

Information Note:

The mandate of ISO/TC 23/SC 18 is to develop and maintain International Standards for irrigation and drainage equipment under the auspices of the International Standards Organization. In carrying out this mandate, ISO/TC 23/SC 18 defines terms used in its various standards for irrigation equipment. These definitions are developed primarily for internal use by ISO/TC 23/SC 18 to assist project leaders in developing new International Standards for irrigation equipment and for review of previously published International Standards.

Notwithstanding the primary purpose of these definitions, ISO/TC 23/SC 18 is willing to share the results of this work with other agencies. Accordingly, the compendium of definitions which follow has been developed by ISO/TC23/SC 18 primarily to respond to requests from other agencies for its definitions.

The development of these definitions is an ongoing process and so the definitions change from time to time, as improvements are introduced. ISO/TC23/SC 18 cautions that the compendium reflects the state of development of the definitions as of a specific date (in the present case, 12 September 2007).

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They are presented in the following format, sorted by alphabetical order of Terms:

Term Defined (*device or machine related to the standard where it appears*) and the ISO/TC23/SC18 Approved Wording of 2006

absorption (*filters classification*) method of filtration which depends on gravity and which employs gravel partitions between reservoir basins to intercept and remove larger clogging materials from water.

accuracy (*direct-acting pressure-regulating valve*) deviation of the outlet pressure from the pressure setting or from the setting declared by the manufacturer

activating chamber (*hydraulically operated valve*) space in the operating mechanism, on one or both sides of the piston or diaphragm, within which water pressure is applied to open or close a hydraulically operated valve.

activating valve (*irrigation control head*) manually operated valve, hydraulically operated valve, volumetric valve or any other type of valve which is used to initiate and shut off the flow of water through an irrigation control head.

additive solution (*venturi fertilizer injectors*) water containing liquid additives or dissolved solid additives.

adjustable pressure regulator (*direct-acting*

pressure-regulating valve) pressure regulator in which the pressure setting can be adjusted externally without requiring replacement of parts in the regulation assembly.

adjustable stop (*check valve*) device used for adjusting the range of movement of the operating mechanism up to full opening or closing of a check valve.

adjustable stop (*direct-acting pressure-regulating valve*) device used for adjusting the range of movement of the operating mechanism up to full opening or closing of a pressure regulator.

adjustable stop (*hydraulically operated valve*) device used for adjusting the range of movement of the operating mechanism up to full opening or closing of a hydraulically operated valve.

air intake function/vacuum relief function (*air valves*) to admit an air volume into a water pipeline

air vent/vacuum relief valve (*chemigation valve*) valve which opens automatically to allow air from the atmosphere to enter a pipeline

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- during drainage of the pipeline and/or venting of air from the pipeline to the atmosphere during filling.
- air venting function/continuous acting air vent function** (*air valves*) to purge entrapped air from a water pipeline in service under pressure
- air-release function** (*air valves*) to discharge an air volume from a water pipeline
- air-release valve** (*float-type air-release valve*) valve which opens automatically to allow air from the atmosphere to enter a pipeline during drainage of the pipeline and/or venting of air from the pipeline to the atmosphere during filling or during normal operation of the pipeline under pressure, also called vacuum relief valve.
- alclad tube** (*aluminium irrigation tubes*) tube having on both its inside and outside surfaces a metallurgically bonded coating of aluminium or aluminium alloy which is anodic to the core material and which protects it from corrosion, also called clad tube.
- allowable operating pressure** (*valves*) maximum hydrostatic pressure that a component is capable of withstanding continuously in service
- allowable site test pressure** (*valves*) maximum hydrostatic pressure that a newly installed component is capable of withstanding for a relatively short duration, in order to ensure integrity and tightness of the pipeline
- ambient temperature** (*sprayers*) temperature of the air surrounding a sprayer.
- ambient temperature** (*sprinklers*) temperature of the air surrounding a sprinkler.
- ampacity** (*electrically driven or controlled irrigation system*) allowable current-carrying capacity of a conductor determined by the conductor diameter and the insulation on the conductor, as declared by the manufacturer for the purpose of preventing overheating and damage to insulation or equipment.
- angle pattern check valve** (*check valve*) check valve the inlet and the outlet axes of which are perpendicular to each other, used for installation at a junction between vertical and horizontal connecting devices or pipelines.
- angle valve** (*manually operated small plastics valve*) valve with a generally cylindrical body for which the body ends are in planes perpendicular to each other and having a stem the axis of which is colinear with the axis passing through the center of one of the body ends.
- anti-drain valve** (*sprinklers*) device designed to stop the flow under a preset pressure value
- aperture size** (*automatic self-cleaning strainer-type filter*) Dimension, usually expressed in microns, of the openings in a filter element, such as the diameter of a round opening or the side of a square opening.
- applied depth** (*centre-pivot and moving lateral irrigation machines*) adjusted volume of water caught in each collector in an array of collectors plus the average amount of water that evaporates while the water is in the collector, divided by the area of the collector opening.
- area of coverage** (*sprinklers*) area within the wetted boundary from a sprinkler operated within the range of effective application rates specified in the manufacturer's literature.
- atmospheric vacuum breaker** (*safety devices for chemical injection systems*) assembly containing a float check, a check seat and an air inlet port which, during flow of water through the body of the assembly, causes the float check to close the air inlet port, thus preventing escape of water from the assembly, and which, when the flow of water is stopped by some external device, causes the float check to fall, thus forming a check valve against back-siphonage and, at the same time, opening the air inlet port to allow air to enter to satisfy the vacuum.
- automatic flushing filter** (*filters classification*) filter in which both the initiation and the termination of discrete flushing cycles are activated automatically.
- automatic self-cleaning strainer-type filter** (*automatic self-cleaning strainer-type filter*) filter with a flushing capability automatically activated by pressure differential, by duration of infiltration, by volume of water filtered, by some other physical quantity or by any combination of these.
- automatic self-cleaning strainer-type filter** (*irrigation control head*) filter with a flushing capability automatically activated by pressure differential, by duration of infiltration, by volume of water filtered, by some other physical quantity or by any combination of these.
- automation** (*irrigation control head*) methods and means of activating or terminating operation of an irrigation system or of changing its operating conditions according to a preconceived plan and without manual intervention.
- autonomous control valve** (*control valves*) a valve having integral capability to control the function using energy from the conveyed water by adjusting the position of the obturator
- auxiliary conductor** (*electrically driven or controlled irrigation machine*) conductor that carries current to a device which is not necessary for movement of the machine.
- auxiliary panel** (*electrically driven or controlled*

- irrigation machines*) enclosure containing auxiliary control devices for an electrically driven or controlled irrigation machine, such as motor controllers, relays, switches and transformers, but not including the main controller or other control devices that supply power to the entire machine and also not including junction boxes.
- average outside diameter of a tube** (*aluminium irrigation tubes*) arithmetic mean of two mutually perpendicular outside diameters, measured at a single cross-section.
- average wall thickness of a tube** (*aluminium irrigation tubes*) arithmetic mean of eight measurements of wall thickness, in millimetres, equally spaced around the circumference of a single cross-section, but not on a weld line in the case of welded tubes, divided by the nominal diameter, in millimetres.
- back flushing** (*filters classification*) method of removing filtrates from a filter by passing filtered water through the filter medium, or over the surface of the filter element, in a direction opposite to the normal flow of water, to remove accumulated, trapped or separated filtrates from the filter, also called reverse flushing.
- back-flow** (*safety devices for chemical injection systems*) flow of water or other liquids, mixtures, or substances into the distributing pipes of a water supply system from any source or sources other than its intended source, for example, back-siphonage.
- back-flow preventer** (*check valve*) mechanical assembly designed to prevent flow of water backwards into the distributing pipes of a water supply system in order to protect against entry of substances which may constitute a health hazard.
- back-flow preventer** (*Irrigation control head*) mechanical assembly designed to prevent flow of water backwards into the distributing pipes of a water supply system in order to protect against entry of substances which may constitute a health hazard.
- back-flow preventer** (*safety devices for chemical injection systems*) mechanical assembly designed to prevent flow of water backwards into the distributing pipes of a water supply system in order to protect against entry of substances which may constitute a health hazard.
- back-siphonage** (*safety devices for chemical injection systems*) back-flow of used, contaminated or polluted water into the distributing pipes of a pipe system in response to a negative water pressure in such pipes.
- ball valve** (*manually operated small plastics valve*) valve in which a ball can be turned to move its port, or ports, relative to the ports in the valve body, to control the flow of water.
- bell** (*gated pipe*) part of the joint connecting two sections of pipe formed by a receiving shape at one end of a section of the pipe that serves as the sealing element with the spigot at the corresponding end of the adjoining section of pipe.
- bench head loss** (*pressure losses in irrigation valves*) decrease in energy per unit weight of water between the pressure taps in a laboratory test bench at points upstream and downstream from an irrigation valve being tested.
- bench piping head loss** (*pressure losses in irrigation valves*) decrease in energy per unit weight of water between the pressure taps in a laboratory test bench at points upstream and downstream from an irrigation valve being tested, but excluding the decrease in energy per unit weight of water in the irrigation valve itself.
- bench head loss** (*Pressure losses in irrigation valves*) decrease in energy per unit weight of water in the test bench between the pressure taps upstream and downstream of the measurement area without the device being tested.
- bevel** (*gated pipe*) smoothed annular and angular area at the end of the spigot for assisting in the coupling of the bell and spigot joint.
- body** (*manually operated small plastics valve*) main component of the valve which houses functioning components, provides the fluid flow passageways and the connection ends
- body dividing wall** (*manually operated small plastics valve*) integral part of the valve body which separates the inlet and the outlet ports of a valve and on which the valve body seat is formed.
- body seat** (*check valve*) ring-shaped surface with which the closing component (disc, piston, ball) of a check valve makes contact for stopping the flow.
- bonded connection** (*electrically driven or controlled irrigation machine*) reliable connection which ensures that the required electrical conductivity between metal parts is maintained.
- branch outlet** (*plastics saddles for polyethylene pipe*) outlet of a saddle the axis of which is perpendicular to the axis of the pipe on which the saddle is installed.
- bypass line** (*chemical injection tank unit*) piping segment connected in parallel with the main line of an irrigation system in which flow of water occurs in response to a pressure drop in the main line between the points of connection of the piping segment occurring as a result of the partial closing of a valve

