhere.
controller, master	A controller that derives the energy for operation from the process it is controlling is subservient.
controller, programmed	A controller capable of providing a sequence of predetermined actions or impulses within a control system as a function of either time or some other variable.
controller, self-acting	A controller that derives the energy for operating from the process it is controlling.
controller, three term	A controller with proportional, integral and derivative action.
controller, two term	A controller with proportional action and either integral or derivative action.
convection	The transfer of heat from one point to another within a fluid by the mixing of one portion of fluid with another.
convection, forced	<i>see</i> forced convection.
convection heater	<i>see</i> convector.
convector	A unit for space heating by warm air obtained by way of a primary heating medium.
convector, air-conditioning	A terminal unit for space cooling using thermal forces.
convector, fan	A convector in which warmed air is projected into the heated space by a fan.
convector, natural	A convector in which warmed air is projected into the heated space by thermal forces.
convector heater	<i>see</i> heater, convection.
cooler	A heat exchanger in which the primary purpose is to lower the temperature of the warmer fluid.
cooler, after-	<i>see</i> after-cooler.
cooler, air	A cooler intended to reduce the temperature of air passed through it.

Term	Definition
cooler, Baudelot	A liquid cooler in which heat is removed from the liquid which flows in film form over the external surface of horizontal tubes through which refrigerant is circulated.
cooler, brine	A cooler in which brine and a refrigerant are subject to thermal exchange.
cooler, water	Any type of unit in which water is cooled by refrigeration.
cooler battery, air	<i>see</i> battery, air cooler.
cooling, district	The distribution of a cooling medium from a central plant or plants to a number of different users.
cooling, evaporative	<i>see</i> evaporative cooling.
cooling, sensible	<i>see</i> sensible cooling.
cooling, spot	Cooling of a particular area within a room or system.
cooling, thermo-electric	<i>see</i> thermo-electric cooling.
cooling coil	<i>see</i> coil, cooling.
cooling curve	A curve showing decrease of temperature with time.
cooling grid	A heat exchanger comprising piping or tubing formed into a number of parallel or near parallel passes usually lying in the same plane.
cooling load	<i>see</i> load, cooling.
cooling power	The maximum rate of heat removal from a cooling plant operating under normal conditions.
cooling tower	A device for lowering the temperature of water by evaporative cooling in which the water is showered into a space through which atmospheric air circulates.
corner firing	An arrangement of burners by which the flame mass is given rotary motion about a vertical axis towards the furnace exit.
corner tube boiler	<i>see</i> boiler, corner tube.
corrected effective temperature	<i>see</i> temperature, corrected effective.
cost-in-use	Operating costs.
counter flow heat exchanger	<i>see</i> heat exchanger, counter flow.
cowl	A cover, frequently louvered and either fixed or revolving, fitted to the top of a chimney to prevent downdraught.
crackage	Total area of gaps around doors and windows through which ventilating air passes.
critical pressure	The pressure above which the liquid and vapour phases of a substance cannot exist together in equilibrium.
critical temperature	The temperature above which the liquid and vapour phases of a substance cannot exist together in equilibrium.
cross flow fan	<i>see</i> fan, cross flow.
cross flow heat exchanger	<i>see</i> heat exchanger, cross flow.
cross-tube boiler	<i>see</i> boiler, vertical, cross-tube.
cross ventilation	Ventilation provided by circulation of air from one side of a room to the other.
crown valve	<i>see</i> valve, crown.
cryohydrate	A frozen eutectic aqueous solution.

Term	Definition
cut-off	The point in an engine cycle at which steam supply to the cylinder is stopped.
cyclone dust collector	<i>see</i> dust collector, cyclone.
cyclone furnace	A cylindrical water-cooled furnace into which pulverized or finely crushed fuel and air are introduced in such a way that high intensity combustion takes place, a substantial part of the ash being discharged in a molten state.
cylinder (hot water)	Closed vessel in which domestic hot water is stored.
cylinder, direct	Cylinder in which the stored water circulated directly to and from the boiler.
cylinder, indirect	Cylinder with an internal heat exchanger which is connected to a boiler.
daily service tank	Small vessel within a working room associated with short term supply of fuel.
damper	A blade or set of blades that can be moved within, or slid into, a duct in order to control fluid flow.
damper, butterfly	a) A damper consisting of a plate turning on a diametral axis inside a duct. b) A pair of flaps hinged to a common diametral spindle and permitting flow in one direction only.
damper, face and bypass	An assembly of adjustable baffles arranged in such a way that the face of a coil or battery can be blanked off partially or fully, and some, or all, of the air blown towards it can be diverted round the battery or coil according to the position of the baffles.
damper, fire	A specially constructed damper that shuts off a duct to prevent the passage of products of conflagration.
damper, hit and miss	A damper comprising two plates, one fixed and the other able to slide over it, each having identical orifices in the form of parallel slots so that the proportion of each slot open to fluid flow may be varied by operation of the sliding plate.
damper, iris	A damper having a number of sectorized blades opening and closing to produce an orifice concentric with the axis of the duct.
damper, manual	A damper adjusted by hand, i.e. without the use of a power cylinder, often single leaf.
damper, multiple leaf	A number of inter-connected rectangular blades mounted on spindles that are supported in outer bearings.
damper, opposed blade	A multileaf damper in which adjacent blades rotate in opposite directions.
damper, single leaf	A single blade pivoted either at the centre or at one end.
damper, slide	A single rectangular blade, part of which is moved into the duct by a required amount and mounted perpendicularly to the air flow.
damper, splitter	A single blade mounted in a duct with the object of dividing a flow into two separate streams often in a required proportion.
damping	The diminution of the amplitude of an oscillation.
dark smoke	<i>see</i> smoke, dark.

