



UNIVERSIDAD DE SANTIAGO  
DE CHILE

FACULTAD DE INGENIERÍA  
DEPARTAMENTO DE INGENIERÍA MECÁNICA



SISTEMAS MODERNOS DE MANUFACTURA

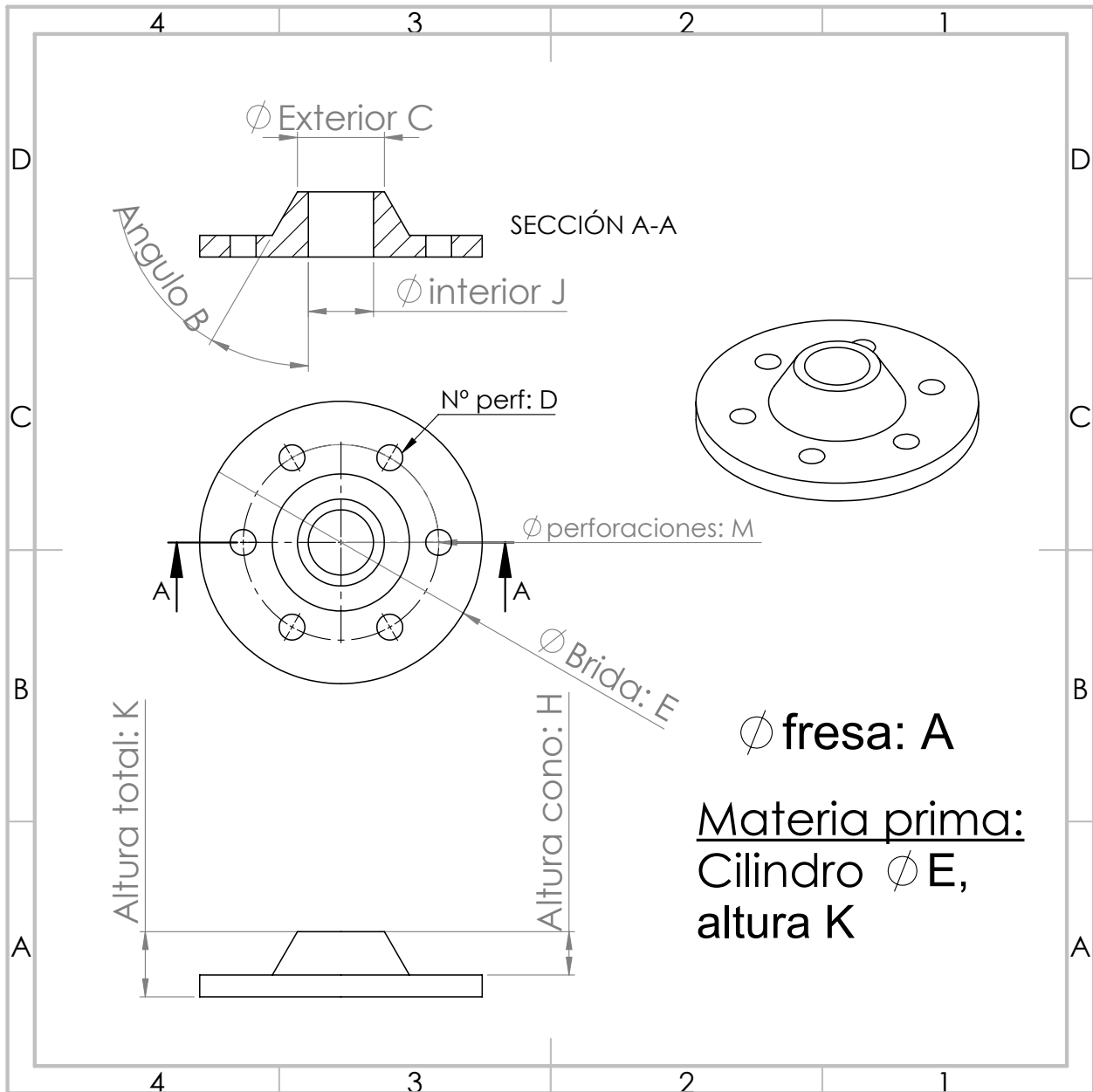
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## Ayudantía 5

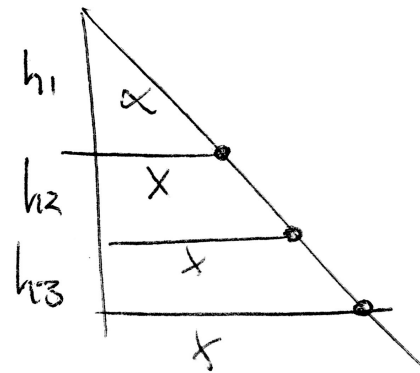
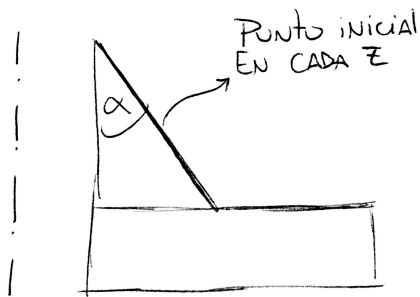
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# 1. Plano



## 2. Consideraciones



$$X = Z \cdot \text{TAN}(\alpha)$$

$$\phi_{iter.} = \phi_{exterior} + 2X$$

$$\frac{\phi_{brida.} - \phi_{iter.}}{\phi_{hta}} + 1 = N$$

Se le suma 1 para traslape, además permite realizar iteración extra en el caso de que  $N$  sea decimal. (Si  $N(\sin +1) = 1.5$ , solo haría 1 iteración.)

$$\frac{\phi_{brida.} - \phi_{iter.}}{N} = \text{Avance Hta}$$

## 3. Código

```

1 O2000;
2 G65 P2001 A20. B50. C30. E300. H40. J60. K70.;
3 M30;
4
5 O2001;
6 #100=[-1];
7 WHILE[#100 GE -#11] D01;
8 #101=[-#100*TAN[#2]]; (x)
9
10 #102=[#3+2*#101]; (DIAMETRO IT)
11 #103=[[[#8-#102]/#1]+1]; (N)
12 #104=[[#8-#102]*0.5/#103]; (AVANCE HTA)
13 #105=1;
14 G01 X [[#102+#1]*0.5];
15 G01 Z [#100];
16 WHILE[#105 LE #103] D02;
17 G03 I [[#102+#1]*-0.5-[#105-1]*#104];
18 G91 G01 X [#104];
    
```

```
19 G90;
20 #105=[#105+1];
21 END2;
22 #100=[#100-1];
23 END1;
24 G00 Z10.;
25
26
27 #100=[-1];
28 WHILE [#100 GE -#6-1] D01;
29 #103=[[#5/#1]+1];(N)
30 #104=[#5*0.5/#103];(AVANCE HTA)
31
32 #105=1;
33 G01 X0.;
34 G01 Z[#100];
35 WHILE [#105 LE #103-2] D02;
36 G91 G01 X[#104];
37 G90;
38 G03 I[-#105*#104];
39
40 #105=[#105+1];
41 END2;
42 G01 X [[#5-#1]*0.5];
43 G03 I [[#5-#1]*-0.5];
44 #100=[#100-1];
45 END1;
46 M99;
```