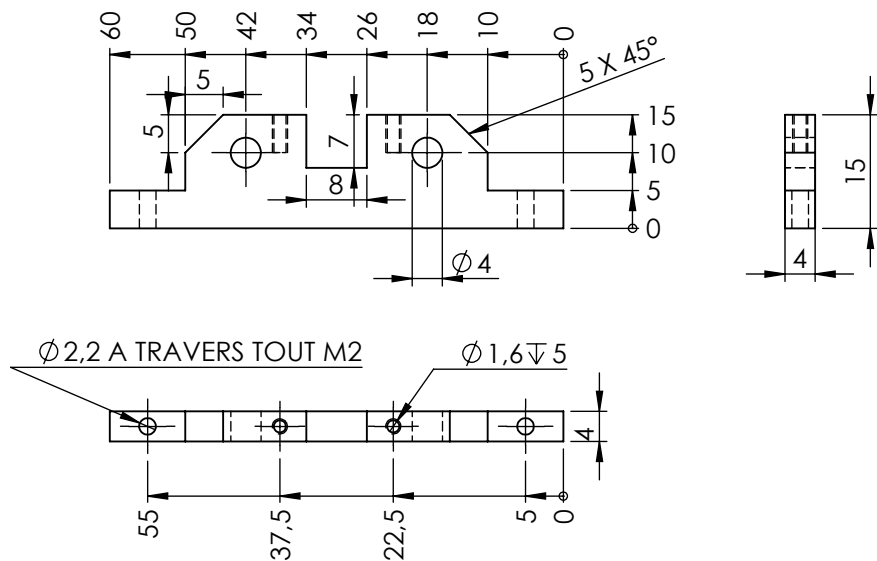
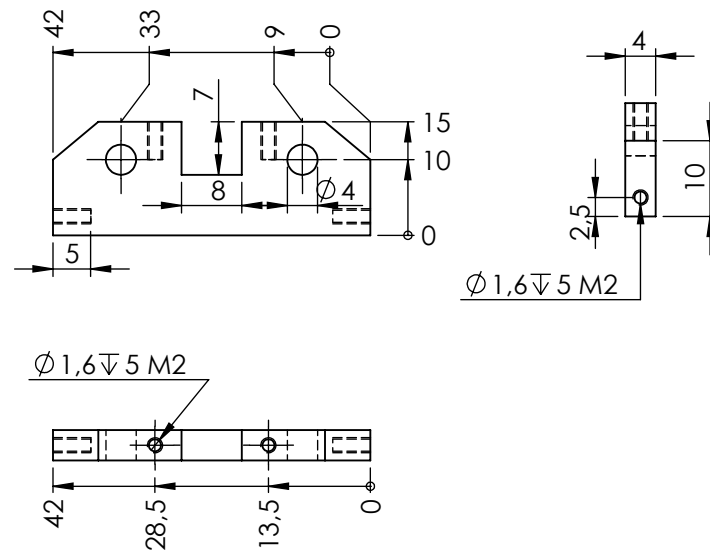


Triple expansion

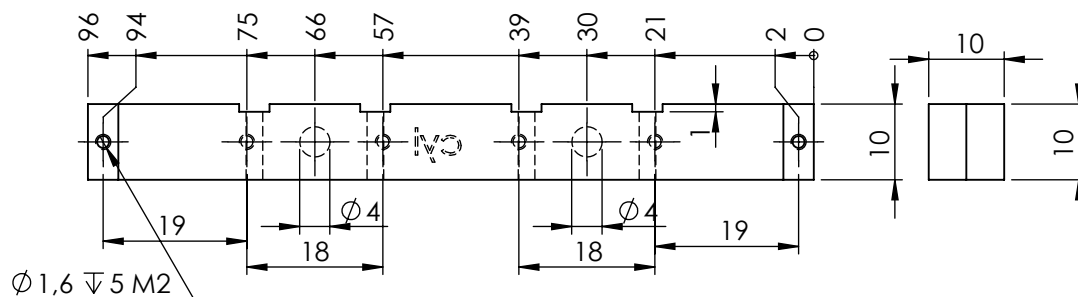
Machine triple
expansion BERTIN



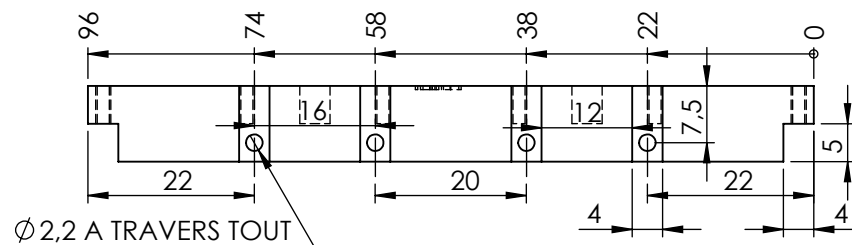
deux pièces paliers d'extrémités



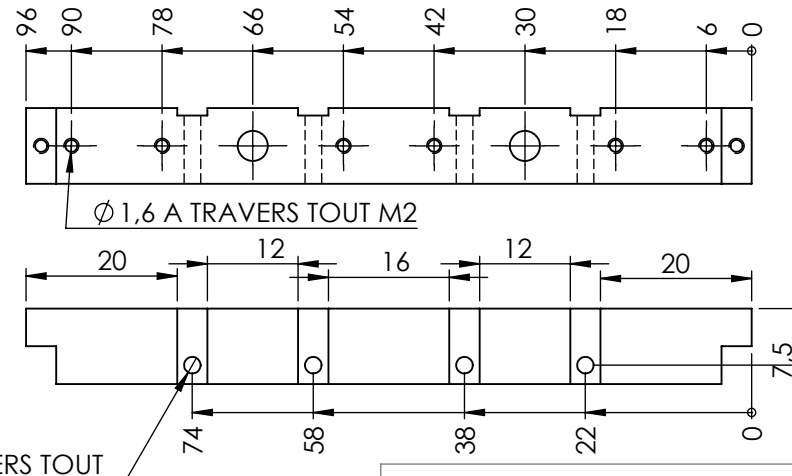
deux pièces paliers intérieurs



longeron gauche



2 pièces Longeron carré acier de 10 mm ou tube carré

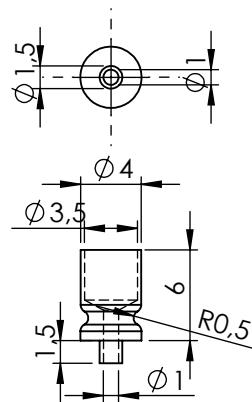
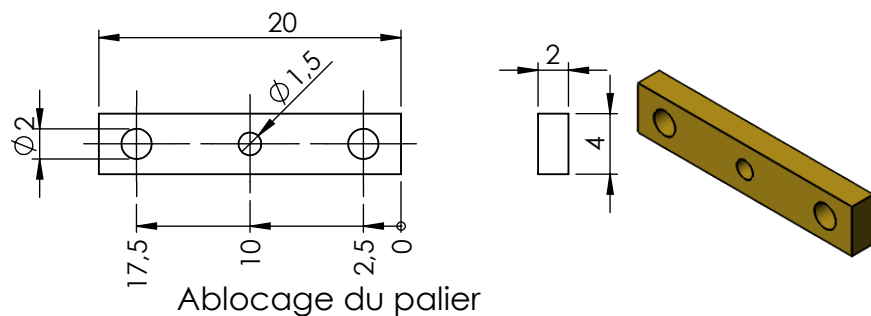
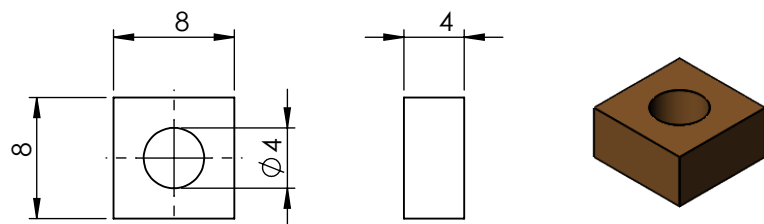


