



## What can you expect from a comprehensive risk/live loading design analysis?

Solon Manufacturing Co. can assist with designing a live loading system. In order to make a recommendation for a valve live loading stack, it is helpful to know the following:

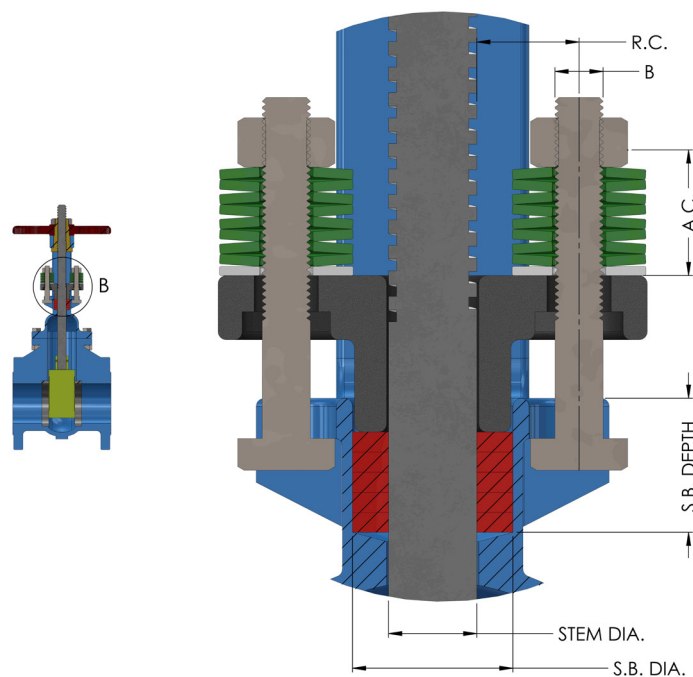
- What is the stud diameter (B)?
- What is the torque or aim preload? Typically calculated by the supplier of the packing.
- What is the radial clearance (R.C.) of the stud? Or, what is the maximum OD of the Belleville?
- What is the axial clearance (A.C.)? Or, what is the maximum height of the stack of Belleville's (including flat washers)?
- What is the maximum estimated temperature at the studs?
- Is the valve in a corrosive atmosphere? If so, what are the corrosive elements?
- What is the expected consolidation of the packing over a given unit of time? (This is optional and would be used to calculate the stack height needed to maintain packing stress over that same time period).
- What is the required residual stud load over that same time period as above? (This is optional and would be used to calculate the stack height needed to maintain packing stress over that same time period).

If the packing supplier does not provide the stud load or torque, the following information will help make that determination (see Valve Section with Dimensions diagram):

- What is the valve stem diameter or packing ID?
- What is the stuffing box diameter or packing OD (S.B. DIA)?
- What is the stuffing box depth (S.B. Depth)?
- What is the number of studs (typically 2)?
- What is the packing style/type? Who is the manufacturer?

Based upon the application requirements, a comprehensive risk analysis will provide an optimized solution to increase the value of the design by identifying and communicating recommendations with evidence and justification, such as:

- Springs and spring arrangements
- Assembly techniques
- Best practices for live-loading design
- Cost-saving opportunities



**Valve Section with Dimensions**

Call 800.323.9717 or email [techsupport@solonmfg.com](mailto:techsupport@solonmfg.com)  
to discuss a LIVE LOADING DESIGN ANALYSIS  
with a Solon Mfg. application engineer.