



## Long pattern vs Short pattern - Ball valve Face to Face

The ASME B16.10 standard details end to end and Face to Face dimensions of industrial valves.

Flanged ball valve design includes two alternative face to Face dimensions, **long pattern** and **short pattern**, for larger size valves. The attached table specifies the differences for a Class 150 flanged valve. As per the standard, the two alternative face-to-face dimensions are offered for ball valve sizes 6" – 16".

The long pattern will be used in most cases, however, there are occasions where we will find short pattern valve design. To name a few: pipe design consideration in confined space; planned replacement of gate valve with a ball valve; or in cases where the face to face dimension was not specified part of the technical specification and the valve supplier offered short pattern for economic reason.

To avoid mistakes while bidding, the piping engineer/ procurement manager should specify the face to face dimension required or the desired pattern of the valve.

Face-to-Face (mm) Flanged ball valve Class 150		
Valve size	Long pattern	Short pattern
½"	108	108
¾"	117	117
1"	127	127
1 ¼"	140	140
1 ½"	165	165
2"	178	178
2 ½"	190	190
3"	203	203
4"	229	229
6"	394	267
8"	457	292
10"	533	330
12"	610	356
14"	686	381
16"	762	406
18"-36"	Long pattern only	



6" Flanged Class 150 Short Pattern design

**SNR technologies** received a requirement from a chemical company to provide a solution for an old 6" Class 150 short pattern ball valve. The requirement was generated after an incident where the process valve heavily leaked in-line. Due to a lack of support from the valve manufacturer, and no spare parts available for maintenance, it was decided to replace the valve with a new product.

The face to face requirement is 267 mm, not an easy challenge when only the ball diameter captures 230 mm. The immediate solution brought up was a wafer valve design and tapped body threads. This solution was dismissed due to the high cost of producing a valve from round bar, and the disadvantage of tapping a valve body rather than using a flange with thru-hole design. After examining the available pattern, we found a creative

solution to update the existing mould and to cast a short pattern product. The valve was designed and produced in a short delivery time of 12 weeks. The valve was installed and functioned properly at customer site.

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