longeron droit

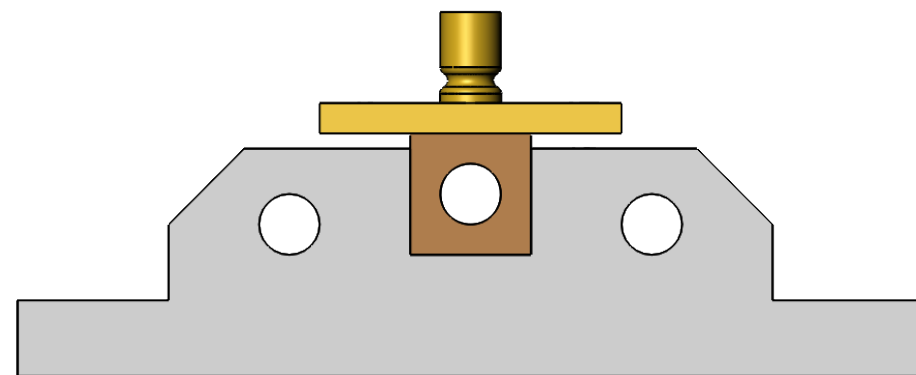
Plaque de fondation

Machine triple
expansion BERTIN

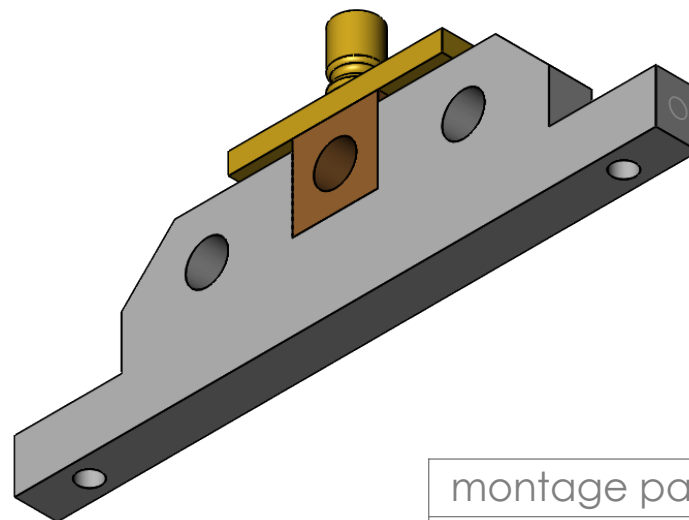
Palier en bronze



Assemblage graisseur

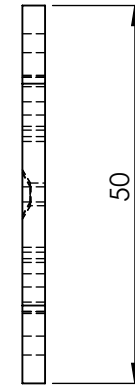
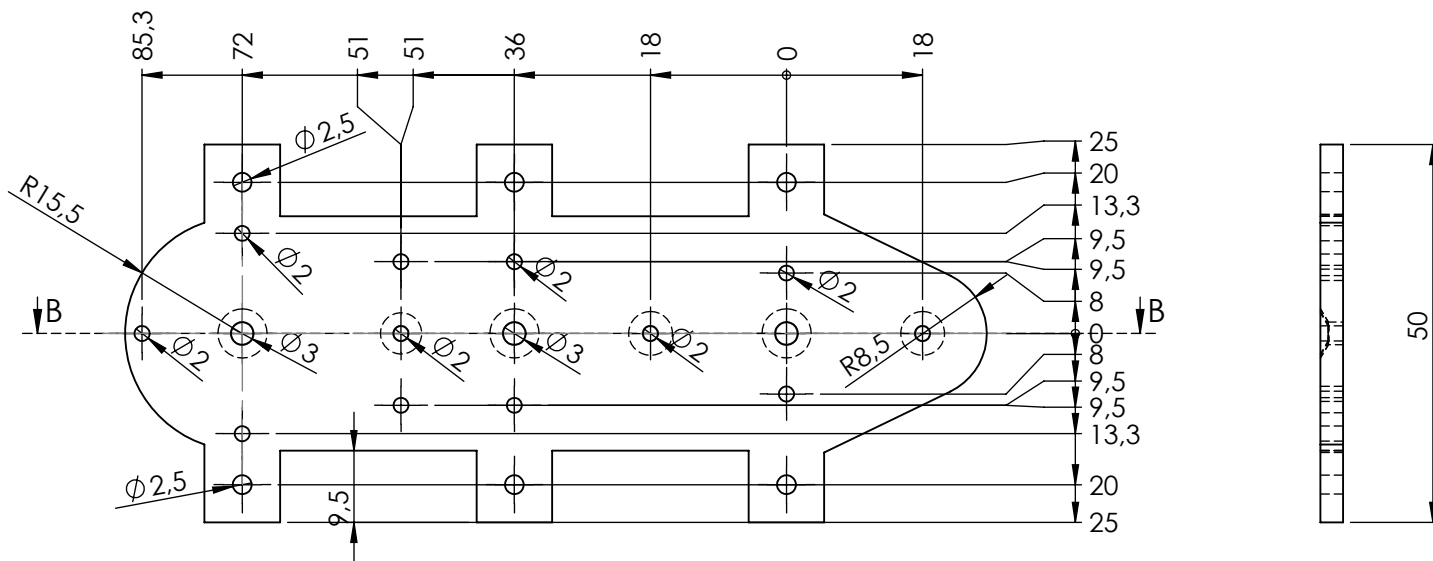


Palier assemblé

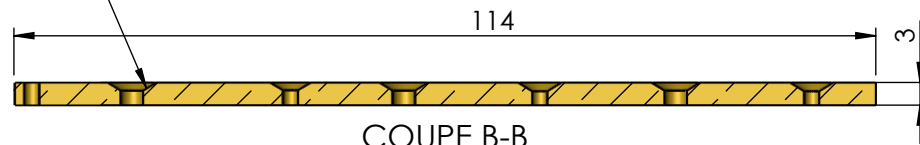


montage palier

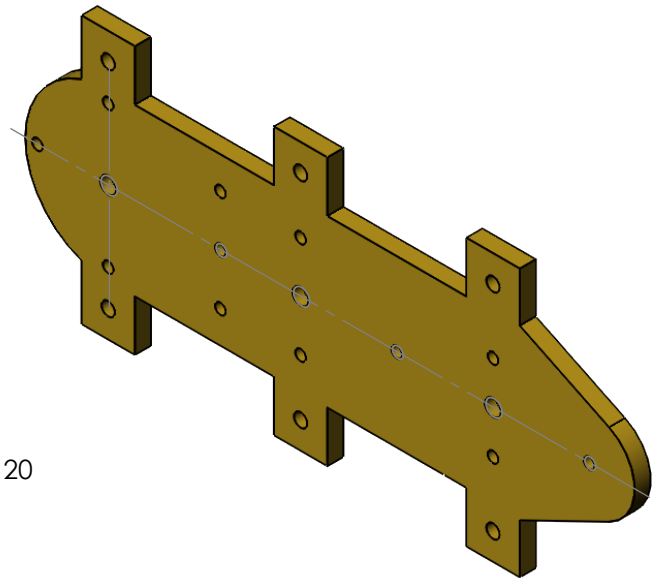
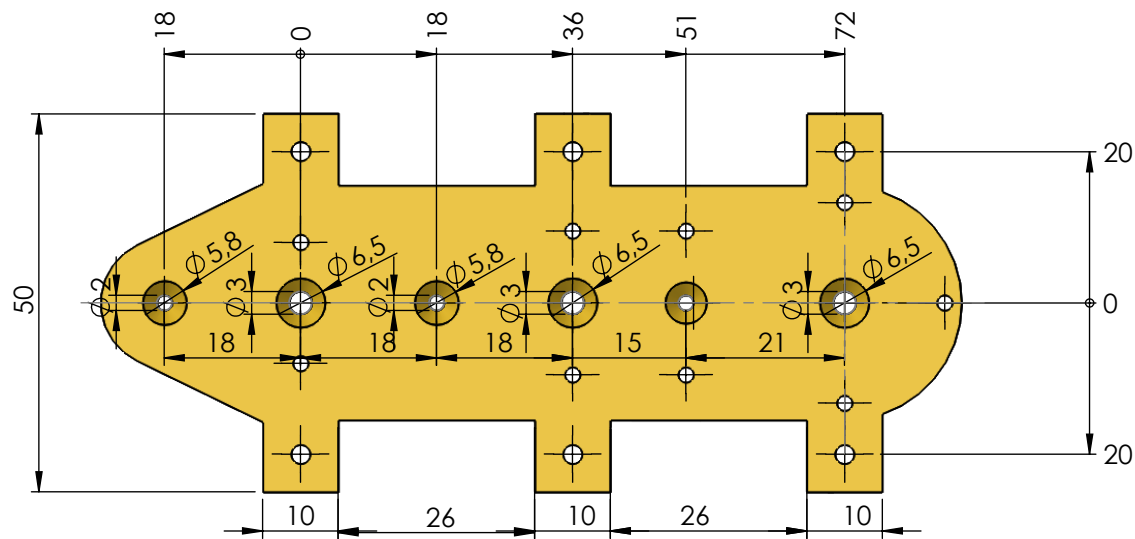
Machine triple
expansion BERTIN



Contres perçages issus de la plaque support cylindres inf.