- or other component installed in the main line.
- bypass-line installation of a chemical injection tank unit** (*chemical injection tank unit*) configuration in which a chemical injection tank unit is connected to, or installed in, a piping segment connected in parallel with the main line of an irrigation system.
- cartridge filter** (*filters classification*) filter using a media filter element that is held together as a single removable component of the filter.
- centre-pivot irrigation machine** (*centre-pivot and moving lateral irrigation machines*) automated irrigation machine consisting of a pipeline through which water flows, which is supported by a number of self-propelled towers and which rotates around a pivot point from which water is supplied for distribution by sprayers or sprinkler nozzles located on the pipeline.
- centrifugal separation** (*filters classification*) method of separation that separates, from water, clogging material that is heavier than water and which employs a spinning technique, as in a hydrocyclone.
- check mechanism** (*check valve*) moving part or assembly of moving parts which closes the water passage of a check valve when flow ceases or when flow is reversed.
- check valve** (*check valve*) valve which is opened by the flow of water and closed by the weight of a check mechanism or by mechanical pressure caused, for example, by a spring, permitting flow in one direction only and preventing reversal of flow.
- check valve** (*irrigation control head*) valve which is opened by the flow of water and closed by the weight of a check mechanism or by mechanical pressure caused, for example, by a spring, permitting flow in one direction only and preventing reversal of flow.
- check valve** (*chemigation valve*) valve which permits flow of water in one direction only.
- check valve complete with stop** (*check valve*) valve which automatically opens by fluid flow in a defined direction and which automatically closes to prevent fluid flow in the reverse direction
- check valve with vacuum relief and low pressure drain** (*safety devices for chemical injection systems*) anti-siphon device consisting of a check valve with a vacuum relief valve installed on top of the inlet side of the check valve to provide vacuum relief and a low pressure drain located at the lowest point on the inlet side of the check valve, usually directly under the vacuum relief valve.
- chemical** (*water-driven chemical injector pump, chemical injection tank unit*) liquid fertilizers, solutions of fertilizers or other soluble substances, such as acids, pesticides and herbicides, used in agriculture in liquid, solution or water-soluble form, normally applied through or otherwise injected into an irrigation system⁷
- chemical injection port** (*chemigation valve*) A port located downstream of the check valve and oriented such that chemicals are injected into and mixed with the irrigation water.
- chemical injection tank** (*chemical injection tank unit*) pressure vessel, connected to an irrigation system in either an in-line or an on-line configuration, for the purpose of injecting chemicals into the irrigation system as a result of a reduced pressure generated in the irrigation system piping to which the pressure vessel is connected.
- chemical injection tank unit** (*chemical injection tank unit, irrigation control head*) pressure vessel, connected to an irrigation system in either an in-line or an on-line configuration, together with the pipes and fittings connecting it to the irrigation system, for the purpose of injecting chemicals into the irrigation system as a result of a reduced pressure generated in the irrigation system piping to which the pressure vessel is connected.
- chemical injection tank volume** (*chemical injection tank unit*) maximum volume of chemical which a chemical injection tank unit can hold.
- chemical solution** (*water-driven chemical injector pump*) water in which one type or several types of chemicals have been dissolved.
- chemical storage tank** (*water-driven chemical injector pump*) container for storing chemical and for supplying it to a water-driven chemical injector pump.
- Christiansen's uniformity coefficient** (*sprinklers*) coefficient using deviations from the mean to characterize the uniformity of field-measured or simulated water application from a grid of sprinklers.
- clamping band** (*emitter/emitting pipe*) ring- or band-like device used for obtaining a watertight joint between an emitting pipe and a fitting.
- clean head loss** (*automatic self-cleaning strainer-type filter*) Head loss in a clean automatic self-cleaning strainer-type filter measured with a flow of clean water.
- clean water** (*sprinklers*) water processed, if necessary, so as to contain suspended particles no larger than 200-mesh equivalent (74 microns) and to contain no dissolved chemicals known to have short-term effects on the sprinkler materials.
- clear way valve** (*isolating valves*) valve designed to have an unobstructed flow path which allows the passage of a theoretical sphere with a diameter which is not less than the inside diameter of the body end port

- client** (*centre-pivot and moving lateral irrigation machines*) person(s) or organizations for whom a test is being performed.
- clogged filter element** (*automatic self-cleaning strainer-type filter*) filter element which has collected a quantity of clogging materials such that it cannot maintain the highest flow rate recommended by the manufacturer without exceeding the safe maximum head loss.
- closing disc** (*manually operated small plastics valve*) part of an obturator of any shape on which the disc face is formed and to which the disc facing ring, if used, is secured
- closing torque** (*manually operated small plastics valve*) smallest torque required to achieve full tightness of a manually operated small plastics valve at nominal pressure.
- coefficient of variation** (*traveller irrigation machines*) ratio of the standard deviation to the mean of a variable that is repeatedly measured
- collapsible hose** (*emitting pipe systems*) emitting-pipe the design of which causes its cross-section (which is generally round or rounded when the pressure at the inlet of the emitting pipe is within the range of working pressures recommended by the manufacturer) to alter itself when in a state free of external pressure generally because of a small wall thickness or because of the flexible nature of the material from which the emitting pipe is made, also called collapsible tape.
- collector** (*sprayers, centre-pivot and moving lateral irrigation machines*) receptacle into which water is deposited during a water distribution test
- collector** (*sprinklers*) receptacle into which water is deposited during a water distribution test.
- collector ring** (*electrically driven or controlled irrigation machine*) assembly of slip rings for transferring electrical energy from a stationary conductor to a rotating conductor.
- comprehensive range of regulation** (*direct-acting pressure-regulating valve*) all of the possible regulated pressures that can be obtained with a pressure regulator by the addition or replacement of pressure regulator components such as springs and discs
- compression-disk nozzle** (*sprinklers*) nozzle fitted with an elastic disk that flexes under pressure to alter the hydraulic performance of a nozzle
- constant-flow nozzle** (*sprinklers*) nozzle the internal geometry of which does not vary under fixed operating conditions so as to maintain a constant hydraulic performance.
- constricting-flow nozzle** (*sprinklers*) nozzle fitted with elastic sleeves that alter the hydraulic performance of the nozzle in response to changes in operating pressure.
- continuous flushing** (*filters classification*) method of removing clogging material from a filter element by controlled continuous flow of purge water.
- continuous-move irrigation machine** (*sprinklers*) irrigation machine for which the position of sprinklers is fixed on a supply line which moves in a particular direction, for example, a center-pivot irrigation machine, a moving lateral irrigation machine and a traveller irrigation machine.
- control conductor** (*electrically driven or controlled irrigation machine*) conductor that carries current to a control device that is necessary for the movement of an electrically driven or controlled irrigation machine.
- control tubing** (*automatic irrigation system*) small-diameter tubing that transmits a command hydraulically to and from the pressure chamber of a hydraulic valve.
- control valve** (*control valves*) a device intended to regulate, within specified limits, one or more functions.
- control valve** (*hydraulically operated valve*) auxiliary valve operated mechanically, electrically or pneumatically, or by any other suitable means, and used to activate a hydraulically operated valve.
- critical head loss before failure** (*automatic self-cleaning strainer-type filter*) maximum allowable pressure difference across a filter element of an automatic self-cleaning strainer-type filter which will not cause failure of the filter element.
- cross vanes** (*sprinklers*) flow-conditioning straightening vanes which tend to trap waterborne contaminants.
- customized nozzle** (*sprinklers*) nozzle the design of which meets specified hydraulic criteria for acceleration, turbulence and separation.
- declared preset pressure** (*direct-acting pressure-regulating valve*) pressure at the outlet of a pressure regulator preset and declared by the manufacturer using a reference velocity of 1 m/s.
- densogram** (*sprinkler*) areal map utilizing the density of dots representing water application depth at locations in the area of coverage of a sprinkler or a grid of sprinklers.
- denting factor** (*aluminium irrigation tubes*) parameter computed as the product of the minimum tensile yield strength in MPa and the square of the wall thickness in mm divided by the nominal diameter of the tube in mm to evaluate the ability of an aluminum tube to withstand external

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- mechanical loading without permanent local deformation.
- diameter of coverage** (*sprayer*) twice the radius of throw.
- diaphragm valve** (*manually operated small plastics valve*) valve in which a flexible diaphragm constitutes the closing and regulating mechanism to control the flow of water through the valve.
- dichloromethane strength** (*gated pipe*) strength following exposure to dichloromethane to give an indication of the level of gelation in the pipe and of the uniformity of that gelation
- differential pressure venturi injector** (*venturi fertilizer injectors*) device which functions by allowing a pressurized stream (either full stream or side stream) of irrigation water to enter through the inlet of the device where it is constricted as it passes through a chamber, thus causing a velocity increase and a pressure decrease that cause a liquid additive to be drawn through a suction port and mixed into the motive stream of irrigation water for delivery to the outlet of the device.
- direct mixing chemical injection tank unit** (*chemical injection tank unit*) chemical injection tank unit in which water entering the chemical injection tank mixes with the chemical in the chemical injection tank and, as a result, the concentration of the chemical in the irrigation water discharged from the chemical injection tank unit decreases continuously with time.
- direct-acting pressure-regulating valve** (*direct-acting pressure-regulating valve, irrigation control head*) valve in which the water passage widens or narrows automatically without an external device to maintain the pressure at the outlet of the valve close to a preset value under varying pressures or flow rates at the inlet of the valve, also called direct-acting pressure regulator” plus: Change the scope of the standard from “pressure regulators
- directed jet flushing** (*filters classification*) flushing employing a high-velocity stream of clean water directed at a portion of the area of a filter element on the downstream side of the filter element, thus causing a localized reverse flow that flushes the filtrate from a portion of the filter element and moving over the entire area of the filter element, progressively back flushing all of the filter element.
- disc face** (*manually operated small plastics valve*) sealing surface of the obturator in a valve which makes contact with the valve seat when the valve is in the closed position
- disc facing ring** (*manually operated small plastics valve*) ring of material different from that of the closing disc, secured to the disc and used to ensure watertightness when the valve is closed
- disc filter** (*filters classification*) filter in which the filter element is composed of discs with rough grooved or textured faces arranged one on top of the other to form a stack and in which the porous space created between the faces of adjacent discs is the filter medium
- discharge system** (*traveller irrigation machines*) water distribution part of a traveller irrigation machine, such as a sprinkler or a gun, a combination of sprinkler and guns, a boom with a set of sprinklers or sprayers or other kinds of devices through which irrigation water is distributed over a strip.
- disposable-element filter** (*filters classification*) filter that cannot be flushed or cleaned and from which clogging material is removed when the filter element is replaced.
- distribution tube** (*traveller irrigation machine*) supply tube which conveys irrigation water along a strip to the discharge system for a Type 1 traveller irrigation machine (reel machine) or to the self-propelled structure for a Type 3 traveller irrigation machine (self-propelled reel machine) and which is partly lying on the field and partly coiled on the spool, also called in-field supply tube.
- distribution uniformity (low quarter)** (*sprinklers*) coefficient using the lowest 25 percent of water application depths to characterize the uniformity of field-measured or simulated water application from a grid of sprinklers.
- dividing wall** (*manually operated small plastics valve*) integral part of the valve body which separates the inlet and outlet ports of a valve and on which the valve seat is formed
- double check valve assembly** (*safety devices for chemical injection systems*) assembly consisting of two independently acting check valves, internally force-loaded to a normally closed position, two tightly closing shut-off valves and four test cocks, designed to operate under intermittent or continuous pressure conditions.
- drain valve** (*automatic self-cleaning strainer-type filter*) Valve normally installed at the bottom of an automatic self-cleaning strainer-type filter and intended for draining or flushing the automatic self-cleaning strainer-type filter housing, also called flush valve.
- drive water** (*water-driven chemical injector pump*) irrigation water used to operate an on-line water-driven chemical injector pump which is either ejected or returned to the irrigation system after use in the operative function.
- drive water ratio** (*water-driven chemical injector pump*) ratio of one unit volume of injected chemical to the volume of drive water required to inject one unit volume of

