

Side Entry, Top Entry, and Welded Body Ball Valves

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Side entry ball valves are valves that assembled its ball from the side part. It usually assembled in two pieces or three pieces body. Each part of the body is assembled by a bolt/stud just like joining a two piece of flanges. Usually side entry ball valves are made from forge metal. Each piece of body are forged and then assembled together. This construction will minimize a defect that causing from a casting valves. Side entry ball valves are also easy to assemble and the trim component are also easy to align. Another advantage of the side entry type is its fast delivery time from almost all vendors rather than a casting product that still needs some additional test. Side entry ball valves are the most used ball valve types and should be the default choice to specify a ball valve type at data sheet.

Top entry ball valves are valves that assembled its ball from top side part. It just like a globe valve that has body and bonnet except the trim part utilize a ball type. It comprises a one single body. Usually top entry ball valves are made from casting metal. Since it made from casting it will need some additional NDE test to make sure that there is no defect from the casting process. The top entry ball valves usually used at an application that require a minimal disassembly for in-line maintenances of its internal parts. Therefore it's very common to use top entry ball valves at high pressure application that require in-frequent maintenances such as HIPPS (High Integrity Pressure Protection System) valves etc. The advantages of the top entry ball valves is its construction that allow minimal thread connection so that it will also minimize possible leak path.

Welded body ball valves are valves that assembled in completely welded so that there are no leak paths through bolt connection etc. It's not possible to do maintenance for the valve in the field. This welded body ball valves usually used at underground or buried application where maintenance is not expected such as gas transmission, subsea application etc.

Example of Side Entry Ball Valves from Valbart



Example of Top Entry Ball Valves from Valbart



Example of Welded Body Ball Valves from Valbart



Source: <http://www.instreng.com/content/151-side-entry-top-entry-welded-body-ball-valves.html>