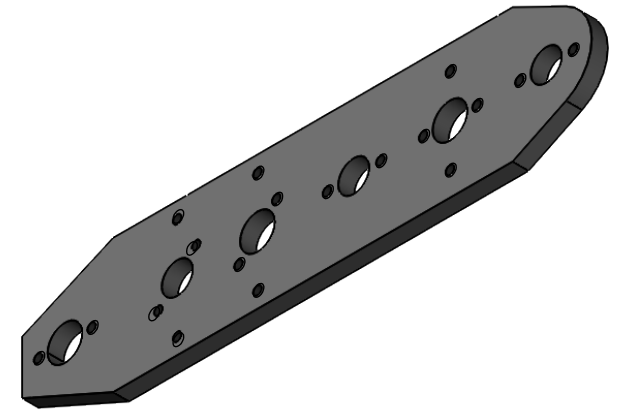
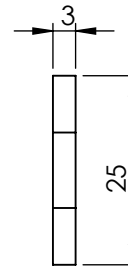
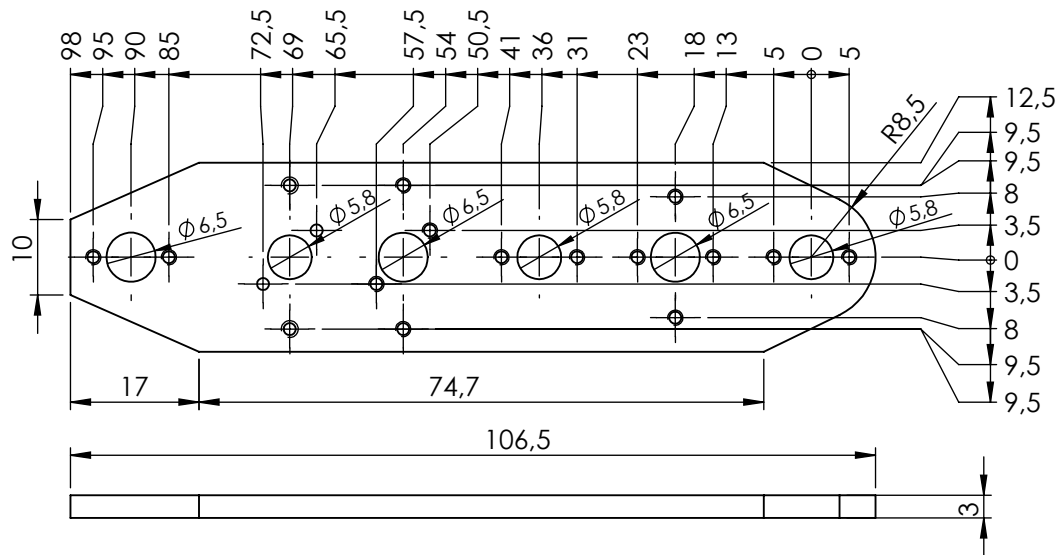


COUPE B-B

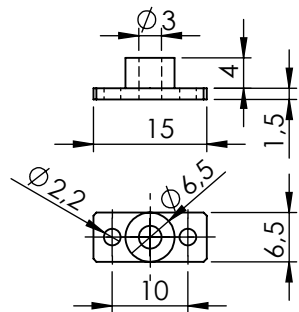
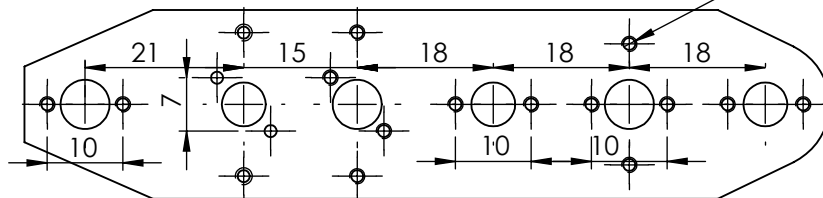


Support cylindres sup.

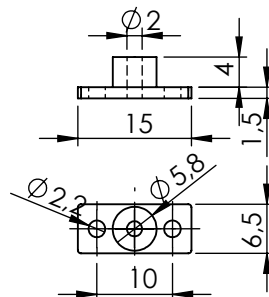
Machine triple
expansion BERTIN



18 x $\phi 1,6$ A TRAVERS TOUT M2



Press étoupe cylindre



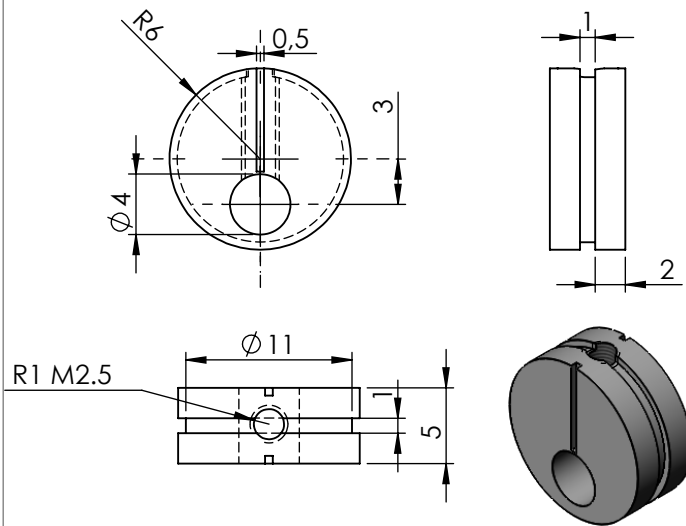
Press étoupe tiroir

Assemblage des supports cylindres

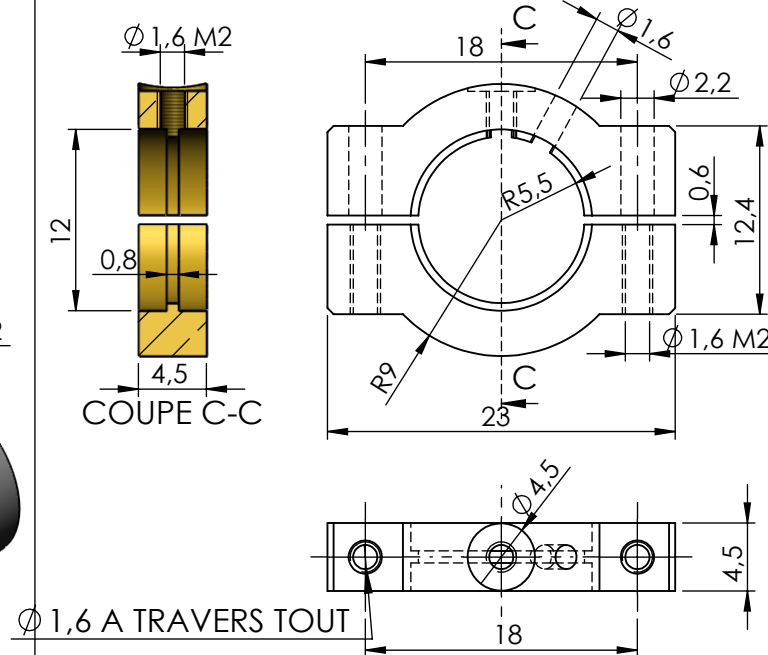
Support cylindres Inf.

Machine triple
expansion BERTIN

6 moyeux d'excentrique en acier



6 chariots d'excentrique



USINAGE DES CHARIOTS

- 1 réaliser des bagues \varnothing_{ext} 18 avec les alésages selon la coupe CC
- 2 supprimer les parties hachurées cote de 13mm
- 3 percer au centre à $\varnothing 1,6$ des pièces de laiton de 5x5 mm de Lg =13 mm les tarauder à M2 sur une lg. de 6.5mm
- 4 braser Ag ces pièces latérales sur les gagues
- 5 scier avec une scie fine (0.6mm) pour séparer les deux parties
- 6 réaliser un moyeu d'excentrique selon le plan ci-contre, montez le chariot assemblé par des vis M2

- 7 dressez les deux faces latérales pour atteindre la largeur de 4.5mm

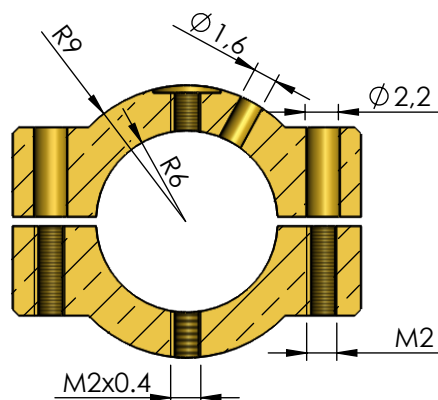
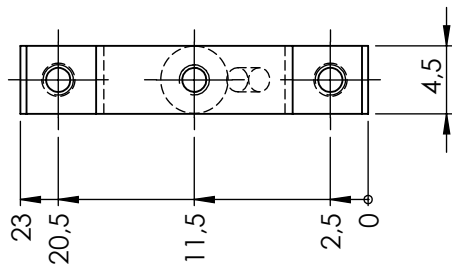
coupe de 0.6mm scie fine