Term	Definition
deadleg	A length of pipe not forming part of a circulation system that has a discharge outlet at the end remote from its connection to the pipework system.
de-aeration	a) A process in water treatment for the removal of air. b) Natural removal of dissolved gases from water as it is heated.
decibel	A unit for expressing the ratio of two values of acoustic power, equal to ten times the common logarithm of the ratio.
declared efficiency	<i>see</i> efficiency, declared.
defrosting	The removal of frost or ice from the surface of a cooling element.
defrosting, hot gas	<i>see</i> hot gas defrosting.
degree day	The number of degrees of temperature difference on any one day between a given base temperature and the mean day outside temperature.
dehumidification	The reduction of the amount of water vapour contained in a space or an air stream.
dehumidifier	A device designed to take up moisture from an air stream passed through or round it.
dehydrator	<i>see</i> drier (dehydrator).
de-mineralization	A process in water treatment for the removal of minerals using ion exchange.
demand	The total simultaneous outputs required from a system at its points of use.
demand pattern	The nature of the changes in demand with time.
demand peak (demand, maximum simultaneous)	The maximum value of demand during normal operation and use.
demand position	Demand at a particular time.
density, standard	The density at defined "standard" reference conditions used in air and gas flow calculations.
deodorization	The ventilation or filtration processes by which the components of a volume of air that are responsible for odours are removed.
derivative control	<i>see</i> control, derivative (or rate action control).
desiccant	A substance with high hygroscopic property.
design	A graphical representation of a system giving measurements and quantities required for a complete description.
design conditions	Those measurements and quantities selected as the basis for the design of a system.
design criteria	The optimum values, qualities and requirements of components specific to a particular design.
design heat gain	Heat gain to a building, estimated from considerations of the structure, the intended working temperatures, ventilation rates, occupancy and other sources.
design heat loss	Heat loss from a building, estimated from considerations of the structure, and the intended working temperature and ventilation rates.
desired value	The specified value of the controlled condition.
de-superheater	A heat exchanger for removing all or part of the superheat.

Term	Definition
detector (sensor)	The part of a measuring device that provides the initial response to changes in the measured variable.
deviation	The difference between the desired value and the actual value (control point) of the controlled condition.
dewpoint	<i>see</i> temperature, dewpoint.
dewpoint, acid	<i>see</i> acid dewpoint.
dewpoint, apparatus	<i>see</i> apparatus dewpoint.
dewpoint temperature	<i>see</i> temperature, dewpoint.
de-zincification	The loss of zinc from an alloy in acidic water or in alkaline water of high chloride content.
diaphragm valve	<i>see</i> valve, diaphragm.
differential pressure	The difference between pressures measured at two points or levels in a fluid.
differential pressure controller	An instrument capable of maintaining a desired pressure difference between two points in a system irrespective of the load on the system.
differential pressure gauge	<i>see</i> gauge, differential pressure.
diffuse solar radiation	<i>see</i> solar radiation, diffuse (indirect).
diffuser	a) The duct or space in which a fluid is decelerated with a rise in pressure. b) <i>See</i> air diffuser.
diffusion	<i>see</i> air diffusion.
diffusivity, thermal	<i>see</i> thermal diffusivity.
dipstick	<i>see</i> liquid level indicator, dipstick.
direct cylinder	<i>see</i> cylinder, direct.
direct expansion coil	<i>see</i> coil, direct expansion.
direct expansion refrigerating system	<i>see</i> refrigerating system, direct expansion.
direct fanned warm air heating unit	<i>see</i> heating unit, fan-assisted warm air, direct.
direct field	That part of the sound field of a source wherein the effects of the boundaries of the medium can be neglected.
direct fired heater	A heat generator where the heat from combustion is emitted directly to the medium to be heated.
direct hot water supply	<i>see</i> hot water supply, direct.
direct solar radiation	<i>see</i> solar radiation, direct.
directional fixed grille	<i>see</i> grille, fixed, directional.
directivity	The extent to which a directional source or receiver concentrates its radiation or response in specified directions.
directivity factor	a) Of a sound source, at a specified frequency. The ratio of the intensity of the radiated sound, at any remote point on a reference axis, to the average for all directions in space of the intensity of the sound at the same distance from the effective centre of the source. NOTE The point of observation must be sufficiently remote for the measurement of directivity factor to be independent of distance.