- chemical, for example, 1/2 or 1/3.
- dual triple-function air-release valve** (*float-type air-release valve*) air-release valve which combines the functions of both a continuous-acting air-release valve and a low-pressure air-release valve which operate separately in accordance with their function inside of a single housing such that it enables continuous release of air from the pipe system in the range of working pressure, allows entry of air at a high flow rate during drainage of water from the pipe system and allows release of air at a high flow rate when the pipe system is being filled with water.
- duration of automatic flushing cycle of filter** (*automatic self-cleaning strainer-type filter*) period of time during which water and clogging materials are flushed out of an automatic self-cleaning strainer-type filter through the flushing valve during each automatic flushing cycle.
- effective length of moving lateral irrigation machine** (*centre-pivot and moving lateral irrigation machines*) dimension parallel to a pipeline of an area to be irrigated which is conventionally calculated as the distance between the two most distant sprayer or sprinkler nozzles on the pipeline plus 75% of the wetted radius of each end sprayer or sprinkler, reduced by the length of any area under the pipeline used for water supply but not for crop production.
- effective radius of centre-pivot irrigation machine** (*centre-pivot and moving lateral irrigation machines*) radius of the circular field area to be irrigated, calculated as the distance from the pivot point to the terminal sprinkler on the pipeline plus 75% of the wetted radius of the terminal sprayer or sprinkler.
- effective water application rate** (*sprinklers*) application rate equal to or exceeding 0.26 mm/h for sprinklers with flow rates exceeding 7.6 L/min and 0.13 mm/h for sprinkler with flow rates equal to or less than 7.6 L/min.
- elongation** (*softwall hose and couplings*) increase in the length of a softwall hose caused by pressurization.
- emission rate** (*emitting pipe systems*) flow rate of an emitting unit.
- emitter** (*emitter/emitting pipe*) device fitted to an irrigation lateral and intended to discharge water in the form of drops or continuous flow at flow rates not exceeding 15 l/h except during flushing, also called dripper.
- emitting pipe** (*emitter/ emitting pipe*) continuous pipe, hose or tubing, including collapsible hose, with perforations or other water discharge devices formed or integrated in the pipe, hose or tubing during production and intended to discharge water in the form of drops or continuous flow at emission rates not exceeding 15 l/h for each emitting unit.
- emitting unit** (*emitter/emitting pipe*) section of an emitting pipe including all hydraulic devices formed or integrated in the pipe during production, repeated at intervals, from which water is emitted to a clearly distinguishable location.
- emitting unit exponent** (*emitter/emitting pipe*) numerical value m that defines the exponential relationship between emission rate and pressure.
- endgun** (*centre-pivot and moving lateral irrigation machines*) set of one or more sprayers or sprinklers installed on the distal end(s) of a centre-pivot irrigation machine or a moving lateral irrigation machine to apply water to the area beyond the effective radius of the centre-pivot irrigation machine or the effective length of the moving lateral irrigation machine, usually operating for only a portion of the time in order to conform to system boundaries.
- entrance point of the mechanical energy** (*valves*) location where the torque is applied to open or close the valve obturator which may be the end of the stem, or the input shaft of the reducer when the reducer is an integral part of the valve
- entrapment** (*filters classification*) method of filtration in which clogging material is captured within the interior of a three-dimensional filter medium such as sand or gravel.
- fertigation** (*irrigation control head*) function of injecting fertilizers into irrigation water and of conveying the fertilizers to plants.
- field resistance coefficient** (*traveller irrigation machine*) coefficient used to characterize the resistance drag force exerted by the field on a traveller irrigation machine when it travels along a strip and which, for Types 1 and 2 traveller irrigation machines, is equal to the ratio between the field resistance force and the weight of the part of the distribution tube or softwall distribution hose which is currently lying on the field and which is currently being dragged, computed using the formula $a = F/P \cdot L$, where a = field resistance coefficient (dimensionless), F = field resistance force (N), P = unit weight per metre of the distribution tube or softwall distribution hose full of water (N/m), L = length of part of the distribution tube or softwall distribution hose which is currently lying on the field and which is currently being dragged (m), and which, for Type 3 traveller irrigation machines, is equal to the ratio between the field resistance force and the weight of the

- traveller irrigation machine, exclusive of the part of the distribution tube which is currently lying on the field, computed using the formula $a = F/[PT - (P \cdot L)]$, where a = field resistance coefficient (dimensionless), F = field resistance force (N), PT = total weight of the traveller irrigation machine full of water (N), P = unit weight per metre of the distribution tube full of water (N/m), L = length of part of the distribution tube which is currently lying on the field (m).
- filter element** (*automatic self-cleaning strainer-type filter*) component or assembly in a filter which embodies or holds together the filter medium or other surface separation device which removes clogging materials from water by entrapment or separation.
- filter element** (*filters classification*) component or assembly in a filter which embodies or holds together the filter medium or surface separation device that removes clogging material from water by entrapment or separation
- filter housing** (*filters classification*) component of a filter that houses or supports the filter medium.
- filter medium** (*filters classification*) porous permeable material employed in filtration within which clogging material is trapped or deposited.
- filtrate** (*filters classification*) debris, suspended particles of organic or inorganic origin, chemical deposits and biological suspensions removed from water in a filtration process
- filtration** (*filters classification, irrigation control head*) process which employs a permeable medium and/or a spinning component to separate, from water, materials that would clog an irrigation system and which also employs a means for removing these materials from the permeable medium or the spinning component in order to renew the capacity of the permeable medium or the spinning component to separate these materials from the water.
- finger spray** (*sprinklers*) stream of water directed either as a cohesive and continuous jet or as a concentration of individual drops.
- fitting** (*emitter/emitting pipe*) connecting device suitable for attachment to an emitting pipe with or without a clamping band.
- flexing-orifice nozzle** (*sprinklers*) nozzle fabricated from elastic materials that flex under pressure so as to alter the hydraulic behavior of the nozzle.
- float** (*float-type air-release valve*) component within the valve body of an air-release valve the weight per unit volume of which is less than that of water and which is intended to float upon the water which fills the cavity of the valve body such that, when the component seals at the relief nozzle either directly or by means of a part of the float assembly, the elevating force acting on the component and the other forces which develop within the air-release valve seal the relief nozzle, thus preventing water from flowing out of the air-release valve.
- float-type purgers and air valves** (*air valves*) self-operating float type valves for the evacuation of air from, or for the ingress of air into water pipelines.
- flow rate** (*emitter/emitting pipe*) emission rate of an emitter/emitting pipe.
- flow rate** (*sprinklers*) volume of water flowing through a sprinkler per unit of time.
- flow rate** (*Pressure losses in irrigation valves*) volume of water flowing through a device per unit time.
- flow regulation** (*irrigation control head*) function intended to control the flow rate of water, to reduce it to that required in an irrigation system and to maintain it at a relatively constant value.
- flow resistance coefficient** (*Pressure losses in irrigation valves*) coefficient used in non-dimensional presentation of valve loss.
- flow-conditioning groove** (*sprinklers*) channel in the flow passage of a nozzle designed to produce modified hydraulic performance by impacting flow turbulence, also called flow-conditioning rifling.
- fluidic nozzles** (*sprinklers*) nozzle that employs fluidic principles to achieve design hydraulic performance objectives, for example, a nozzle that employs jets directed over curved splash plates.
- flushing** (*filters classification*) method of removing clogging material from a filter using water without removal of the filter element or, following removal of the filter element, by manually removing clogging material from the filter element using water.
- flushing control mechanism** (*automatic self-cleaning strainer-type filter*) mechanism which controls the flushing action of an automatic self-cleaning strainer-type filter, initiated by pressure differential, duration of filtration or volume of water filtered since the previous flushing action, a combination of these or by some other parameter.
- flushing pressure differential** (*automatic self-cleaning strainer-type filter*) value of the pressure differential between two points, one upstream and one downstream from the filter element in an automatic self-cleaning strainer-type filter, which may initiate the flushing cycle.
- flushing valve** (*automatic self-cleaning strainer-type filter*) valve through which flushing water is discharged from the filter.
- front-mounted device** (*electrically driven or controlled irrigation machine*) replaceable