graissage

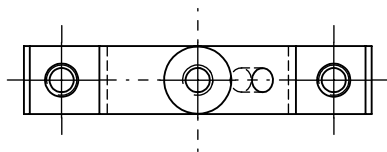
index pour le calage

excentrique

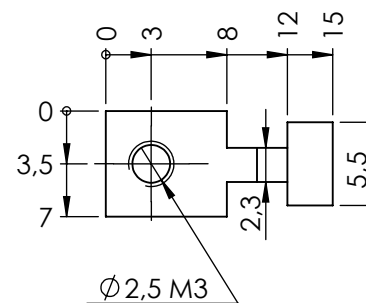
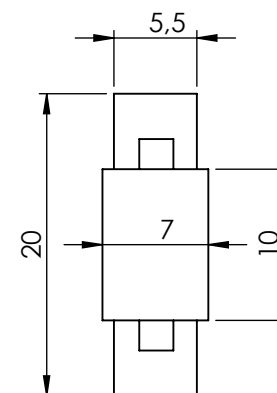
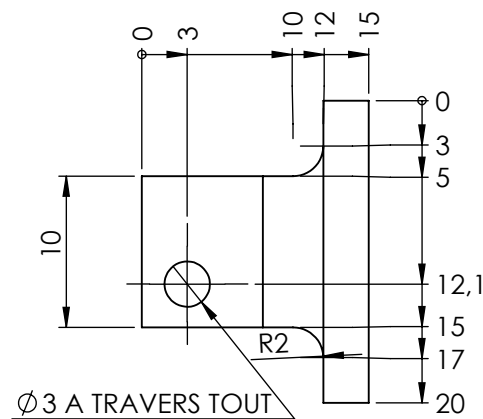
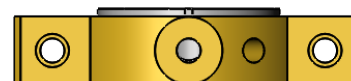
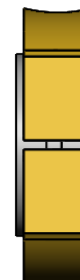
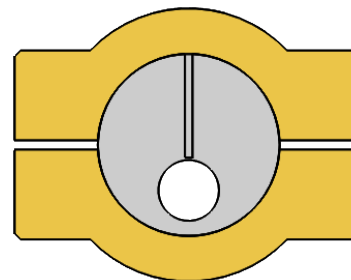
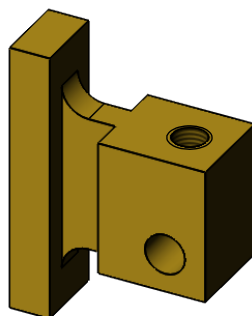
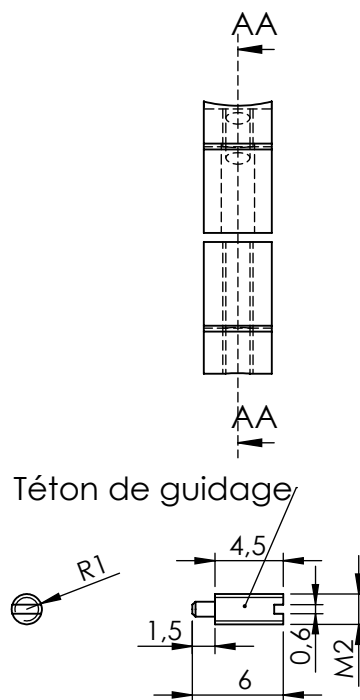
Machine triple
expansion BERTIN



COUPE AA-AA

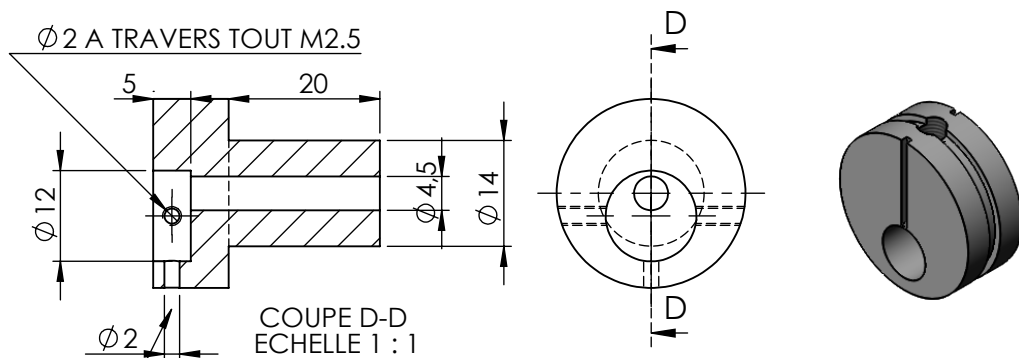


Version sans rainure centrale



excentrique V2

Machine triple
expansion BERTIN



Usiner la pièce de maintien des excentriques

Usiner 6 rondelles en acier, avec la gorge de 1mm.
Ne faire aucun perçage.

Monter les rondelles dans la pièce de maintien et percer l'axe principal à Ø3mm (sur le tour)

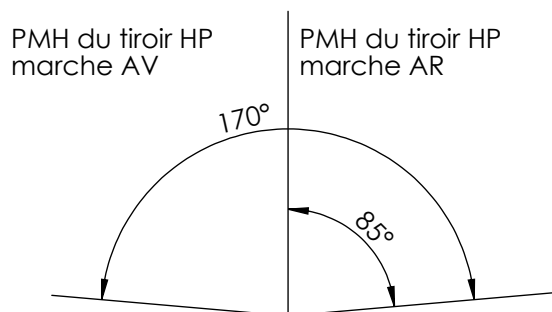
Sans démonter l'excentrique, percer à Ø2mm jusqu'au centre le trou de vis M2.5

Téunir par une tige de laiton Ø3mm les deux excentriques. Matur légèrement les extrémités de la tige de laiton.

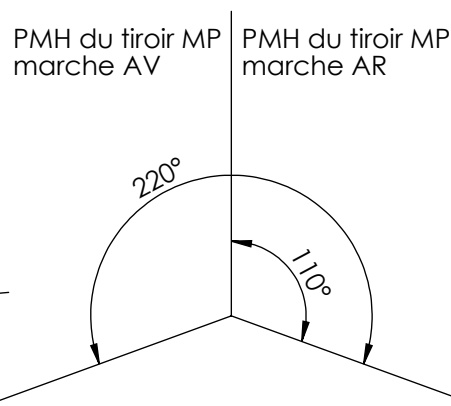
A l'aide de la tige de Ø2mm, dans les trous de vis, donner l'angle de décalage entre l'excentrique AV et l'excentrique AR (selon le croquis ci-dessous. Braser à l'Ag les deux excentriques

Remettre les excentriques doubles dans la pièce de maintien et dresse les faces et aléser à Ø4mm. Tarauder à M2.5 le trou de la vis de blocage

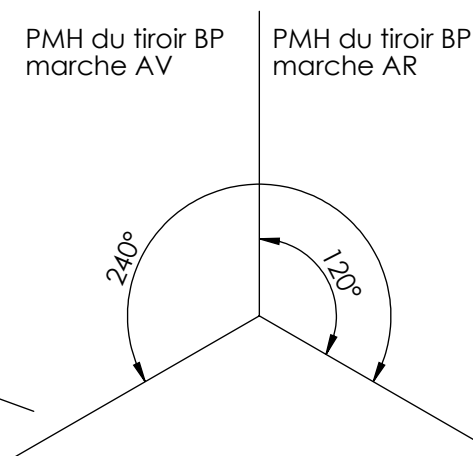
PMH du piston HP



PMH du piston MP

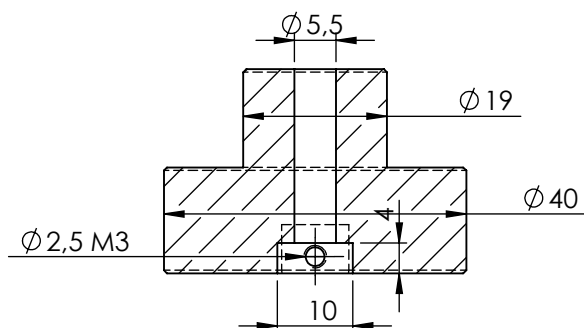
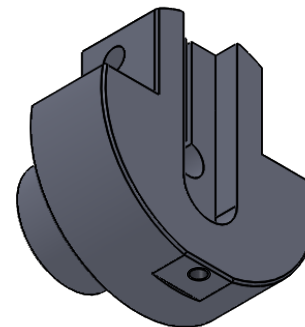
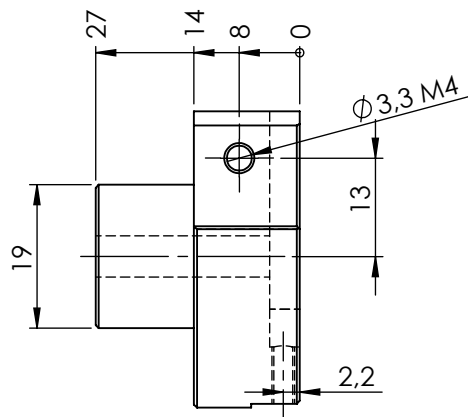
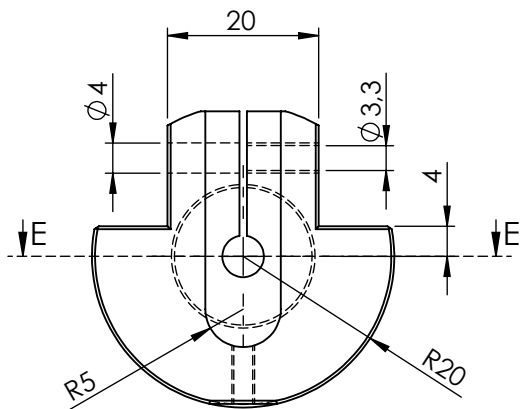


