Selection Of Ball Valve

··· Selection of valve

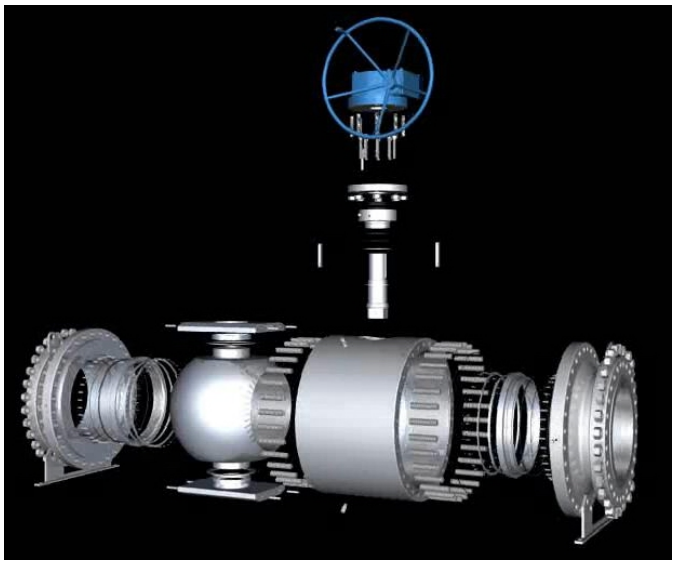
Regarding the valve without any special requirement, ordering can be placed according to the type & number code System for Valve made by TIP.It is suggested that customers be best to render relative information as per the valve data list when ordering, because it sounds still difficult to describe the full details of the valve, though TIP 's type & number code system is done relatively in detail, so as to enable TIP to design and manufacture the valve product fully meeting customers' requirement.

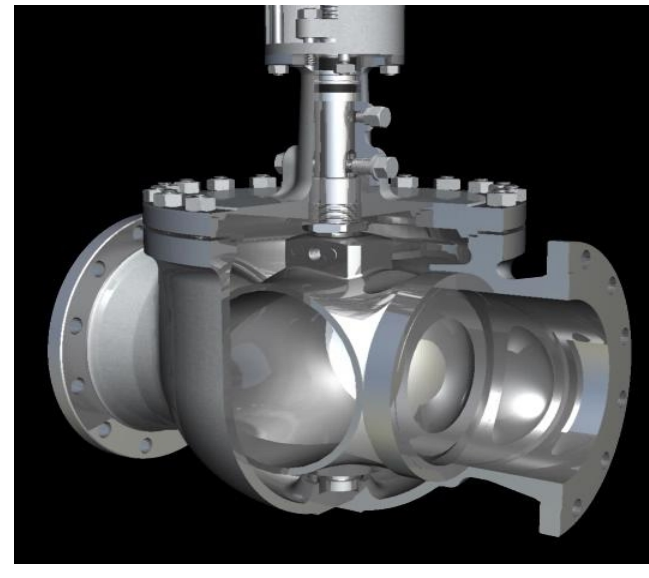
··· Transportation, storage and installation of valve

1. During transportation and storage, protection covers for both ends of ball valve should not be removed to provent the valve connection ends from Damage, and to avoid dirty and foreign articles entering valve body cavity.
2. Valves should be kept in a dry room, and it is not allowed to keep the valve in open–air in general in order to prevent valves from damage and deterieration.
3. Before delivery, valves have been tested and adjusted according to standards and requirement of ordering contract. Customers may use valves at once as received and after unpacking. As for pneumatically and electrically operated ball valves, the set–up of power and gas sources for valves should be done in detail according to the brief introduction of application and installation for pneumatic and electric actuators equipment. If customers need to re–test and re–accept valves, which should be strickly done according to standards and ordering contract , so as to avoid disadvantageous effect of valve function caused by mistake testing method. Valves stored after testing should be cleaned of water deposited in the valve body cavity.
4. The protection covers at valve ends should be removed when installation is carried on, and damage of connection ends should be avoided. As for valves with welding ends, proper protection procedures should be taken when welding to prevent valve function from transfiguration caused by high temperature during welding. Particular attention should be drawn to the disadvantage effect against the seat of soft sealed valve during welding due to high temperature.
5. For certain types of valves which need direction requirement for installation, attention should be drawn to the direction marking of arrow–head of the valve body during testing and installation to avoid mistake testing and wrong installation.

··· Usage and operation

1. For manual valve: The valve is open with the lever in perallel to piping. With the lever right angled to piping, the valve is closed. It is closing the valve to turn the lever clockwise, and to turn the lever anticlockwise means to open the valve.
2. For worm gear operated valve: The indicator of valve opening degree is on the top of the actuator equipment. It is closing the valve to turn the wheel clockwise, and to turn the wheel anticlockwise means to open the valve.
3. For pneumatically, electrically, pneumatically/hydraulically, and electrically/hydraulically operated valves:Please refer to the detailed usage introduction of actuators equipment.