- device mounted so that it may be replaced from the front of an enclosure without removing sub-panels, rear enclosure covers or other devices to gain access to electrical connections.
- front-wired device** (*electrically driven or controlled irrigation machine*) replaceable device mounted so that it may be wired from the front of an enclosure without removing the device, sub-panels, rear enclosure covers or other devices to gain access to electrical connections.
- full bore valve** (*isolating valves*) valve with a seat diameter not less than 90 % of the internal diameter of the body end port
- full opening** (*hydraulically operated valve, check valve*) position reached by the operating mechanism or the check mechanism either when the valve is either fully open or when the operating or check mechanism reaches the adjustable stop.
- full-grid collector array** (*sprinklers*) collectors located at the intersections of a two-dimensional geometric grid pattern sufficient in number to give a desired statistical basis for determining water distribution uniformity.
- gate** (*gated pipe*) *adjustable opening in the pipe which allows water to be released.*
- globe valve** (*manually operated small plastics valve*) valve with a generally cylindrical body in which the axes of the body ends are co-linear and in which the axis of the stem is perpendicular to the axes of the body ends
- gravity filter** (*filters classification*) filter in which the driving force for filtration is provided solely by the elevation of the free surface of water contained in the filter above the filter medium and that does not employ pressure or a vacuum to produce a high differential pressure.
- grounded** (*electrically driven or controlled irrigation machine*) connected to earth or to some conducting body which serves in place of earth.
- grounded conductor** (*electrically driven or controlled irrigation machine*) conductor in a circuit which is intentionally grounded.
- grounding conductor** (*electrically driven or controlled irrigation machine*) conductor that is used to connect non-current-carrying metal parts of an electrically driven or controlled irrigation machine to a service-grounded conductor and/or a grounding-electrode conductor.
- head loss** (*pressure losses in irrigation valves*) decrease in energy per unit weight of water between two specified interconnected points in a system, or in part of a system.
- high-pressure continuous-acting air-release valve** (*float-type air-release valve*) air-release valve with a small cross-sectional relief orifice which releases pockets of air trapped in a pipeline in proximity to the air-release valve when the pipeline is under normal operating conditions, that is, under a prevailing hydraulic pressure within the normal range of working pressure of the pipeline, and which allows entry of air into the pipeline at a low pressure or at a pressure equal to atmospheric pressure.
- horizontal-pattern check valve** (*check valve*) check valve for installation in a horizontal position with the axes of the inlet and the outlet co-linear.
- hose** (*softwall hose and couplings*) flexible tube for conveying water, consisting of a cover, a hydraulic load-bearing textile reinforcement and an inner impermeable tube, roughly round in cross-section when filled with water within the normal range of working pressure and which may collapse when drained of water.
- hydraulically operated valve** (*hydraulically operated valve*) valve operated by means of water pressure.
- hydrocyclone** (*filters classification*) device in which clogging material is separated from water by a centrifugal force resulting from rotation of the water, generally by introducing the water to flow in a tight vortex and the clogging material to be thrown to the walls and causing the bulk of the water to exit from the chamber at the centre of the vortex and the clogging material and the rest of the water to exit from the chamber through its apex or through its bottom.
- impact arm** (*sprinklers*) balanced arm of a sprinkler rotating about a vertical axis (usually corresponding to the sprinkler axis) that momentarily intercepts and deflects a portion of the jet so as to provide the torque required to rotate the water distribution component of the sprinkler.
- impulse arm** (*sprinklers*) balanced arm of a sprinkler rotating about a horizontal axis that momentarily intercepts and deflects a portion of the jet so as to provide the torque required to rotate the water distribution component of the sprinkler.
- indirect pressure chemical injection tank unit** (*chemical injection tank unit*) chemical injection tank unit in which the chemical in the chemical injection tank is held in a bag made of flexible material and flows out of the chemical injection tank at a rate equal to the flow rate of water into the volume in the chemical injection tank outside the bag and, as a result, the concentration of the chemical in the irrigation water discharged from the chemical injection tank unit is constant.
- initial regulation pressure** (*direct-acting pressure-*

- regulating valve*) lowest pressure at the inlet of a pressure regulator at which the regulated pressure is attained within the range of regulation.
- injection concentration** (*chemical injection tank unit*) concentration of the chemical in the water discharged from a chemical injection tank unit.
- injection rate** (*chemical injection tank unit*) flow rate of a chemical injected into an irrigation system during operation of a chemical injection tank unit.
- injection rate** (*venturi fertilizer injectors*) flow rate of a chemical injected into an irrigation system during the operation of a venturi fertilizer injector at a given inlet pressure and a given outlet pressure.
- injection rate** (*water-driven chemical injector pump*) flow rate of a chemical injected into an irrigation system during operation of a water-driven chemical injector pump, also called pumping rate.
- injection ratio** (*venturi fertilizer injectors*) calculated ratio between the volume of liquid additive injected, on the one hand, and the volume of motive water plus the volume of the liquid additive, on the other, for example, one liter of liquid additive injected into 99 liters of motive water would yield an injection ratio of $[(1)/(1+99)] = 1:100$.
- inlet** (*chemical injection tank unit*) orifice at which water enters a chemical injection tank unit from the main line or the bypass line of an irrigation system.
- inlet connection** (*float-type air-release valve*) inlet to an air-release valve, or part of the valve body of an air-release valve located in the bottom part of the valve body, which connects the air-release valve to a pipe system.
- inlet fitting** (*emitter/emitting pipe*) fitting having one end suitable for connection to a standard irrigation pipe or appliance and the other end or ends suitable for connection to an emitting pipe.
- inlet orifice** (*float-type air-release*) smallest passage at the inlet of an air-release valve located below the float when the air-release valve is in the open position.
- inlet pressure** (*venturi fertilizer injectors*) Remove this definition
- in-line chemical injection tank unit** (*chemical injection type unit*) chemical injection tank unit intended for installation in series in the main line of an irrigation system or in a bypass line, causing all of the water that flows through the main line or the bypass line to flow through the chemical injection tank unit, and featuring a valve or some other component integral to the chemical injection tank unit which creates a pressure drop between the inlet and the outlet of the chemical injection tank unit, thereby forcing part of the water flowing through the chemical injection tank unit to flow through the chemical injection tank.
- in-line emitter** (*emitters and emitting pipe*) emitter intended for installation between two lengths of pipe in an irrigation lateral.
- in-line filter** (*filters classification*) filter for which the inlet and the outlet are coaxial, also called coaxial filter.
- in-line fitting** (*emitter/emitting pipe*) fitting with both ends suitable for connection to an emitting pipe.
- in-line water-driven chemical injector pump** (*water-driven chemical injector pump*) water-driven chemical injector pump in the main irrigation system piping or in the bypass piping and featuring three ports, including one inlet for chemical, one inlet for irrigation water and one outlet for irrigation water with chemical injected, with the injection of the chemical occurring within the water-driven chemical injector pump, also called in-line injector pump.
- insert-type fitting** (*Insert-type fittings for polyethylene pipe*) fitting which grips a pipe only around its inner surface and which results in expanding the diameter of the pipe alongside the fitting.
- inspection port** (*chemigation valve*) a capped connection which allows manual or visual inspection of the valve internals upstream of the check valve.
- integral pressure regulator** (*direct-acting pressure-regulating valve*) pressure-regulating valve which is an integral part of an irrigation device or is fitted specifically to the particular irrigation device.
- interception** (*filters classification*) method of removing suspended particles from water by gravity employing gravel partitions between reservoir basins to separate the suspended particles from the water
- interlock device** (*safety devices for chemical injection systems*) safety equipment used to ensure that, in the event that the irrigation pumping plant shuts down, the chemical injection pump also shuts down or, alternately, if the injection system fails to operate, the irrigation pumping plant shuts down.
- irrigation control head** (*irrigation control head*) assembly of components and pipes installed at the head of an irrigated plot which serves to control the functioning of an irrigation system, that is, initiation and shutting off of the flow of water, pressure regulation, water metering, filtration and injection of chemicals.
- irrigation interval** (*automatic irrigation system*) time interval between the start of one irrigation application and the start of the

- following irrigation application over the same area.
- irrigation lateral** (*sprayers, polyethylene (PE) pipes for irrigation laterals*) branch supply line in an irrigation system on which water distribution devices such as sprayers and sprinklers are mounted directly or by means of fittings, risers or tubes.
- irrigation lateral** (*sprinklers*) branch supply line in an irrigation system on which sprinklers are mounted directly or by means of fittings, risers or tubes.
- irrigation line installation of a chemical injection tank unit** (*chemical injection tank unit*) configuration in which a chemical injection tank unit is connected to, or installed in, the main line of an irrigation system.
- irrigation machine** (*electrically driven or controlled irrigation machine*) electrically driven or controlled machine, not portable by hand, which is used primarily to transport and distribute water for agricultural irrigation.
- irrigation sprayer** (*sprayers*) device which discharges water in the form of fine jets or in a fan shape without rotational movement of its parts.
- irrigation system** (*irrigation control head*) assembly of pipes, components, and devices installed in the field for the purpose of irrigating a specific area.
- irrigation system water flow rate** (*water-driven chemical injector pump*) sum of the irrigation water flow rate and the injection rate.
- irrigation water** (*irrigation control head*) water at a temperature not exceeding 60°C which is of potable quality, which may contain chemicals of a type and concentration generally used in agricultural irrigation or which is of a quality approved for use in irrigation by national or local standards or codes.
- irrigation water flow rate** (*venturi fertilizer injectors*) flow rate of irrigation water at the inlet to the body of an in-line venturi fertilizer injector or through the irrigation system at the inlet to an on-line venturi fertilizer injector.
- irrigation water flow rate** (*water-driven chemical injector pump*) flow rate of irrigation water through the body of an in-line water-driven chemical injector pump or through the irrigation system to which an on-line water-driven chemical injector pump is connected in parallel.
- isohyetal map** (*sprinklers*) areal map on which points of equal water application depth are connected in the area of coverage of a sprinkler or a grid of sprinklers at intervals of water application depth sufficiently small to convey a visual impression of the physical significance of the water application depth.
- isolating valve** (*isolating valves*) valve intended for use only in the closed or fully open position
- izod impact strength** (*gated pipe*)
- jet spray** (*sprinklers*) stream of water issuing from the orifice of a sprinkler under pressure.
- kinking** (*softwall hose and couplings*) transverse folding caused by longitudinal bending radii that are excessively short, producing a departure from the normally round shape of a pressurized softwall hose.
- lane** (*traveller irrigation machines*) portion of a field which is irrigated in a sequence by a traveler irrigation machine, typically a rectangular strip a few dekametres wide and a few hundred metres long.
- length of travel** (*traveller irrigation machines*) maximum displacement of the discharge system of a traveller irrigation machine, measured within a strip and from its starting point.
- liquid additive** (*venturi fertilizer injectors*) chemicals, including liquid fertilizers, liquid solutions of water-soluble fertilizers, acids, caustics, pesticides, or herbicides, added to the motive water by an injector.
- location of maximum trajectory height** (*sprinklers*) radial distance from the sprinkler axis at which the maximum trajectory height is reached.
- longitudinal reversion** (*gated pipe*) change in length of a pipe under higher-than-ambient temperature estimated by subjecting a test portion of pipe immersed in an inert liquid maintained at a temperature of 150 ° C for a period of time determined by the wall thickness of the pipe.
- low pressure** (*gated pipe*) pressure less than 1 MPa
- low pressure drain valve** (*chemigation valve*) spring loaded valve which is mounted on the lower surface of the chemigation valve immediately upstream of the check valve.
- low-pressure float-type air-release valve** (*float-type air-release valve*) air-release valve with a large cross-sectional relief nozzle which vents air trapped in a pipeline at high rates during filling of the pipeline and which allows entry of air at high rates during drainage of the pipeline.
- machine isolator** (*electrically driven or controlled irrigation machine*) device for disconnecting an electrically driven or controlled irrigation machine at its point of connection to electrical power.
- main control panel** (*electrically driven or controlled irrigation machine*) enclosure containing the main controller and other control devices necessary for starting and stopping an electrically driven or controlled irrigation machine.
- manual flushing filter** (*filters classification*) filter