PMH du piston BP

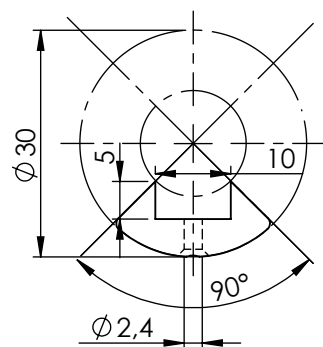
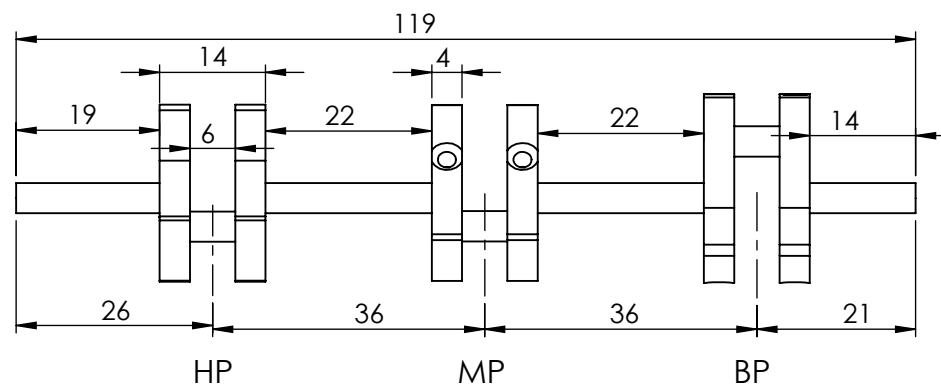
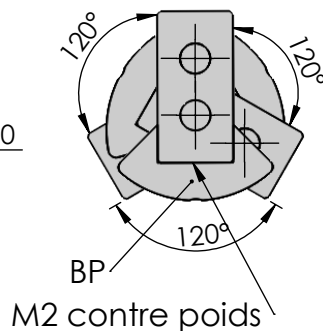


calage excentriques

Machine triple
expansion BERTIN

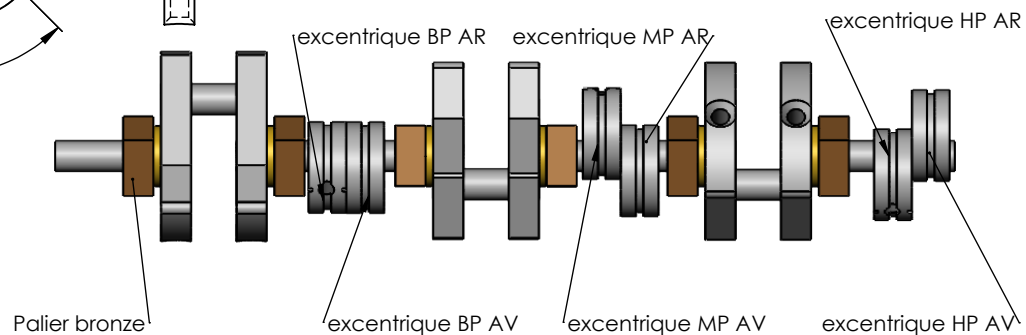
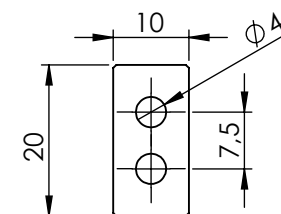


COUPE E-E



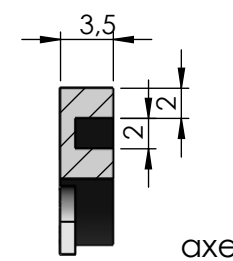
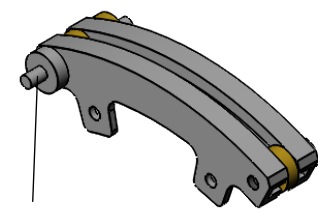
6 contre poids

Réalisés dans deux rondelles en plomb
chaque contre poids est maintenu par un vis tête
fraisée M2

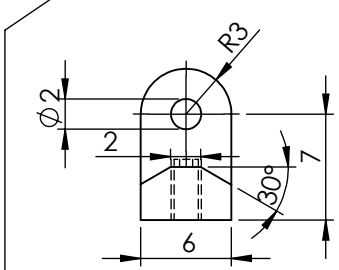
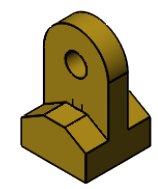


Vilebrequin

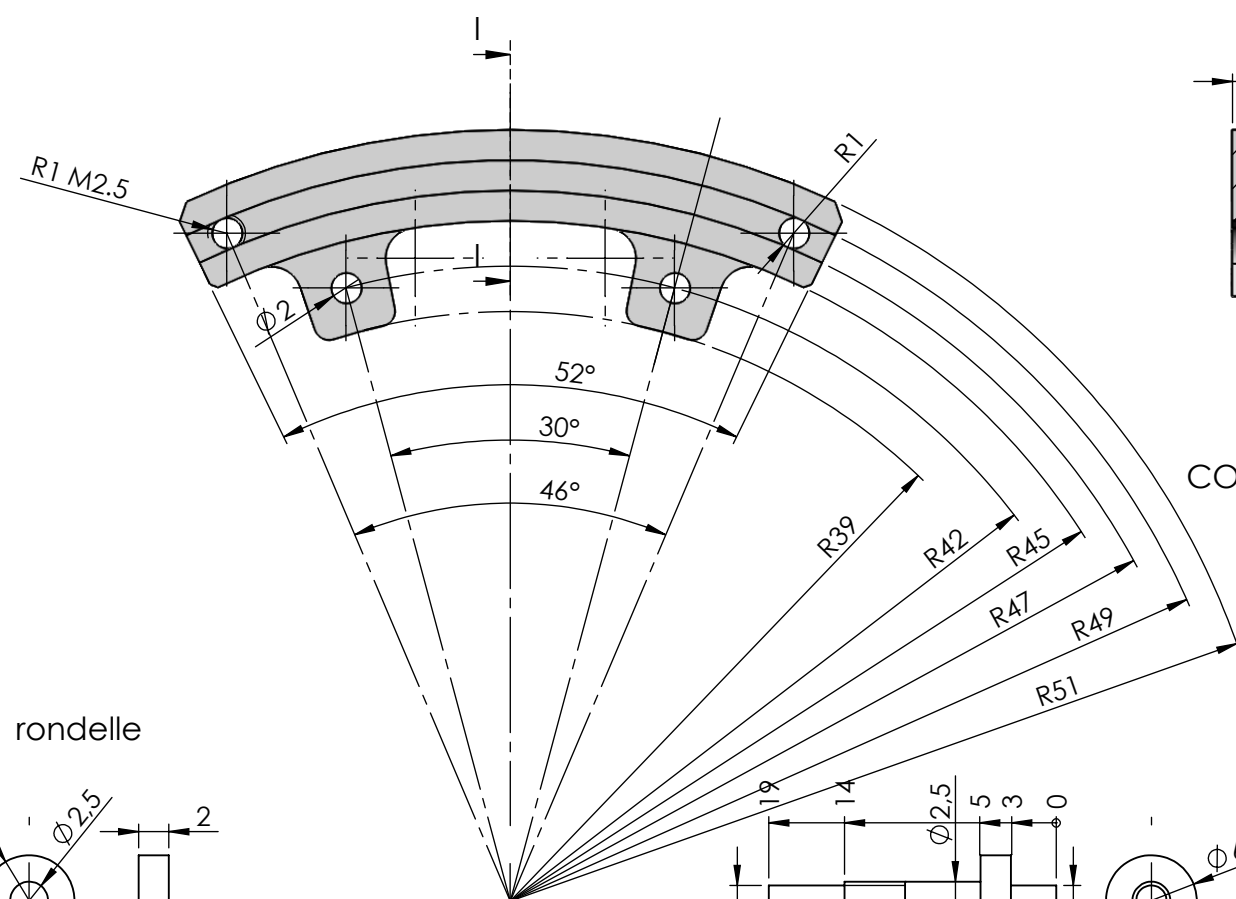
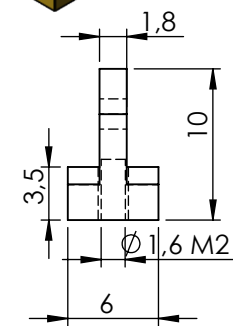
Machine triple
expansion BERTIN



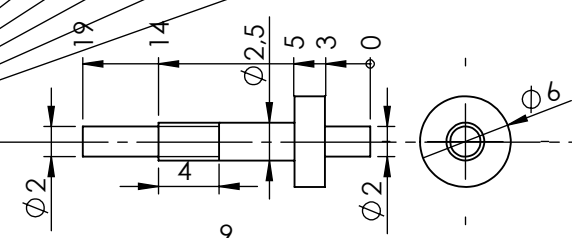
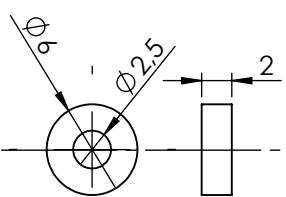
COUPE I-I



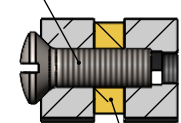
3 coulisseaux



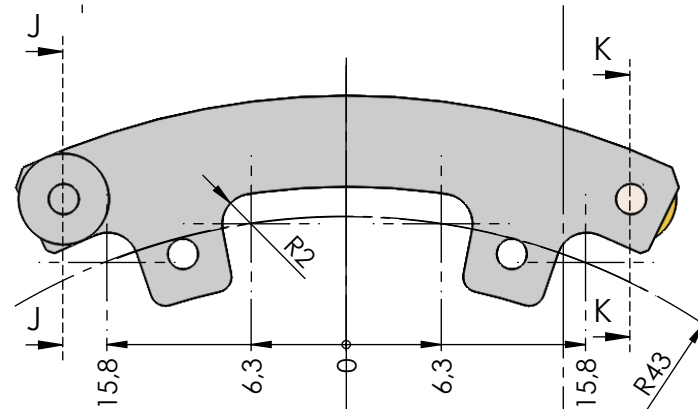
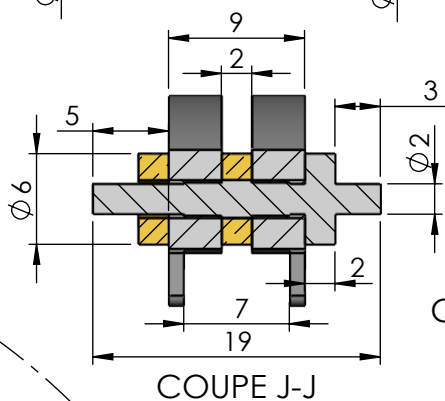
rondelle



