

## SMART SYSTEM FOR VALVE SELECTION

Although our technical expertise and helpful customer support system make it possible to promote our product with very little knowledge of valves or automation, there are crucial questions you can ask to make all of our jobs a little easier.

We call this *The SMART System*.

### SIZE

... of the valve is determined by the pipeline dimensions and the rate of flow required by the customer.

Along with size, it also is very important to know the **end connection types**, which are found on the next page.

### MEDIA

... indicates the type of material flowing through the valve. Valve torque, actuator sizing and materials of construction can be affected depending on the temperature and/or viscosity of the media.

### ACTUATION?

... is the valve manually operated (with a handle or lever) or does it have an actuator?

The most common types of actuators include:

- Pneumatic (operates with air)
- Electric (operates with a voltage signal)
- Gear operated (uses a gear and a handwheel to turn the valve)

### RATE OF FLOW

... or "line pressure," indicates flow of the media through the pipeline against which the valve will have to close. The higher the line pressure, the greater torque required from the valve actuator.

### TEMPERATURE

... Can relate to either **service temperature**, which is the maximum and minimum temperature of the media. Extraordinary high line temperatures might require special heat insulation, extended brackets, or special high temperature valve seats/seals.

... Or **ambient temperature**, which refers to the maximum and minimum air temperature of the air surrounding the actuator. High temperatures might require special actuator seals or insulation. Low temperatures might require special actuator seals or heaters and thermostats.

## BALL VALVE END CONNECTION TYPES



### **NPT (THREADED) END**

threaded into line with male threaded pipe going into female threads of the valve; the most common connection



### **SANITARY END**

flat face, o-ring groove, suitable for mating with another clamp/ferrule end; commonly used with sanitary/food applications



### **FLANGED END**

ANSI flanged valves meet international standards so that end-to-end (face-to-face) dimensions and mating flanges are the same with every manufacturer; the most common type of flanged valve is "raised face"



### **SOCKET WELD END**

valve is welded in line to a mating piece of non-threaded pipe; ends are not as extended as with butt weld; valve ends have to be cut out if replaced with another manufacturer's valve



### **BUTT WELD END**

used for welding the valve in line; this is the 2nd most commonly used valve in sanitary applications; used when the valve does not need to be regularly maintained or pulled out of line

## BUTTERFLY VALVE END CONNECTION TYPES



**WAFER STYLE**

**LUG STYLE BUTTERFLY VALVES** have threaded inserts at both sides of the valve body. This allows them to be installed into a system using two sets of bolts and no nuts. The valve is installed between two flanges using a separate set of bolts for each flange. This setup permits either side of the piping system to be disconnected without disturbing the other side. There are two different types of flange connections: either ANSI standard (primarily used in US) or metric/DN flanges (European).

**WAFER STYLE BUTTERFLY VALVES** have open (non-threaded) holes that allow a single bolt to go through each hole. The threaded bolts are then secured with a washer and nut to hold the valve between two flanges. There are two different types of flange connections: either ANSI standard (primarily used in US) or metric/DN flanges (European).



**LUG STYLE**