- constructed so that manual opening of a valve causes a discharge flow appropriately oriented and of sufficient volume and velocity to flush the filter without disassembly.
- manually cleaned filter** (*filters classification*) filter that must be disassembled and manually washed using water to remove filtrates from the filter element.
- maximum activating pressure** (*hydraulically operated valve*) highest allowable static pressure in the activating chamber of a hydraulically operated valve for activating the operating mechanism, identical to the nominal pressure when the operating mechanism is activated by the pressure at the valve inlet.
- maximum allowable pressure** (*valves*) maximum pressure occurring from time to time, including surge, that a component is capable of withstanding in service
- maximum flow rate** (*volumetric valve*) highest flow rate at which a volumetric valve is required to operate for a specified period of time without deteriorating, as specified in a standard.
- maximum injection rate** (*venturi fertilizer injectors*) highest flow rate at which a liquid additive can be injected at any set of inlet pressure and outlet pressure conditions.
- maximum operating torque** (*valves*) highest limit fixed for the torque which, when applied at the entrance point of the mechanical energy, operates the valve and ensures compliance with the required leakage rate
- maximum trajectory height** (*sprinklers*) maximum height above a sprinkler or a sprayer of the trajectory of the water stream discharged from the sprinkler nozzle or the sprayer operating under the nominal test pressure.
- maximum working pressure** (*automatic self-cleaning strainer-type filter*) highest pressure immediately upstream from an automatic self-cleaning strainer-type filter recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*chemical injection tank unit*) highest pressure immediately upstream from a chemical injection tank unit recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*emitter/emitting pipe*) highest water pressure at the inlet to an emitting pipe unit recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*sprayers*) highest working pressure at the main nozzle of a sprayer recommended by the manufacturer to ensure proper operation
- maximum working pressure** (*sprinklers*) highest water pressure recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*venturi fertilizer injectors*) highest pressure immediately upstream from a venturi fertilizer injector recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*volumetric valve*) highest pressure immediately upstream from a volumetric valve recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*water-driven chemical injector pump*) highest pressure immediately upstream from a water-driven chemical injector pump recommended by the manufacturer to ensure proper operation.
- maximum working pressure** (*volumetric valves*) highest pressure immediately upstream from a device recommended by the manufacturer to ensure continuous operation and functionality.
- mean velocity of flow** (*hydraulically operated valve*) flow rate through a hydraulically operated valve divided by the internal cross-sectional area of a pipe with the same nominal size as the hydraulically operated valve.
- media filter** (*filters classification*) filter in which clogging material is trapped within the interior of a three-dimensional filter medium, such as sand, gravel, textile, fibres or a porous mass of bonded particles, also called depth filter.
- media filter element** (*filters classification*) component, housing or assembly containing a three-dimensional filter medium, such as sand, gravel, textile, fibres or a porous mass of bonded particles, employing entrapment as a method of filtration, also called depth filter element.
- metal-to-metal connection** (*electrically driven or controlled irrigation machine*) attachment of metal parts to an electrically driven or controlled irrigation machine with bolts and screws to provide an adequate contact for bonding purposes with all paint and dirt removed from the bearing surface of the bolt or screw heads.
- minimum activating pressure** (*hydraulically operated valve*) lowest allowable static pressure in the activating chamber of a hydraulically operated valve for activating the operating mechanism, identical to the nominal pressure when the operating mechanism is activated by the pressure at the valve inlet.
- minimum flow rate** (*volumetric valve*) lowest flow rate at which the volumetric valve is required to operate within the maximum permissible error
- minimum head loss** (*chemical injection tank unit*) lowest drop of energy per unit weight

- between the inlet and the outlet of a chemical injection tank unit which causes injection of chemical from the chemical injection tank unit into the irrigation system.
- minimum percent pressure differential** (*venturi fertilizer injectors*) lowest percent pressure differential required to initiate injection of liquid additive into an injector.
- minimum strength torque** (*valves*) lowest limit fixed for the torque which, when applied at the entrance point of the mechanical energy, with the obturator either totally open or totally closed, causes no alteration to the functional capability of the valve
- minimum working pressure** (*automatic self-cleaning strainer-type filter*) lowest pressure immediately upstream from an automatic self-cleaning strainer-type filter recommended by the manufacturer to ensure proper operation.
- minimum working pressure** (*chemical injection tank unit*) lowest pressure immediately upstream from a chemical injection tank unit recommended by the manufacturer to ensure proper operation.
- minimum working pressure** (*emitter/emitting pipe*) lowest pressure at the inlet to an emitter/emitting pipe recommended by the manufacturer to ensure proper operation
- minimum working pressure** (*hydraulically operated valve*) lowest pressure immediately upstream from a hydraulically operated valve recommended by the manufacturer to ensure proper operation.
- minimum working pressure** (*sprayers*) lowest pressure at the main nozzle of a sprayer recommended by the manufacturer to ensure proper operation.
- minimum working pressure** (*sprinklers*) lowest pressure at the inlet to a sprinkler recommended by the manufacturer to ensure proper operation.
- minimum working pressure** (*volumetric valve*) lowest pressure immediately upstream from a device recommended by the manufacturer to ensure continuous operation and functionality.
- minimum working pressure** (*water-driven chemical injector pump*) lowest pressure immediately upstream from a water-driven chemical injector pump recommended by the manufacturer to ensure proper operation.
- mixing ratio** (*water-driven chemical injector pump, chemical injection tank unit*) ratio of injection rate of a water-driven chemical injector pump or a chemical injection tank unit to irrigation system water flow rate, for example, 1/200 for an injection rate of 1 litre/hour and an irrigation system water flow rate of 200 litres/hour.
- motive water** (*venturi fertilizer injectors*) water introduced at the inlet of an injector at a specific flow rate and pressure.
- motive water flow rate** (*venturi fertilizer injectors*) volume of irrigation water required to operate an injector over a specified period of time at stated pressure conditions, for example, 10 liters/min at 1.0 bar inlet pressure and 0.5 bar outlet pressure.
- motive water flow rate range** (*venturi fertilizer injectors*) all of the motive water flow rates required to operate an injector between minimum and maximum working pressures.
- moveable fixed-grid irrigation system** (*sprinklers*) irrigation system for which sprinkler set positions are nominally fixed by the supply pipeline, a hydrant, in-field access or other infrastructure constraints, for example, hand-move systems, wheel-move systems, tow-lines and continuous-move systems.
- moving lateral** (*centre-pivot and moving lateral irrigation machine*) automated irrigation machine consisting of a number of self-propelled towers supporting a pipeline to which water may be supplied at any point for distribution to individual sprayer or sprinkler nozzles located at intervals along the pipeline and moving in such a way that the pipeline remains in a generally straight line, traversing the field in a straight path to irrigate a rectangular area.
- moving sheet** (*sprinklers*) sheet spray which moves in a linear fashion or which rotates.
- multiple-outlet emitter** (*emitter/ emitting pipe*) emitter for which the inlet flow is divided and distributed to several distinctly different outlets.
- multi-range pressure regulator** (*direct-acting pressure-regulating valve*) pressure regulator with alternative pressure settings and regulation ranges that may be changed by replacing pressure regulator components such as springs and discs but not by external adjustment.
- net positive suction head available** (*test facilities*) arithmetic difference between the available total suction head at the impeller of a centrifugal pump and the vapor pressure head
- net positive suction head required** (*test facilities*) arithmetic difference between the total suction head at the impeller of a centrifugal pump required for the pump to operate properly and the vapor pressure head, as specified by the manufacturer
- nominal diameter** (*aluminium irrigation tubes*) numerical designation used to indicate the size of an aluminium tube and approximately equal to its outside diameter.
- nominal diameter** (*emitter/emitting pipe*) numerical designation used to indicate the size of an emitting pipe and approximately equal to

- the outside diameter, in mm, of the pipe.
- nominal diameter** (*gated pipe*) numerical designation used to indicate the size of a gated pipe approximately equal to the outside diameter of the pipe.
- nominal diameter** (*irrigation control head*) numerical designation identical to the nominal diameter of the pipe at the inlet or the outlet, whichever is the smaller, of an irrigation control head.
- nominal duration of opening or closing time** (*hydraulically operated valve*) period of time which elapses from the activation of a hydraulically operated valve until its full opening or closing.
- nominal emission rate** (*emitters, emitting pipe systems*) Definition pending
- nominal emission rate (regulated emitting pipe)** (*emitting pipe systems*) emission rate of a regulated emitting pipe, operating in the range of regulation, as specified by the manufacturer.
- nominal emission rate (unregulated emitting pipe)** (*emitting pipe systems*) emission rate of an unregulated emitting pipe, operating at the nominal test pressure, as specified by the manufacturer.
- nominal flow rate** (*volumetric valve*) volume of water discharged per unit time from a volumetric valve recommended by a manufacturer under test conditions specified in a standard.
- nominal flow rate in an unregulated emitter/emitting pipe** (*emitter/emitting pipe*) low rate, expressed in liter per hour rounded to the nearest 1/10th, of an emitter/emitting unit operating at the nominal test pressure and at a water temperature of 23 ± 3 °C, as specified by the manufacturer
- nominal pressure** (*valves*) convenient numerical designation for, and the approximate equivalent of, the maximum pressure that a valve will withstand at a water temperature specified by the manufacturer, typically 20°C.
- nominal pressure** (*volumetric valves*) numerical designation equal to the maximum working pressure that a device will withstand at a water temperature of 20°C.
- nominal pressure** (*valves*) numerical designation equal to the maximum working pressure that a device will withstand at a water temperature of 20°C.
- nominal size** (*check valve*) numerical designation used to refer to the size of a check valve which is identical to the diameter of the pipe or pipes to which the check valve is intended to be connected directly.
- nominal size** (*hydraulically operated valve*) numerical designation used to refer to the size of a hydraulically operated valve which is identical to the diameter of the pipe or pipes to which the hydraulically operated valve is intended to be connected directly.
- nominal size** (*manually operated small plastics valve*) numerical designation used to refer to the size of a manually operated small plastics valve which is identical to the diameter of the pipe or pipes to which the manually operated small plastics valve is intended to be connected directly.
- nominal size** (*pressure losses in irrigation valves*) numerical designation used to refer to the size of an irrigation valve which is identical to the diameter of the pipe or pipes to which the irrigation valve is intended to be connected directly.
- nominal size** (*sprinklers*) numerical designation used to refer to the size of a sprinkler which is identical to the diameter of the pipe to which the sprinkler is intended to be connected directly.
- nominal size** (*venturi fertilizer injectors*) numerical designation used to refer to the size of an injector which is identical to the diameter of the pipe to which the injector is intended to be connected directly.
- nominal size** (*water-driven chemical injector pump, chemical injection tank unit, plastics saddles for polyethylene pipe*) numerical designation used to refer to the size of a water-driven chemical injector pump, a chemical injection tank unit or a saddle which is identical to the diameter of the pipe or pipes to which the water-driven chemical injector pump, the chemical injection tank unit or the saddle is intended to be connected directly.
- nominal size** (*Pressure losses in irrigation valves*) numerical designation used to refer to the size of the device end connection which is identical to the numerical designation of the pipe or pipes to which the device is intended to be connected directly.
- nominal test pressure in an unregulated emitter/emitting pipe** (*emitter/emitting pipe*) reference pressure to be used for test purposes at the inlet of an unregulated emitting pipe, as designated in the manufacturer's publications.
- nominal velocity of filtration** (*filters classification*) flow rate through a filter per unit effective surface area of the filter medium, as declared by the manufacturer or estimated by the testing laboratory.
- non-autonomous control valve** (*control valves*) A valve that requires external power in order to regulate the specified function
- non-leakage emitter/ emitting pipe** (*emitter/emitting pipe*) emitter / emitting pipe whose flow is zero whenever the pressure is lower than a value of pressure declared by the manufacturer. Note :