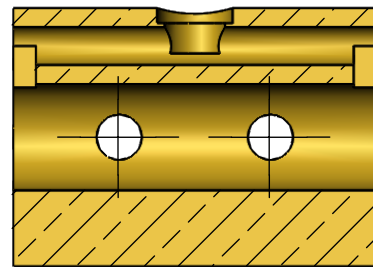
vis tête fraisée M2.5



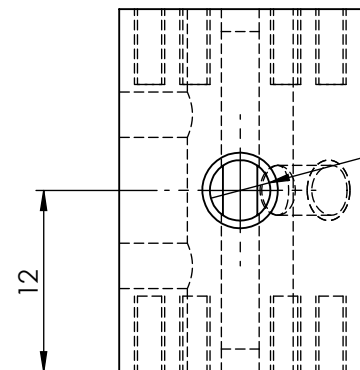
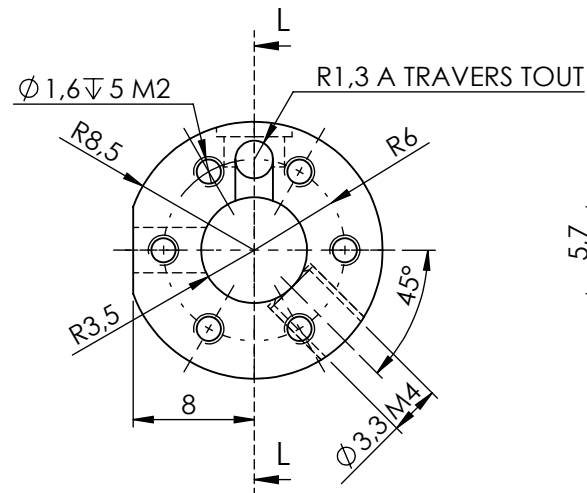
COUPE K-K
rondelle 2mm



Coulisse		
Machine triple expansion BERTIN		
SIZE	dimanche 16 juin 2019	
A4		
SCALE:2:1	Francis DUFOUR	Page 12/ 21

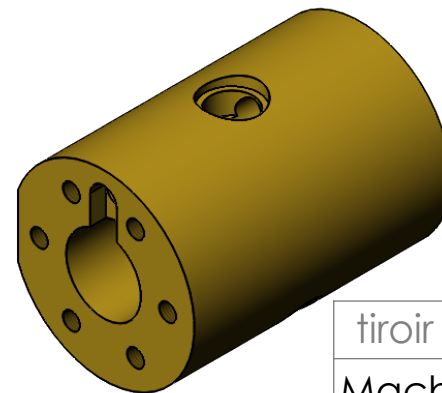
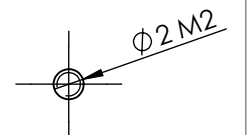
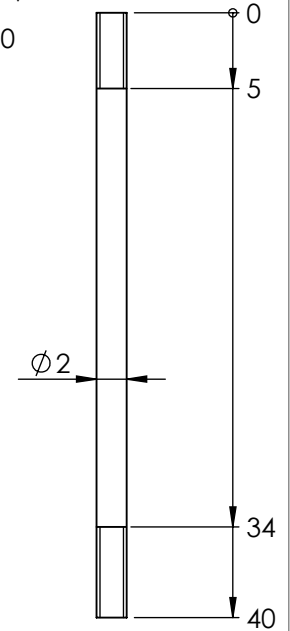
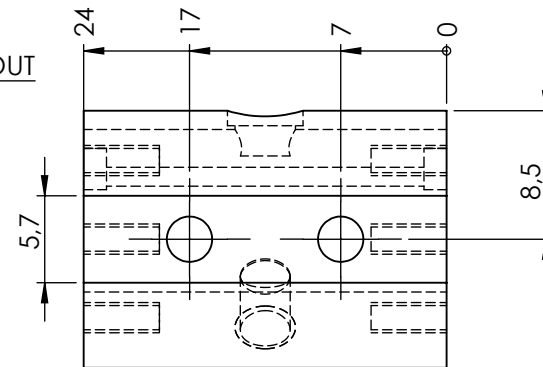
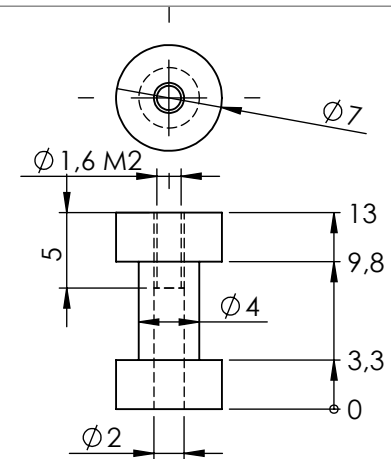


