```
1    // the preview may not look correct on some machiens. In order to view it correctly,
     render the scene first. (F6 on the keyboard.)
2
3    // set the display resolution
4    $fn = 30;
5    // Outer Dia
6    D = 43;
7    //Inner-most dia
8    d = 19.9;
9    // What follows are the dia of all the steps from inwards to outwards.
10   d1 = 23;
11   d2 = 27.2;
12   d3 = 31.3;
13   //height of step 1 measured from top to bottom
14   h1 = 4.2;
15   //height of step 2 measured from top to bottom
16   h2 = 2.7;
17   // main cylinder height
18   H = 5;
19   holesDia = 3.4;
20   totalHoles = 6;
21   holesPitchCircleDia = 32.7 + holesDia;
22   // botom chamfer
23   chamfer = 0.5;
24
25   // simple enough!
26   difference()
27   {disc(); holes();}
28
29   module disc()
30   //rotate the cross-section
31   rotate_extrude()
32   //make the half cross-section
33   polygon(points=[
34   [D/2, 0],
35   [D/2, H],
36   [d3/2, H],
37   [d3/2, h1],
38   [d2/2, h1],
39   [d2/2, h2],
40   [d1/2, h2],
41   [d1/2, h1],
42   [d/2, h1],
43   [d/2, chamfer],
44   [d/2 + chamfer, 0],
45   ]);
46
47   // array of six holes.
48   module holes()
49   for (i = [0:1:(totalHoles-1)])
50   // make the over-long so that after cutting, the display looks fine.
51   rotate((360 / totalHoles) * i, [0,0,1])translate([holesPitchCircleDia/2,0,0])cylinder(r
     = holesDia / 2, h = H*3, center = true);
52
```