Selection of ball valve

1. Ball Valves are mainly divided into two types, i.e. floating ball valve and trunnion ball valve. The former is simple in design structure and low in price, however, its operation torque is bigger comparing to that of the trunnion ball valve with same diameter. In general, floating ball valve is adopted for valves of small and medium diameter. On the contrary, trunnion ball valve is relatively higher in price, and smaller in operation torque. So valves with bigger diameters are employing generally the design structure of trunnion ball valve. The following table of ball valve tructures relating to each pressure rating is recommended by TIP to customers for reference when selecting ball valves. The applicable scope of metal to metal sealed ball valve with floating ball is narrower due to its bigger operation torque.
2. Regarding trunnion ball valve, if customers have no special requirement, it is suggested that TIP make decision based on its own processing technique to employ the structure of either two piece or three piece body. Generally, TIP adopts two piece body design for ball valve ≤DN350 (NPS14), and three piece design for ball valve ≥DN400(NPS16).
3. There are two types of design structure of metal to metal sealed ball valves, i.e., high temperature and general temperature structure, which should be specified by customers when ordering.

Normal pressure or rating	Valve category							
	Soft sealed、Full bore		Soft sealed、Reduced bore		Metal to metal sealed、Full bore		Metal to metal sealed、Reduced bore	
	Ball valve design structure recommended							
	Floating ball	Trunnion ball	Floating ball	Trunnion ball	Floating ball	Trunnion ball	Floating ball	Trunnion ball
Class150 PN20	≤DN150 ≤NPS6	≥DN200 ≥NPS8	≤DN200 ≤NPS8	≥DN250 ≥NPS10	≤DN100 ≤NPS4	≥DN125 ≥NPS5	≤DN125 ≤NPS5	≥DN150 ≥NPS6
Class300 Pn50	≤DN125 ≤NPS5	≥DN150 ≥NPS6	≤DN150 ≤NPS6	≥DN200 ≥NPS8	≤DN80 ≤NPS3	≥DN100 ≥NPS4	≤DN100 ≤NPS4	≥DN125 ≥NPS5
Class600 PN110	≤DN80 ≤NPS3	≥DN100 ≥NPS4	≤DN100 ≤NPS4	≥DN125 ≥NPS5	≤DN50 ≤NPS2	≤DN65 ≤NPS2$^{1}/_{2}$	≤DN65 ≤NPS2$^{1}/_{2}$	≥DN80 ≥NPS3
Class900 PN150	≤DN50 ≤NPS2	≤DN65 ≤NPS2$^{1}/_{2}$	≤DN65 ≤NPS2$^{1}/_{2}$	≥DN80 ≥NPS3	≤DN40 ≤NPS1$^{1}/_{2}$	≥DN50 ≥NPS2	≤DN50 ≤NPS2	≤DN65 ≤NPS2$^{1}/_{2}$
Class1500 PN260	≤DN40 ≤NPS1$^{1}/_{2}$	≥DN50 ≥NPS2	≤DN50 ≤NPS2	≥DN50 ≥NPS2	≤DN40 ≤NPS1$^{1}/_{2}$	≥DN50 ≥NPS2	≤DN50 ≤NPS2	≤DN65 ≤NPS2$^{1}/_{2}$
Class2500 PN420	Not recommended	≤DN40 ≤NPS1$^{1}/_{2}$	Not recommended	≤DN65 ≤NPS2$^{1}/_{2}$	≤DN32 ≤NPS2$^{1}/_{2}$	≤DN40 ≤NPS1$^{1}/_{2}$	≤DN40 ≤NPS1$^{1}/_{2}$	≥DN50 ≥NPS2
PN16	≤DN150	≥DN200	≤DN200	≥DN250	≤DN100	≥DN125	≤DN125	≥DN150
PN25	≤DN150	≥DN200	≤DN200	≥DN250	≤DN100	≥DN125	≤DN125	≥DN150
PN40	≤DN125	≥DN150	≤DN150	≥DN200	≤DN80	≥DN100	≤DN100	≥DN125
PN63	≤DN100	≥DN125	≤DN125	≥DN150	≤DN50	≥DN65	≤DN65	≥DN80
PN100	≤DN100	≥DN125	≤DN125	≥DN150	≤DN50	≥DN65	≤DN65	≥DN80
PN160	≤DN50	≥DN65	≤DN65	≥DN80	≤DN40	≥DN50	≤DN50	≥DN65