Valve Industry Terms & Definitions

TERM	DEFINITION
AGA	Australian Gas Association is a licensing body governing the rules, regulations and approvals of all products and materials used on gas installations within Australia.
ANSI	American National Standards Institute. Uusually used as a dimensional spec for pipe, fittings and flanges. e.g. pipe to ANSI B36.10, flanges to ANSI Class 150.
AS	Australian Standard.
Backflow	Backflow is the unintended flow of water or other liquids from a potentially polluted source into the potable (drinking) water supply.
Bar	Unit of measurement. 1Bar = 14.5psi and 1Bar = 100kPa.
BSP	British Standard Parallel thread. A type of Male Taper - Female taper parallel thread used in most low pressure fittings and valves. This is the most common thread used in Australia and is used in most general plumbing, air, water and low pressure applications on AS 1074 pipe, galvanised, brass and black steel fittings.
Class or PN	Class or Pressure Nominale is a system usually used to categorise flanges according to their pressure retaining capabilities. e.g. ANSI Class 150 flange.
Compression Fitting	A kind of pipe connection where a nut, and then a sleeve or ferrule is placed over a copper or plastic tube and is compressed tightly around the tube as the nut is tightened, forming a positive grip and seal without soldering.
DA	Double Acting. Type of pneumatic actuator that utilises an air signal to turn it on, off or to different positions. The main advantages of DA actuators are quick operation and lower cost.
DR or DZR	De-Zincification Resistant. DR Brass resists dezincification corrosion and must be used in all potable water installations throughout Australia as specified in the National Plumbing code. De-zincified brass is produced by lowering the zinc content of the brass to below 15% and then applying a special heat treatment to the product.
Dezincification Corrosion	This is what occurs when the metals in brass (copper & zinc) get separated from each other. Constant contact with water causes the zinc to be leeched from the brass, and can often be identified by a powdery white deposit on the valve or fitting under attack.
DIN	Deutsches Institut für Normung. German standards organisation.
Dynamic Pressure	The measure of pressure taken whilst water or gas is flowing through the system.
F&F	Female to Female threaded end connections.
FE	Flanged Ends
FF	Full or Flat Face.
FI	Female Iron. BSP threaded end female connection.
Full Port (Bore)	In a Full Port ball valve the hole in the ball is the same size as the hole in the pipe, flow is unrestricted, minimising friction loss.
HVAC	Heating, Ventilation & Air Conditioning. This sector of the industry is primarily involved in the control of temperature and humidity of the air within a building in addition to providing for smoke control, maintaining pressure relationships between spaces and providing fresh air for occupants. In modern buildings the design, installation and control systems of these functions are integrated into a single HVAC system.
Hydronic Heating	A heating system using circulating hot water.
Hydrostatic Pressure	Another name for head or pressure under static conditions, ie. with no flow of water or gas.

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ID	Internal Diameter of a valve or fitting.
kPa	kilo Pascal. Unit of pressure measurement. 1kPa = 1000Pa, 1kPa = 0.145038psi and 100kPa = 1Bar.
M&F	Male to Female threaded end connections.
MI	Male Iron. BSP threaded end male connection.
mPa	mega Pascal. Unit of pressure measurement. 1mPa = 1,000,000Pa, 1mPa = 1000kPa and 1mPa = 145.038psi and 1mPa = 10Bar ,
NB	Nominal Bore. The approximate size of the bore. Used to quickly describe standard valve, pipe & fittings dimensions. It is not the actual ID or the OD.
NM	Newton Metre. The unit of moment in the SI. It is abbreviated Nm or N.m, and sometimes hyphenated newton-metre. It is a compound unit of torque corresponding to the torque from a force of one newton applied over a distance arm of one metre.
N.P.T	National Pipe Thread. A type of Taper to Taper thread used in 3000# and 6000# high pressure valves and fittings. Generally used in the Petroleum industry.
Parallel Thread	A Continuous thread with no taper, generally used with a taped thread or with a tape or sealant to make a seal.
OD	Outside Diameter of a valve or fitting.
PN	Pressure Nominale. Commonly used to describe the approximate working pressure of a valve, fitting etc.
Potable Water	Water intended for (human) drinking purposes.
psi	Pound-force Per Square Inch. A non SI measurement of pressure. 1psi = 6.895kPa or 0.00689 mPa.
PTFE (Teflon)	Teflon is the brand name of polytetrafluoroethylene (PTFE), first discovered in 1938. Teflon has the lowest coefficient of friction of any known solid man-made material. It is very non-reactive, and so is often used in pipework valve seals for reactive chemicals. Its melting point is 327°C, but it will degrade over 260°C.
PVC	Poly Vinyl Chloride. A widely used thermoplastic polymer.
Reduced Port (Bore)	In a Reduced Port ball valve, the bore through the valve is generally two pipe sizes smaller than the valves pipe size, once again this results in greater friction loss than a standard port ball valve.
RF	Raised Face. Describes the face of a flange.
SA	Single Acting. Type of pneumatic actuator, with spring return that requires an air signal and spring to close. The advantage of this type of actuator is that only a single signal is required to operate the valve, making it fail safe in the event of a power failure.
SAE.	Society of Automotive Engineers. The standard for flared connections.
Schedule or WT	The wall thickness of a given pipe. It is important to note that the thickness of a given schedule is not consistent throughout all diameters, although over 300mm Std Wt is always 9.53mm and XS is always 12.7mm. Std Wt is the same thickness as Sched 40 up to & incl 250mm.
SE	Screwed Ends. Commonly used to describe a valve or pipe end connections.
SI	Le Système International d'Unités. This International system of units is the modern form of the metric system.

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Standards Mark	A trademark of Standards Australia, granted under licence to products manufactured under a quality assurance program and that meet a specific Australian or international standard.
Standard Port (Bore)	A Standard Port ball valve is generally less expensive, but has a smaller ball and hence a smaller bore. Flow through this valve is one pipe size smaller than the valve's pipe size, resulting in slightly greater friction loss than a full port ball valve.
Tapered Thread	Gives a tighter seal. For fittings, may be used in conjunction with a parallel thread or with another tapered thread.
Test Plug	Provides a convenient method of accessing fluids within a piping system for measuring pressure, temperature and flow rate. Available in different types for water, gas or steam.
Throttling	This is when a valve is positioned in a partially open position (may be varied between 20-90°). This partial opening of the valve allows flow to pass through the valve at a controlled rate.
2-piece valve	A body manufactured from two castings & threaded together. The main advantage of this type of valve is that it is generally less expensive, however 2-piece valves can be difficult to remove from pipework and are usually non-repairable.
3-piece valve	A body manufactured from three castings & threaded together. May also be held together by bolts. The main advantages of these types of valves are that they are able to be removed from pipework without disruption and are repairable, however they are usually more expensive.
Viton	A synthetic rubber and fluoropolymer elastometer commonly used in o-rings, valve seals etc. Viton seals are generally specified for the most demanding applications. The combination of high-temperature performance, exceptional chemical resistance and dynamic characteristics has allowed viton seals to perform exceptionally well under aggressive conditions.
Water hammer	A pressure surge or wave caused by kinetic energy of a fluid in motion when it is forced to stop or change direction suddenly. For example, if a valve is closed suddenly at the end of a pipe system, a water hammer wave propagates in the pipe.
WaterMark	WaterMark approval of a product indicates that it has been tested and has passed a number of requirements regarding its suitability for supplying water for household use and human consumption. WaterMark approval is mandatory for plumbing products intended to be connected to municipal water mains in all parts of Australia.