- generally to prevent emptying of the lateral or emitting pipe at the pressures caused by the topography in the area of installation.
- non-regulated sprayer** (*sprayer*) sprayer with a variable flow rate at varying water pressures at the sprayer inlet, also called non-pressure-compensating sprayer.
- non-reusable emitting pipe** (*emitter/emitting pipe*) emitting pipe not intended for removal and re-installation.
- non-serial volumetric valve** (*volumetric valve*) volumetric valve intended to operate alone.
- non-wicking filler** (*electrically driven or controlled irrigation machine*) filler material within an electric cable which prevents moisture migration from one location to another within the cable.
- normally closed valve** (*hydraulically operated valve*) hydraulically operated valve which remains closed unless the minimum activating pressure is applied to the operating mechanism.
- normally open valve** (*hydraulically operated valve*) hydraulically operated valve which remains open unless the minimum activating pressure is applied to the operating mechanism.
- nozzle** (*sprayers*) aperture or adjutage of a sprinkler or a sprayer through which water is discharged.
- nozzle** (*sprinklers*) aperture in a sprinkler through which water is discharged.
- nozzle pressure** (*sprinklers*) pressure measured immediately upstream of a nozzle or as inferred by a pitot tube measurement at the vena contracta of the nozzle.
- nozzle size** (*sprinklers*) numerical size designation used for commercial purposes with no specific relationship to the actual dimensions of a nozzle.
- oblique valve** (*manually operated small plastics valve*) valve in which the axes of the body ends are co-linear and in which the axis of the stem is oblique to the axes of the body ends, also called Y-globe valve
- obturator** (*check valve*) moving member in a check valve that operates to close the valve seat and, where applicable, contains a washer or similar sealing device.
- obturator** (*manually operated small plastics valve*) moving member in a valve that operates to close the valve and, where applicable, contains a washer or similar sealing device
- offset-orifice nozzle** (*sprinklers*) nozzle for which the centerline of the orifice is not co-linear with the centerline of the nozzle.
- one-sided hydraulic activation** (*hydraulically operated valve*) activating mechanism capable of using water pressure to apply force on a hydraulically operated valve in one direction only, either to open it or to close it.
- on-line chemical injection tank unit** (*chemical injection type unit*) chemical injection tank unit intended for installation in parallel with the main line of an irrigation system or in a bypass line and featuring a valve or some other component in the main line external to the chemical injection tank unit which creates a pressure drop between the inlet and the outlet of the chemical injection tank unit, thereby forcing part of the water flowing through the main line to flow through the chemical injection tank unit..
- on-line emitter** (*emitter/emitting pipe*) emitter intended for installation in the wall of an irrigation lateral, either indirectly by means such as tubing or directly.
- on-line filter** (*filters classification*) filter for which the inlet and the outlet are not coaxial, also called non-coaxial filter.
- on-line water-driven chemical injector pump** (*water-driven chemical injector pump*) water-driven chemical injector pump installed off the main irrigation system piping and featuring four ports, including one inlet for chemical, one outlet for chemical, one inlet for drive water and one outlet for drive water, with the outlet for chemical connected to the main irrigation system piping so that injection of the chemical occurs outside the water-driven chemical injector pump and with the outlet for drive water not connected to the main irrigation system piping, also called on-line injector pump.
- open vanes** (*sprinklers*) flow-straightening vanes that are designed to shed waterborne contaminants.
- opening torque** (*manually operated small plastics valve*) smallest torque, applied continuously to the stem of a valve, which will fully open the valve from a fully closed position at nominal pressure.
- operating device** (*valves*) manual or power operated device used to operate the bare valve
- operating mechanism** (*valves*) mechanism which translates the motion of the operating device to the motion of the obturator
- opposed reaction-force-driven rotating sprinkler** (*sprinklers*) rotating sprinkler driven by hydraulic reaction forces from more than one jet acting in opposite directions such that the rotational torque is balanced to provide speed control and rotational stability, also called balanced reaction-force-driven rotating sprinkler.
- ordinary pressure regulator** (*direct-acting pressure-regulating valve*) pressure regulator intended for installation upstream from an irrigation device and not integrated into the irrigation device or fitted specifically to it.

- outlet** (*chemical injection tank unit*) orifice at which chemical is discharged from a chemical injection tank unit into the main line or the bypass line of an irrigation system.
- overload flow-rate** (*volumetric valves*) highest flow-rate at which the volumetric valve is required to operate for a short period of time within its maximum permissible error, whilst maintaining its metrological performance when it is subsequently operated under normal service conditions.
- part-circle sprinkler** (*sprinklers*) sprinkler designed to irrigate a sector of a circular area, either with or without an attachment which enables it to be adjusted to irrigate another sector or the entire circular area.
- percent pressure differential** (*venturi fertilizer injectors*) calculated value equal to the pressure differential of an injector divided by the inlet pressure and multiplied by 100.
- permanent flow-rate** (*volumetric valves*) highest flow rate under normal service conditions at which the volumetric valve is required to operate in a satisfactory manner within the maximum permissible error
- pop-up sprinkler** (*sprinklers*) sprinkler designed for installation so that the sprinkler nozzle is below ground level when it is not pressurized and above ground level when it is pressurized.
- power conductor** (*electrically driven or controlled irrigation machine*) conductor that carries current to provide electric power from a machine isolator to a drive motor.
- pre-filtration** (*filters classification*) process for separating primarily large particles from water which is to be filtered with the object of reducing the clogging of the filter elements and, consequently, the head loss across the filter elements.
- preliminary filter element** (*automatic self-cleaning strainer-type filter*) device having larger apertures than the filter element in an automatic self-cleaning strainer-type filter, designed so as to protect the flushing control mechanism.
- pressure regulation** (*irrigation control head*) reduction of pressure prevailing in a supply line to maintain it at a relatively constant preset value *in an irrigation system*.
- pressure regulator** (*direct-acting pressure-regulating valve, irrigation control head*) valve in which the water passage widens or narrows automatically to maintain the pressure at the outlet of the valve close to a preset value under varying pressures or flow rates at the inlet of the valve, also called direct-acting pressure-regulating valve.
- pressure tap** (*sprinklers*) precisely fabricated connection for communicating internal conduit pressure to an external pressure measuring device.
- pressure-vacuum breaker** (*safety devices for chemical injection systems*) assembly consisting of an independently acting check valve, internally force-loaded, an independently acting air inlet valve, internally force-loaded, located on the discharge side of the check valve, tightly closing shut-off valves located at each end of the assembly and test cocks, designed to protect against a health hazard under a back-siphonage condition.
- pressurized filter** (*filters classification*) filter designed for operation with an inlet pressure greater than atmospheric pressure.
- proportional water-driven chemical injector pump** (*water-driven chemical injector pump*) water-driven chemical injector pump intended to maintain a relatively constant mixing ratio throughout the period of its operation at the irrigation water flow rates declared by the manufacturer to be within the acceptable range of operation, also called proportional injector pump.
- protective mechanism** (*automatic self-cleaning strainer-type filter*) mechanism that prevents repeated flushings of an automatic self-cleaning strainer-type filter caused either by mechanical failure of the flushing control mechanism or by the inability of the filter to reach a pressure differential between the inlet and outlet pressures that is less than the preset flushing pressure differential.
- pulse volume** (*water-driven chemical injector pump*) volume of chemical injected into an irrigation system in one cycle of a water-driven chemical injector pump, for example, in one stroke of piston or a membrane-activated water-driven chemical injector pump, also called stroke volume.
- push check valve** (*check valve*) check valve the check mechanism of which incorporates a disc, piston or ball which lifts off the body seat by flow in the normal direction.
- raceway** (*electrically driven or controlled irrigation machine*) enclosed channel designed expressly for holding electrical wires, cables or busbars.
- radial collector array** (*sprinklers*) collectors located only on a radial axis projected from the centerline of a sprinkler sufficient in number to characterize the water distribution curve.
- radius of throw** (*sprinklers*) distance measured from the centerline of a continuously operating sprinkler to the most remote point at which the sprinkler deposits water at a minimum rate of 0.25 mm/h for a sprinkler with a discharge exceeding 75 L/h and at a minimum rate of 0.13 mm/h for a sprinkler with a discharge equal to or less than 75