COUPE L-L



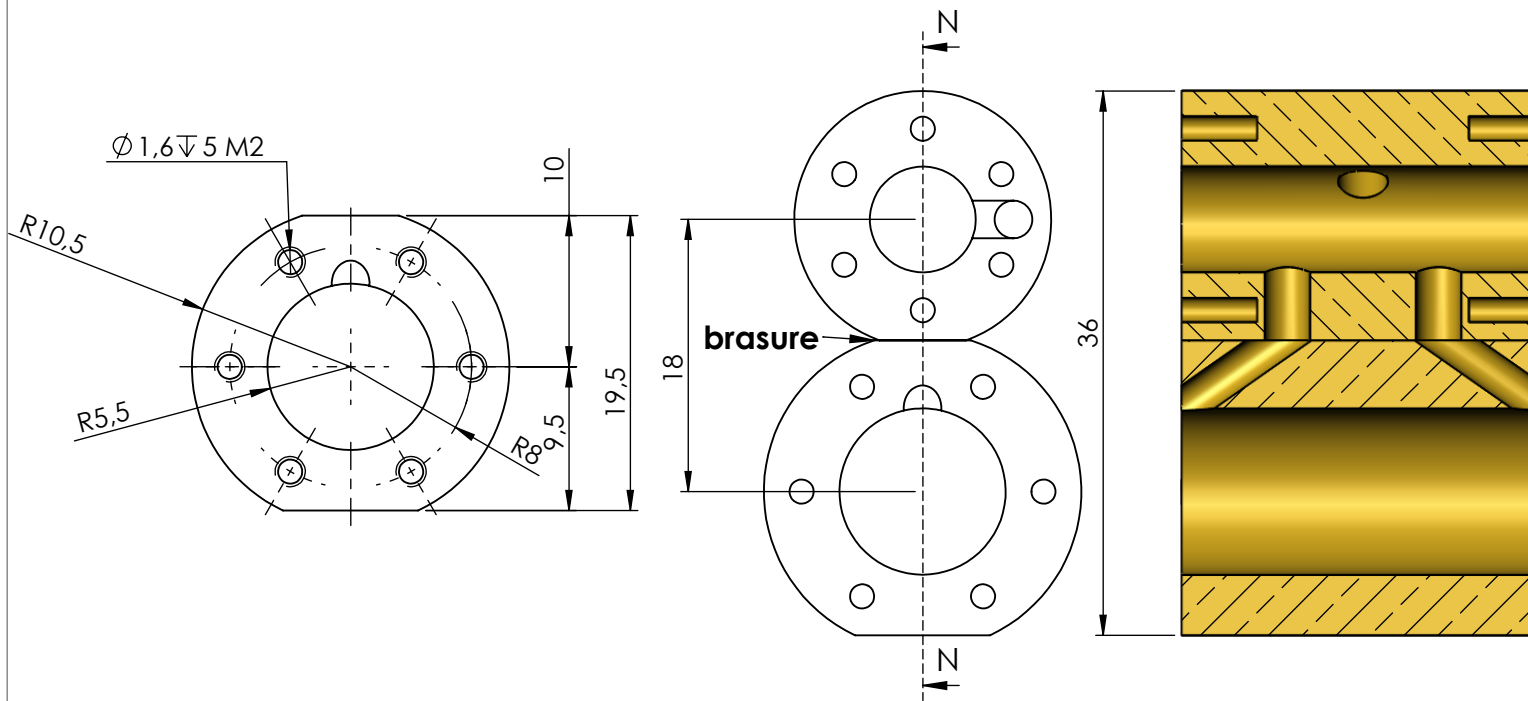
2 x Ø 4 ∇ 3
 Ø 5 ∇ 1

entrée vapeur

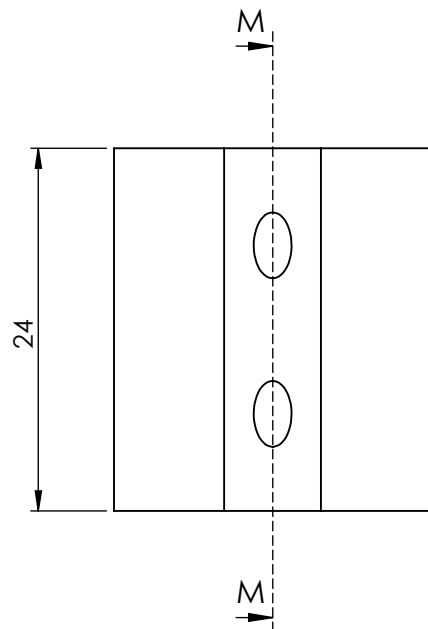


tiroir HP

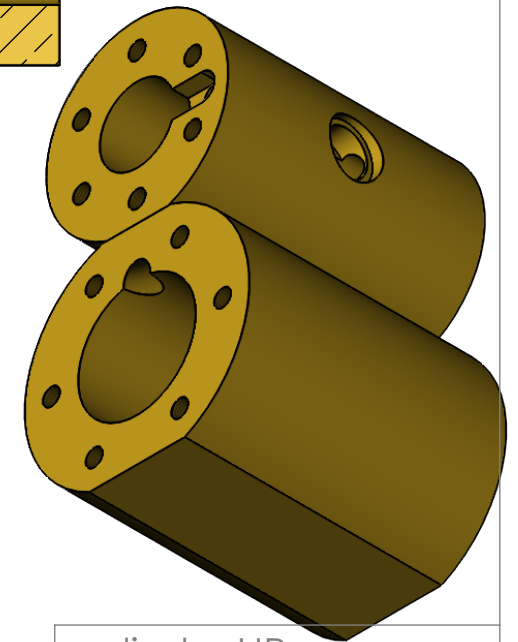
Machine triple
 expansion BERTIN



COUPE N-N

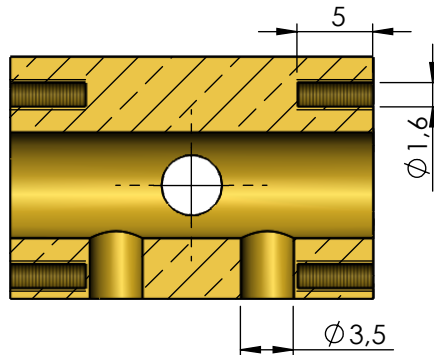
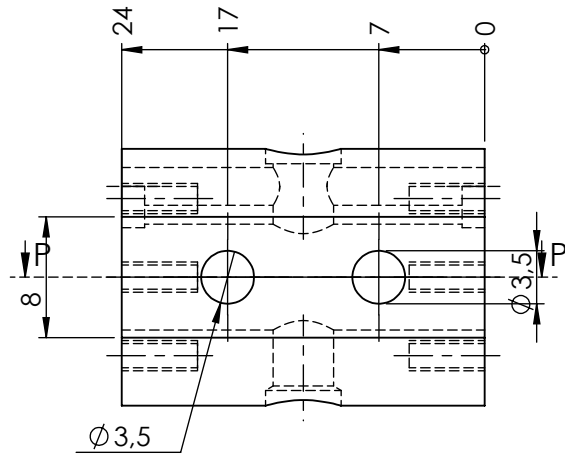


COUPE M-M



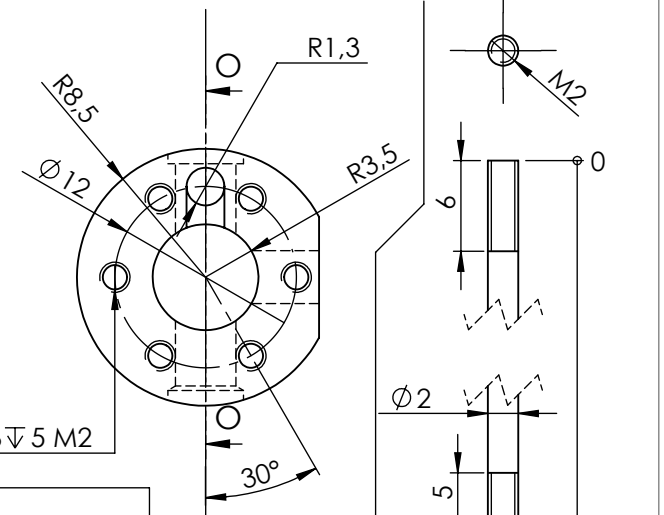
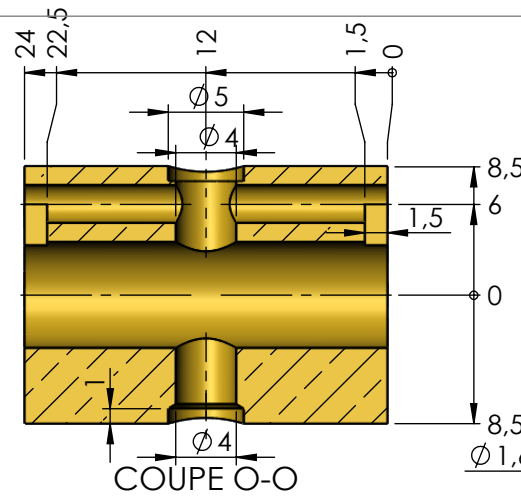
cylindre HP

