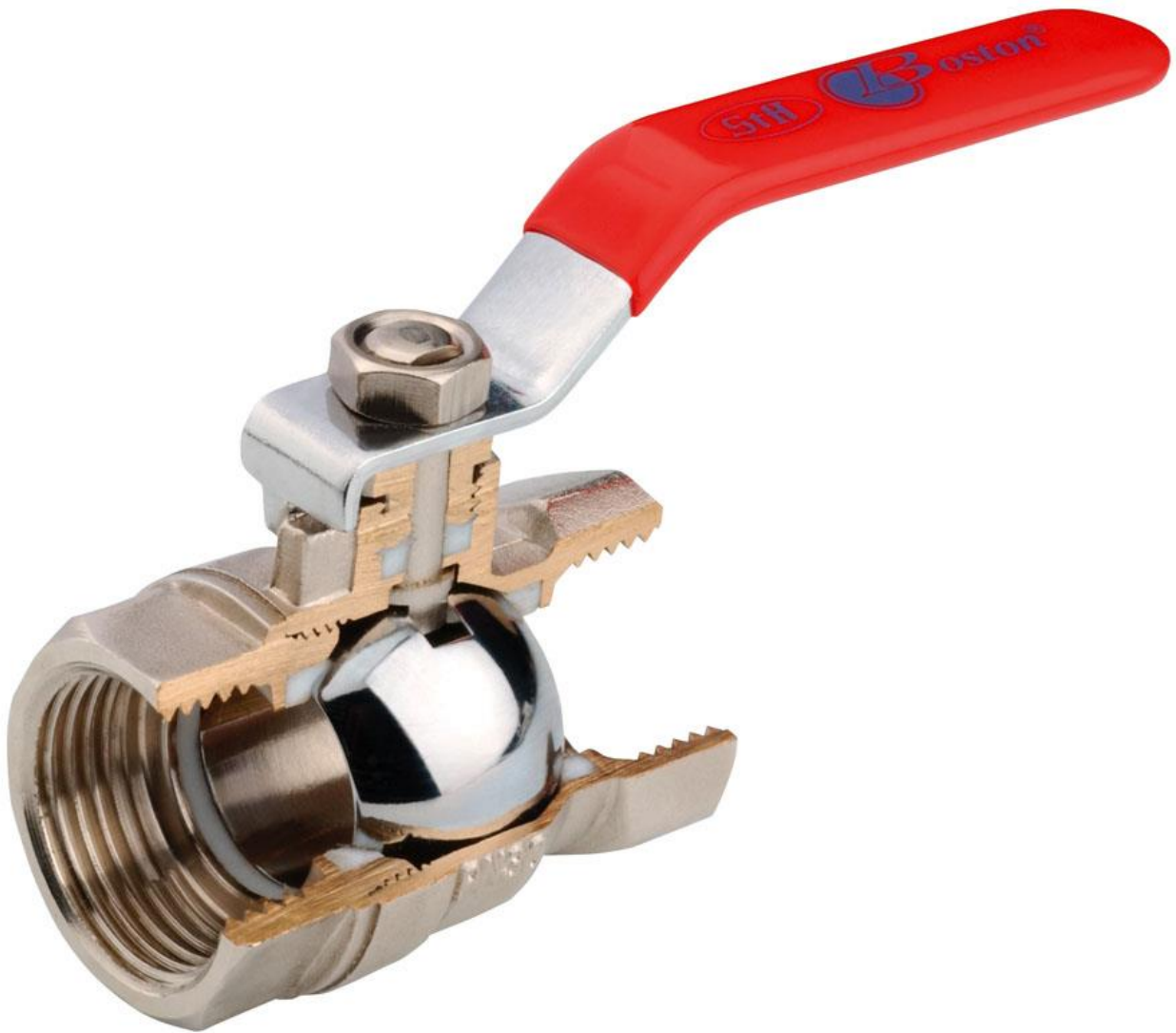


EXERCISE 6.1 – BALL VALVE



Picture 1: A ball valve (http://en.wikipedia.org/wiki/File:Seccion_valvula_de_bola.jpg).