- L/h measured at any arc of coverage except near the arc extremes for part-circle sprinklers, also called wetted radius.
- range of flow rates** (*volumetric valve*) flow rates within the range of the minimum flow rate and the overload flow rate, inclusive of limits
- range of recommended flow rates** (*automatic self-cleaning strainer-type filter*) all of the flow rates declared by the manufacturer for proper operation of an automatic self-cleaning strainer-type filter.
- range of regulation** (*direct-acting pressure-regulating valve*) all of the working pressures at the inlet of a pressure regulator within which the pressure regulator is declared by the manufacturer to regulate pressure within a specified accuracy
- range of regulation** (*sprayers*) all of the working pressures at the inlet of a regulated sprayer within which the sprayer is declared by the manufacturer to regulate flow within a specified accuracy
- range of regulation in a regulated emitter/emitting pipe** (*emitter/emitting pipe*) all of the working pressures at the inlet of a regulated emitting pipe for which each emitting unit discharges at the nominal emission rate.
- range of working flow rates** (*volumetric valves*) flow rates within the range of the minimum flow rate and the permanent flow rate, inclusive of limits.
- range of working pressures** (*emitter/emitting pipe*) all of the working pressures between the minimum working pressure and the maximum working pressure.
- range of working pressures** (*sprayers*) all of the working pressures between the minimum working pressure and the maximum working pressure.
- range of working pressures** (*sprinklers*) all of the working pressures between the minimum working pressure and the maximum working pressure.
- range of working pressures** (*volumetric valve, water-driven chemical injector pump, chemical injection tank unit*) all of the working pressures between the minimum working pressure and the maximum working pressure.
- range of working pressures** (*volumetric valves*) all pressures within the range of the minimum and maximum working pressures, inclusive of the limits.
- rated nominal pressure** (*hydraulically operated valve, manually operated small plastics valve, check valve*) convenient numerical designation for, and the approximate equivalent of, the maximum pressure that a hydraulically operated valve, check valve or manually operated small plastics valve will withstand at a water temperature specified by the manufacturer, typically 20°C.
- readily accessible** (*electrically driven or controlled irrigation machine*) capable of being opened quickly for maintenance, repair or inspection, including by latch fasteners and mechanical interlocks but excluding firm attachment by two or more screws.
- reduced-pressure-principle device** (*safety devices for chemical injection systems*) device consisting of two independently acting check valves, internally force loaded to a normally closed position, separated by an intermediate chamber in which there is an hydraulically operated relief mechanism for venting to atmosphere, internally force loaded to a normally open position, designed to operate under continuous pressure conditions.
- reel machine** (*traveller irrigation machines*) Type 1 traveller irrigation machine featuring a stationary reel coiling a distribution tube which drags a travelling cart upon which a discharge system, most often a gun, is installed and which carries irrigation water to the discharge system.
- reference cross-section** (*direct-acting pressure-regulating valve*) cross-section of a valve, including a pressure regulator, calculated from the expression $A_{ref} = \pi/4 \times (D_{nom}/1000)^2$, where A_{ref} is the reference cross-section of the valve or pressure regulator and D_{nom} is the nominal diameter of the valve or pressure regulator.
- reference cross-section** (*pressure losses in irrigation valves*) cross-section of a valve, including a pressure regulator, calculated from the expression $A_{ref} = \delta/4 \times (D_{nom}/1000)^2$, where A_{ref} is the reference cross-section of the valve or pressure regulator and D_{nom} is the nominal diameter of the valve or pressure regulator.
- reference velocity** (*direct-acting pressure-regulating valve*) velocity of flow through a pressure regulator, calculated by dividing the flow rate through the pressure regulator by the reference cross-section of the pressure regulator.
- reference velocity** (*pressure losses in irrigation valves*) velocity of flow through a valve, calculated by dividing the flow rate through the valve by the reference cross-section of the valve.
- regulated emitter/emitting pipe** (*emitter/emitting pipe*) emitting pipe which maintains an emission rate within 5% of its nominal flow rate with pressures at its inlet varying within the range of regulation specified by the manufacturer, also called pressure-compensating emitting pipe.
- regulated pressure** (*direct-acting pressure-*

- regulating valve*) pressure at the outlet of a pressure regulator.
- regulated pressure at zero flow** (*direct-acting pressure-regulating valve*) regulated pressure when pressure is applied at the inlet of a pressure regulator and the outlet of the pressure regulator is closed.
- regulated sprayer** (*sprayers*) sprayer which maintains a flow rate within 5% of its nominal flow rate with pressures at its inlet varying within the range of regulation specified by the manufacturer, also called pressure-compensating sprayer.
- relative error** (*volumetric valves*) difference between measured and actual volume divided by actual volume, expressed as a percentage.
- relief nozzle** (*float-type air-release valve*) aperture in the upper part of the valve body, or in the valve cover plate, through which air is vented from an air-release valve or through which air enters and which also generally serves as the seat of the float seal.
- reusable emitting pipe** (*emitter/emitting pipe*) emitting pipe designed for removal and reinstallation with proper handling from one season to another or under other circumstances.
- ring-orifice circular nozzle** (*sprinklers*) circular nozzle with an orifice in a readily replaceable ring or disk placed normal to the direction of flow to produce change in the hydraulic performance of the sprinkler, also called disk-orifice circular nozzle.
- rotating sprinkler** (*sprinklers*) device which, by its rotating motion around a vertical axis, distributes water over a circular area or part of a circular area.
- rotation-speed-adjustable sprinkler** (*sprinklers*) sprinkler that provides a means of mechanically adjusting the rotation speed.
- saddle** (*plastics saddles for polyethylene pipe*) fitting used to assemble a branch outlet to a polyethylene pipe through a boring in the wall of the polyethylene pipe.
- safe maximum head loss** (*automatic self-cleaning strainer-type filter*) maximum allowable difference between inlet and outlet pressures across an automatic self-cleaning strainer-type filter when the filter element has become clogged to the extent of requiring cleaning or replacement.
- safety** (*irrigation control head*) protection of an upstream and/or downstream network of pipes and other components of an irrigation system against excess pressure and/or pollution hazards.
- sand filter** (*filters classification*) media filter in which the filter medium consists of sand, gravel or other natural or synthetic granular particles, in some cases employing layers of the filter medium each of a different particle size and arranged so that the water to be filtered passes through the layer with the finer particles first.
- scheduling coefficient** (*sprinklers*) coefficient using a definition of critical area (dry spots) to characterize the uniformity of field-measured water application from a full grid of sprinklers.
- sealing seat** (*float-type air-release valve*) part of the relief nozzle located on the inside of the valve body on an air-release valve against which the float or part of the float seals when the air-release valve is closed.
- seat** (*manually operated small plastics valve*) part of the obturator which provides the obturator sealing surface that can be an integral or a separate component
- sedimentation** (*filters classification*) method of filtration which depends on gravity to cause clogging material to settle out of slow-moving water, to settle down and to be deposited at the bottom of a reservoir or detention basin within a specific period of time.
- self-circulating filtration** (*filters classification*) method of filtration that employs a screen, or any other suitable filter medium, and a spinning technique, with or without inlet plugs to adjust the flow, for separating clogging material from water.
- self-propelled reel machine** (*traveller irrigation machines*) Type 3 traveller irrigation machine featuring a stationary distribution tube which carries irrigation water to a travelling structure accommodating a reel upon which the distribution tube is coiled, a drive train, self-propelled wheels and a discharge system.
- semi-automatic flushing filter** (*filters classification*) filter in which the flushing sequence or cycle is manually activated, followed by automatic termination of flushing.
- semi-automatic irrigation system** (*automatic irrigation system*) irrigation system that includes a control system which is capable of shutting off the irrigation system automatically after a preset quantity of water has passed through a valve in the system and which must be manually reset to initiate a new irrigation cycle.
- sequential activation** (*automatic irrigation system*) activation of several valves in an automatic irrigation system, one after the other, so that each valve begins operation after the preceding valve in the series has delivered its preset quantity of water.
- sequential back flushing** (*filters classification*) back flushing of one or more individual filter elements functioning in parallel after their removal from service for back flushing, frequently using filtered water from some or

- all of the remaining functioning filter elements.
- serial volumetric valve** (*volumetric valve*) volumetric valve intended for operation in sequence in a system of volumetric valves.
- sheet spray** (*sprinklers*) water spread out in a plane, for example, the spray that results when a jet spray hits a deflector plate.
- shell test** (*manually operated small plastics valve*) test intended to check the design strength of a valve body under internal hydrostatic pressure
- simultaneous back flushing** (*filters classification*) flushing occurring simultaneously through all areas of a filter element or through all the individual elements of a multi-element filter.
- single-range pressure regulator** (*direct-acting pressure-regulating valve*) pressure regulator with a fixed non-adjustable pressure setting which cannot be varied.
- snaking** (*softwall hose and couplings*) deviation of a softwall hose from its original straight-line position caused by elongation.
- softwall distribution hose** (*traveller irrigation machines*) supply hose which conveys irrigation water along a strip from an irrigation water source to the discharge system for a Type 2 traveller irrigation machine (traveller), also called in-field supply hose and distribution hose.
- source connection hose** (*traveller irrigation machines*) hose used to connect an irrigation water source to the stationary structure of a Type 1 traveller irrigation machine (reel machine).
- space-filling fog-spray** (*sprinklers*) emission under high pressure from a small orifice which fills the air with a cloud of ultra-fine droplets the size of which may be specified, usually for the purpose of crop cooling.
- space-filling mist-spray** (*sprinklers*) emission from an orifice which fills the air with a cloud of very fine droplets, the size of which may be specified, but which is larger than the size of the droplets in a space-filling fog spray.
- space-filling rain-spray** (*sprinklers*) emission from an orifice which fills the air with a volume of medium to coarse drops the size of which may be specified, but which is larger than the size of the droplets in a space-filling mist-spray.
- space-filling spray** (*sprinklers*) emission from an orifice which fills the air with a cloud of fine droplets the size range of which may be specified.
- space-filling spray combination sprinkler** (*sprinklers*) sprinkling device combining a number of space-filling spray types.
- spigot** (*gated pipe*) part of the joint connecting two sections of a pipe formed by a rounded or beveled tip at one end of a section of pipe with the bell that serves as the sealing element with the bell at the corresponding end of the adjoining section of pipe.
- splash re-direct mechanism** (*sprinklers*) tube or deflection device mounted on an arm-driven sprinkler to re-direct the drive action portion of a jet in a direction generally parallel to the main jet.
- spool** (*traveller irrigation machines*) component of a traveller irrigation machine, consisting of a drum with flanges, rotating on an axial shaft, and intended for storing the part of the distribution tube, for Types 1 and 3 traveller irrigation machines, or part of the cable which is not lying on the field, for Type 2 traveller irrigation machines or as an additional similar component intended for storing the softwall distribution hose of some Type 2 traveller irrigation machines, when not irrigating.
- spray elevation** (*sprinklers*) height that the spray from a nozzle rises above a horizontal plane passing through the elevation of the nozzle.
- spring-loaded check valve** (*chemigation valve*) valve which permits flow of water in one direction only and is closed by a spring.
- sprinkler** (*sprinklers*) water distribution device of a variety of sizes and types, for example, impact sprinkler, fixed nozzle, sprayer, irrigation gun.
- sprinkler package** (*centre-pivot and moving lateral irrigation machines*) collection of devices, fitted to the outlets of either centre-pivot or moving lateral irrigation machines, consisting potentially of sprayers or sprinklers, piping, flow-control devices and supporting plumbing designed for a specific irrigation machine and a set of operating parameters.
- sprinkler spacings** (*sprinklers*) conventional designation including the distance between the sprinklers along an irrigation lateral and the distance between consecutive irrigation laterals.
- stationary fixed-grid irrigation system** (*sprinklers*) irrigation system for which sprinkler set positions are rigidly fixed by semi-permanent or permanently installed irrigation laterals, for example, portable solid-set irrigation system, buried irrigation system.
- statistical uniformity coefficient** (*sprinklers*) coefficient using standard deviation as a measure of dispersion in statistical theory to characterize the uniformity of field-measured water application from a full grid of sprinklers.
- steady flow** (*pressure losses in irrigation valves*) state of flow for which the flow rate through a cross-section does not vary with time.
- stem** (*manually operated small plastics valve*)

