Flanged S Bend Pipe – Sweep.

Sketch on top plane.

The easiest method to produce the S is to sketch three lines, and then to this add the two 70 mm sketch fillets (see next image).

Close the Sketch.

This sketch will become the path for the sweep feature.

Insert a new sketch for the pipe diameter. Inner bore Ø 56 mm, wall thickness 10 mm (offset sketch tool useful here).

This will become the profile for the sweep feature.

This sketch must also be closed, as above.

The sweep feature cannot be started when inside an active sketch.

Remember when you sweep, sketch 2 is the profile and sketch 1 is the path. They can be selected in the graphics window.

Your Sweep feature should look like this.

Then select the end face, insert a new sketch; sketch the shape to produce the end flange. Use the Extrude feature, 14 mm thick flange.
On the opposite face insert a sketch produce the other end flange (identical to other end), use the extrude feature.

Produce the fillets, 3 mm on the outer edge of the flange, and 10 mm on the flange to pipe body corners.