Task

Design and model a ball valve. It doesn't need to be same as in example pictures (Pictures 1 and 2), but it needs to have the same functionalities (open/close mechanism, handle, frame etc.). Please ensure, that your ball valve is possible to manufacture (parts can fit in, no overlapping geometries).

Demands

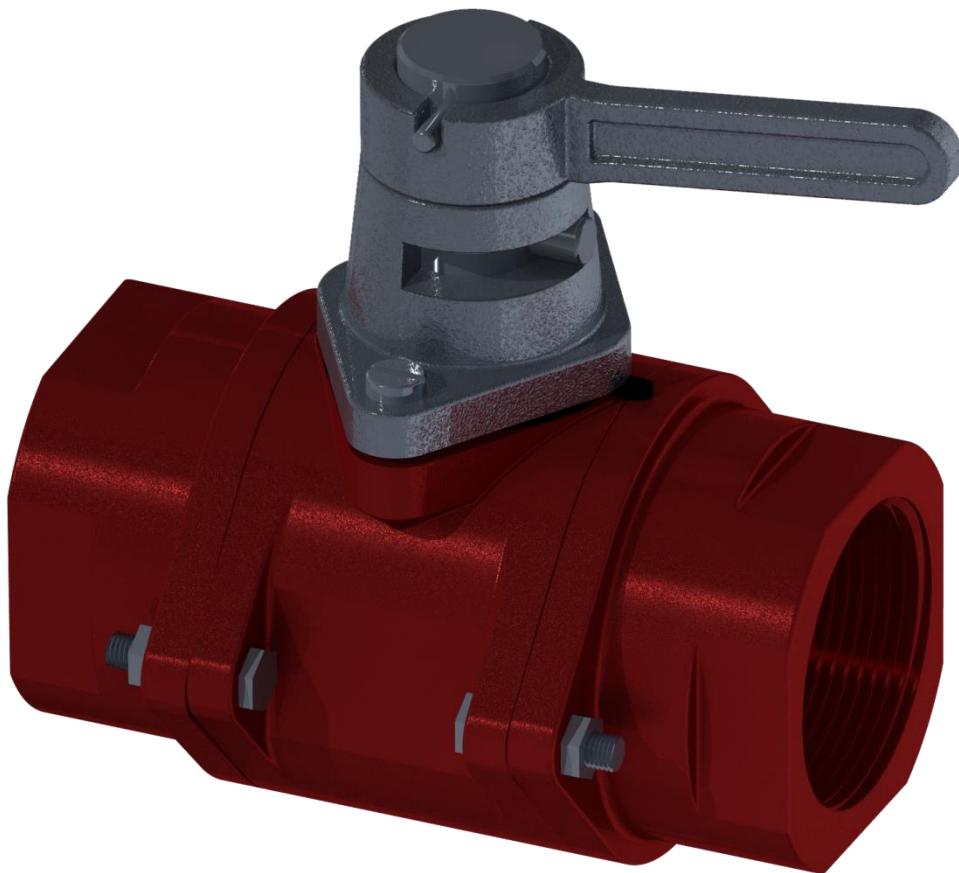
Your model/task contains

- Main assembly, where
 - parts are not overlapping, parts can fit in, and ball turns (mechanism connection).
 - Returned as *.pvz file.
- One pipe diameter parameter, that changes at least two parts (ball, frame etc.)
 - Returned as another *.pvz file that shows how parameter changes whole assembly.
- 5-10 different parts
 - It needs to look like a real ball valve (i.e. parts are attached to each other with screws)
 - You can simplify your model with thread surface tools or hole tools.
- Handle's FEM model, where stresses in part are calculated. You need to select and estimate the constraints and forces affecting your handle.
 - Returned as *.ol file.
- Assembly drawing from your main assembly including exploded view and BOM.
 - Returned as *.pdf file.
- Render from your main assembly (for example like in Picture 2).
 - Returned as a *.png file

You can select your dimensions freely. To get an idea how real ball valve looks, you can for example check manufacturers' catalogues.

Return

Previously mentioned *.pz, *.ol, *.pdf and *.png files (5 pcs) will be returned to MyCourses.



Picture 2: A rendered picture from a ball valve.