- component of an obturator on which the actuating thread is formed and by which control of the closing component is effected, also called shaft.
- straight-bore nozzle** (*sprinklers*) nozzle utilizing a cylindrical flow cross-section approaching the orifice, normally with no vena contracta.
- strainer filter element** (*filters classification*) component of a strainer-type filter consisting of a perforated plate, screen, mesh or a combination of these, intended to retain clogging material larger than a specified size from the water flowing through the component.
- strainer housing** (*automatic self-cleaning strainer-type filter*) component of an automatic self-cleaning strainer-type filter which contains all the other components of the automatic self-cleaning strainer-type filter except the control devices and the strainer housing itself.
- strainer housing cover** (*automatic self-cleaning strainer-type filter*) removable component of an automatic self-cleaning strainer-type filter permitting assembly, disassembly and cleaning of the other components.
- strainer length** (*automatic self-cleaning strainer-type filter*) distance between the extremities of the connecting threads of an automatic self-cleaning strainer-type filter, the face-to-face distance between the connecting flanges or the distance between centres of the parallel faces of the inlet and outlet ports which may be either threaded or flanged.
- strainer-type filter** (*filters classification, irrigation control head*) device containing one or more filter elements, such as a screen or a mesh, used for separating clogging material from water flowing through the device by collecting it on the surface of the filter element or elements, also called strainer.
- strip** (*traveller irrigation machines*) portion of a field which is irrigated sequentially by a traveller irrigation machine, typically featuring a rectangle a few dekametres wide and a few hundred metres long, with a width equal to the distance between two adjacent travel paths of the cart and an effective zone wetted by the discharge system which may exceed the width of the strip because overlapping patterns are required to maintain good uniformity of water application over the entire field, also called lane.
- surface filtration** (*filters classification*) method of filtration which employs screen filters with mesh elements to separate clogging material from water.
- surface separation** (*filters classification*) method of unpressurized separation which depends on gravity and which employs an inclined separating element, such as a screen, a mesh or a strainer, to separate larger clogging material from water.
- swing-type check valve** (*check valve*) check valve in which the check mechanism incorporates a swinging disc or two half-discs which swing on a hinge.
- taper-bore nozzle** (*sprinklers*) nozzle utilizing an efficient conical flow cross-section approaching the orifice, characterized by low jet turbulence.
- test bench** (*test facilities*) collection of components including water supply/receiving reservoir, piping, fittings and instrumentation assembled to test an irrigation component
- test facility** (*test facilities*) collection of components including water supply, test bench(es) and shelter used to test irrigation valves, sprinklers and emitters
- test pressure** (*centre-pivot and moving lateral irrigation machines*) pressure of a centre-pivot or moving lateral irrigation machine measured at the first available outlet downstream from the elbow or the tee at the top of the inlet structure.
- test pressure** (*sprayers*) pressure at the inlet of a sprayer declared by the manufacturer as the pressure to be used for test purposes or, in the absence of such declaration, 200 kPa.
- test pressure** (*sprinklers*) pressure at the inlet of a sprinkler declared by the manufacturer as the pressure to be used for test purposes.
- tester** (*centre-pivot and moving lateral irrigation machines*) person, persons or organization conducting a test.
- three-way serial volumetric valve** (*volumetric valve*) volumetric valve with one inlet and two outlets, which is normally open when the pressure at the inlet is the atmospheric pressure and which is so designed that, when a preset volume of water has passed through the first outlet, this outlet shuts off automatically, the second outlet opens automatically and all the flow is passed through the second outlet to the next volumetric valve in the series.
- through-flushing filter** (*filters classification*) filter which achieves flushing by means of high-velocity or high-pressure flow through a discharge valve or outlet.
- total suction head at the impeller of a centrifugal pump** (*test facilities*) sum of the static pressure head and the velocity head measured approaching the inlet of the impeller of a centrifugal pump and corrected to the centerline of the impeller for a centrifugal pump mounted horizontally or to the datum of the tip of the inlet vanes for a centrifugal pump mounted vertically
- trajectory angle** (*sprinklers*) angle above the horizontal plane of the water stream

- discharged from a sprinkler nozzle operating at test pressure.
- trajectory height** (*sprinklers*) maximum height above a sprinkler of the trajectory of the water stream discharged from the sprinkler nozzle operating at test pressure.
- traveller** (*traveller irrigation machines*) Type 2 traveller irrigation machine featuring a travelling winch with a hydraulic motor, supporting a discharge system, which coils a cable and which drags a softwall distribution hose.
- traveller irrigation machine** (*traveller irrigation machines*) irrigation machine designed to irrigate a field sequentially, strip by strip, which can achieve, through various coiling techniques, travel across the field by a cart equipped with a travelling discharge system, such as a sprinkler or gun, or a combination of sprinklers and guns, or a boom with a set of sprinklers, sprayers or other kinds of discharge devices, and which is intended to be moved to, and operated from, several supply points established in advance in the field.
- two-sided hydraulic activation** (*hydraulically operated valve*) activation caused by a mechanism in a hydraulically operated valve which uses water pressure to apply force in either of two directions, either to open it or to close it.
- two-way serial volumetric valve** (*volumetric valve*) volumetric valve with one inlet and one outlet, intended for connection in parallel in a system of volumetric valves designed to be opened by means of a hydraulic command when preset to the open position and which, on closing after delivering the preset volume of water, transmits a hydraulic command to the next volumetric valve in the system to bring it into operation.
- type test** (*valves*) test to prove that the design meets the corresponding performance requirements in this standard and in the part of the standard related to the specific valve being tested
- union** (*irrigation control head*) threaded coupling which is used to connect two pipes and which does not require rotation of the pipes during installation and dismantling.
- unit emitting pipe** (*emitter/emitting pipe*) length of emitting pipe containing one emitting unit.
- unregulated emitter/emitting pipe** (*emitter/emitting pipe*) emitting pipe whose emission rate varies at different water pressures, also called non-compensating emitting pipe.
- vacuum filter** (*filters classification*) filter designed for operation in situations in which the discharge side of the filter is below atmospheric pressure, as on the suction side of a pump.
- valve body** (*manually operated small plastics valve*) main part of a manually operated small plastics valve through which water flows, which houses the working parts of the manually operated small plastics valve and which allows its connection to a piping system.
- valve flow coefficient** (*pressure losses in irrigation valves*) numerical designation equal to the flow rate, in m³/h, through a fully open irrigation valve with a one-bar head loss across the irrigation valve.
- valve head loss** (*pressure losses in irrigation valves*) decrease in energy per unit weight of water in an irrigation valve being tested.
- valve head loss coefficient** (*pressure losses in irrigation valves*) coefficient used in non-dimensional presentation of valve head loss as a function of velocity head, calculated from the expression $k = 2g \dot{A}h_v / v_{ref}^2$, where k is the valve head loss coefficient, g is the gravitational constant, $\dot{A}h_v$ is the valve head loss, \dot{n} is the mass density of water and v_{ref} is the reference velocity.
- valve seat** (*manually operated small plastics valve*) smooth annular and, in some cases, bevelled surface around the flow aperture in the body dividing wall with which the obturator makes contact when a manually operated small plastics valve is closed.
- vapor pressure head** (*test facilities*) head associated with the absolute pressure at which a liquid vaporizes, as determined by the physical properties of the liquid and its temperature
- variable-cycle nozzle** (*sprinklers*) sprinkler operating on fixed mechanically controlled repeatable sequences consisting of a number of cycles producing one hydraulic performance followed by a number of cycles producing a different hydraulic performance.
- variable-flow-rate sprinkler** (*sprinklers*) sprinkler that automatically provides a change in hydraulic performance during operation.
- variable-geometry nozzle** (*sprinklers*) nozzle fabricated to a non-regular shape for a specific purpose such as pressure or flow regulation or jet breakup.
- variable-internal-geometry nozzle** (*sprinklers*) nozzle the performance of which is significantly affected by the flow passage upstream from the orifice.
- variable-performance fixed-operating-condition nozzle** (*sprinklers*) nozzle the internal geometry of which varies in some repetitive manner under fixed operating conditions, thus producing a variable hydraulic performance.
- variable-stream-breakup-sequence sprinkler** (*sprinklers*) sprinkler that provides a stream

- breakup that varies during operation either automatically or in a series of pre-set repeatable mechanically controlled cyclic patterns.
- variable-trajectory-angle sprinkler** (*sprinklers*) sprinkler that automatically changes the trajectory angle during operation, for example, by adjusting the axis of rotation or by other mechanical means.
- variation between cycles** (*sprinklers*) sprinkling devices that operate on fixed mechanically controlled repeatable sequences. Sequences consist of a number of cycles exhibiting one set of hydraulic properties followed by a number of cycles exhibiting a second set of hydraulic properties.
- vertical-pattern check valve** (*check valve*) check valve for installation in a vertical position with inlet and outlet axes that are collinear.
- vicat softening temperature** (*gated pipe*) temperature at which a standard indenter under a force of 49.05 N penetrates 1 mm into a test piece cut from the wall of a pipe.
- volume of flushing water** (*automatic self-cleaning strainer-type filter*) volume of water flushed from an automatic self-cleaning strainer-type filter during one flushing cycle.
- volumetric valve** (*volumetric valve*) valve capable of automatically delivering preset volumes of water within the range of flow rates, as a result of measuring the volume of water flowing through the valve.
- water application rate** (*sprinklers*) mean depth of water applied per unit time.
- water distribution curve** (*sprayers*) graphical plot of water application depth as a function of distance from a sprayer along a specified radius, also called distribution curve.
- water distribution curve** (*sprinklers*) graphical plot of water application depth as a function of distance from a sprinkler along a specified radius, also called distribution curve.
- water dose** (*automatic irrigation system*) quantity of water required to fill the needs of a given crop area in one irrigation cycle.
- water outlet height** (*sprayers*) height above ground level of the water outlet of a sprayer when the sprayer is installed as specified by the manufacturer.
- water-driven chemical injector pump** (*water-driven chemical injector pump*) hydraulic pump intended to inject routinely used chemicals into an irrigation system, operated exclusively by the energy of irrigation water driving a hydraulic device such as a piston or a turbine, also called injector pump.
- weatherproof** (*electrically driven or controlled irrigation machine*) constructed or protected so that exposure to the environment does not interfere with the operation of an electrically driven or controlled irrigation machine.
- wind speed** (*sprinklers*) speed of the wind at a test site time-averaged during a test of the distribution uniformity of a sprinkler.
- working pressure** (*sprinklers*) water pressure recommended by the manufacturer to ensure proper operation of a sprinkler.