Machine triple
expansion BERTIN

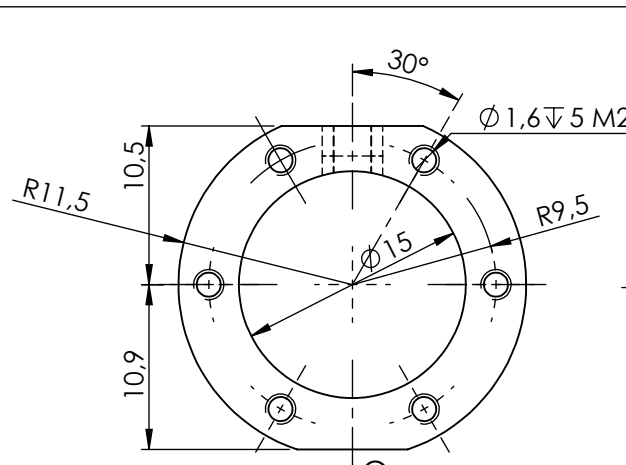


tiroir MP

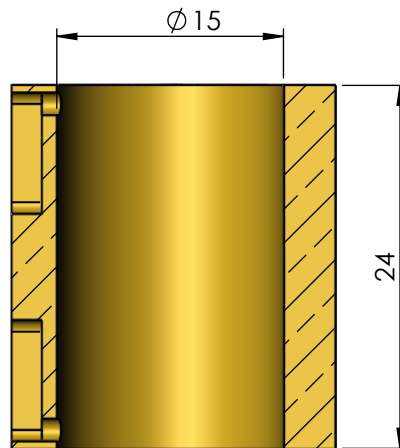
COUPE P-P



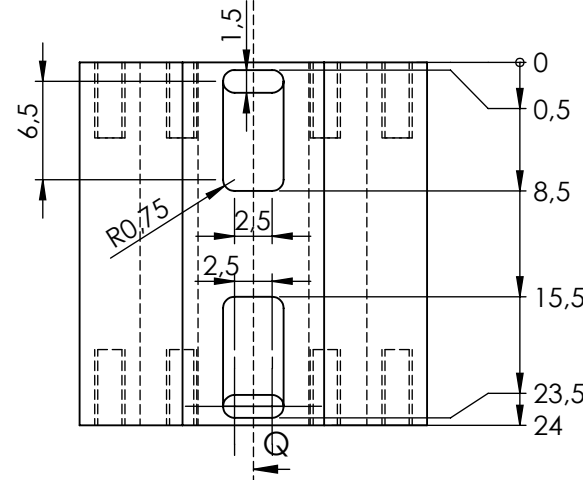
tiroir + tige



cylindre MP

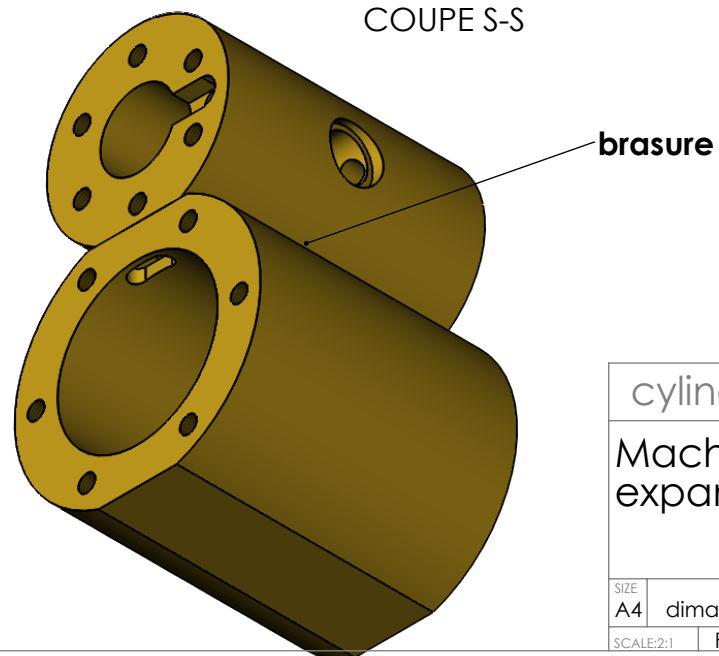
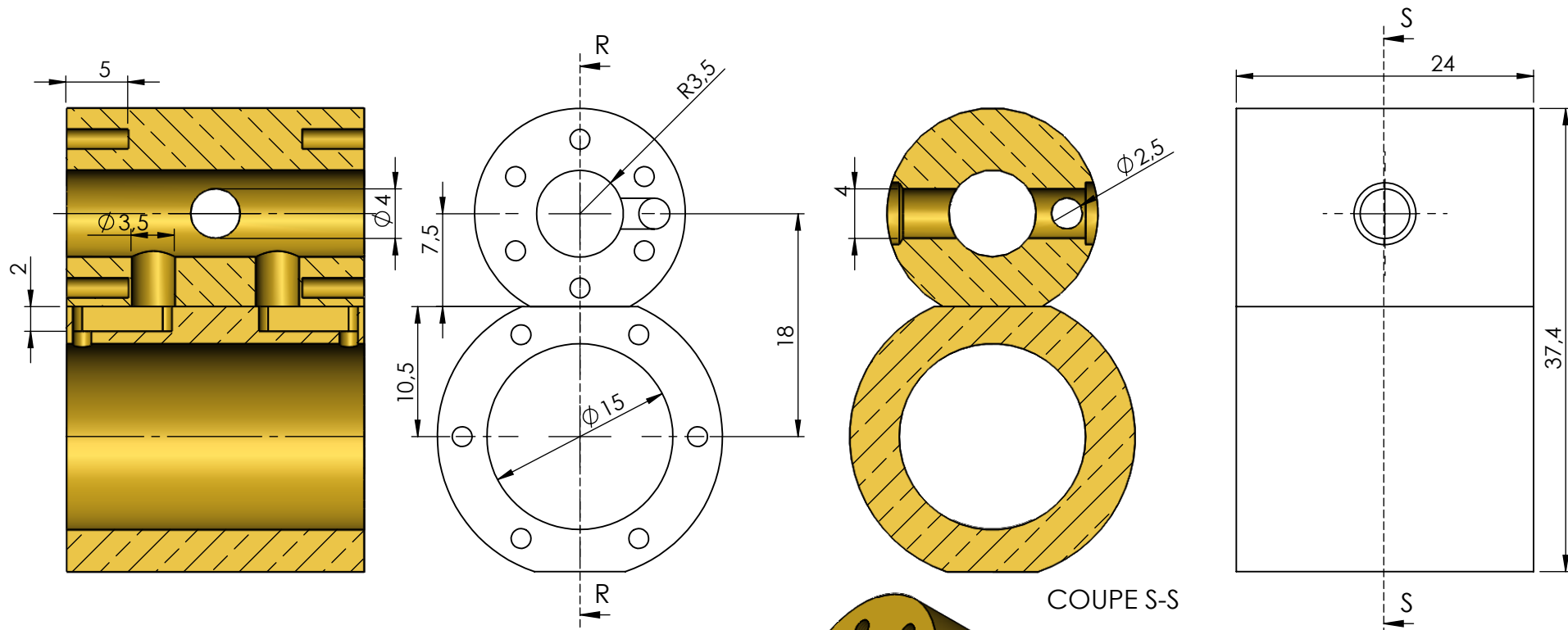


COUPE Q-Q

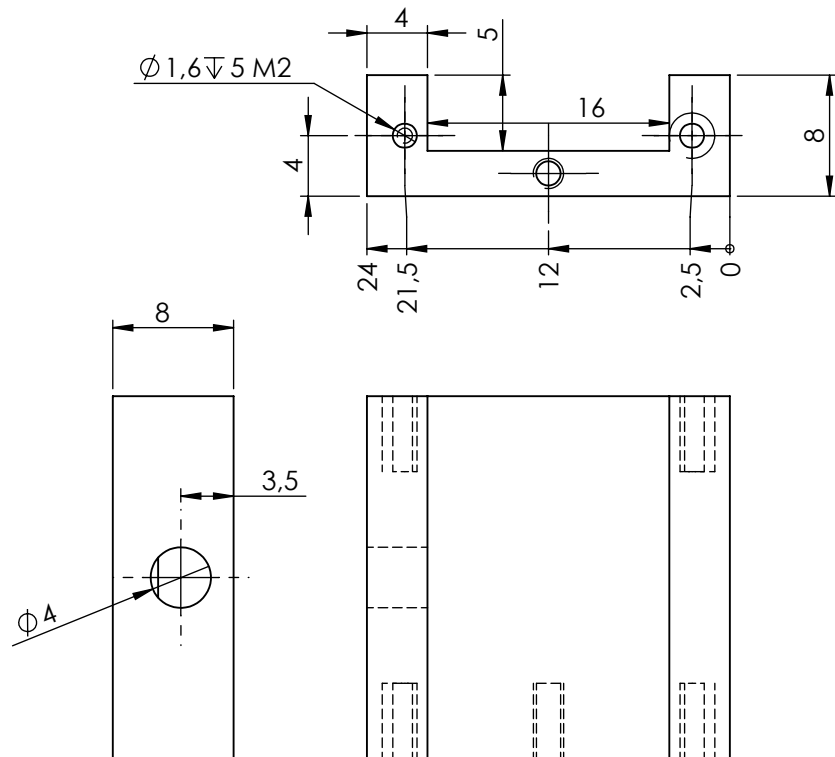


tiroir MP

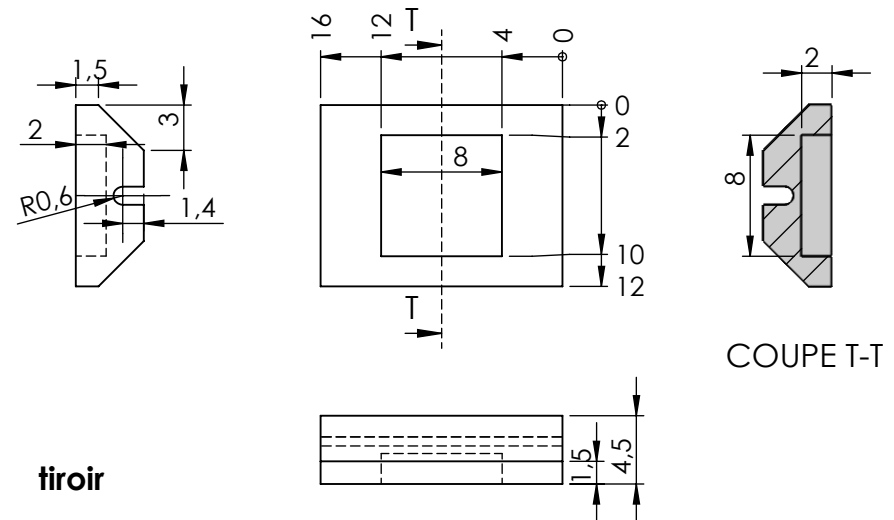
Machine triple
expansion BERTIN



cylindre MP		
Machine triple expansion BERTIN		
SIZE	dimanche 16 juin 2019	
A4		
SCALE:2:1	Francis DUFOUR	Page 17/ 21

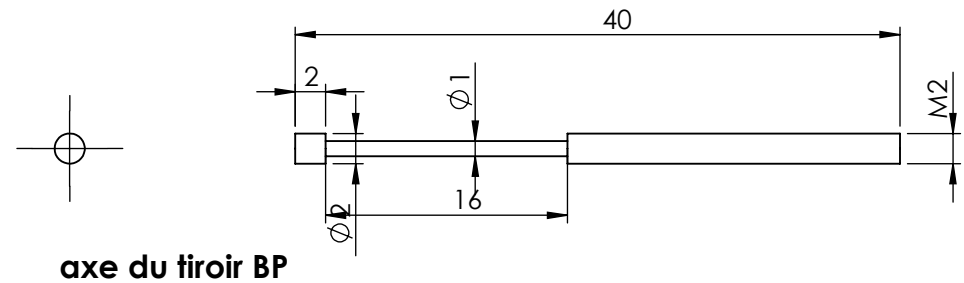


boîte à vapeur BP

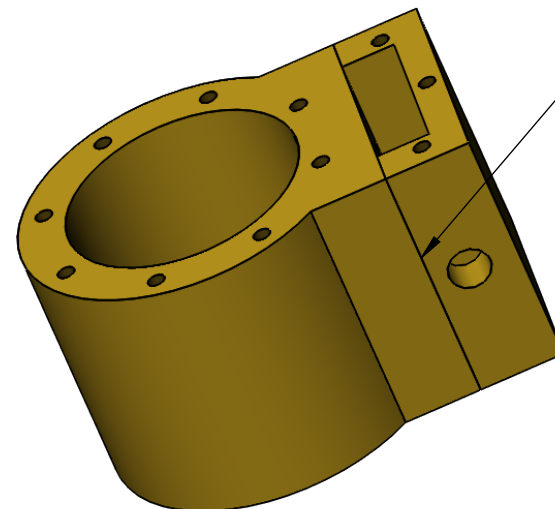


tiroir

COUPE T-T



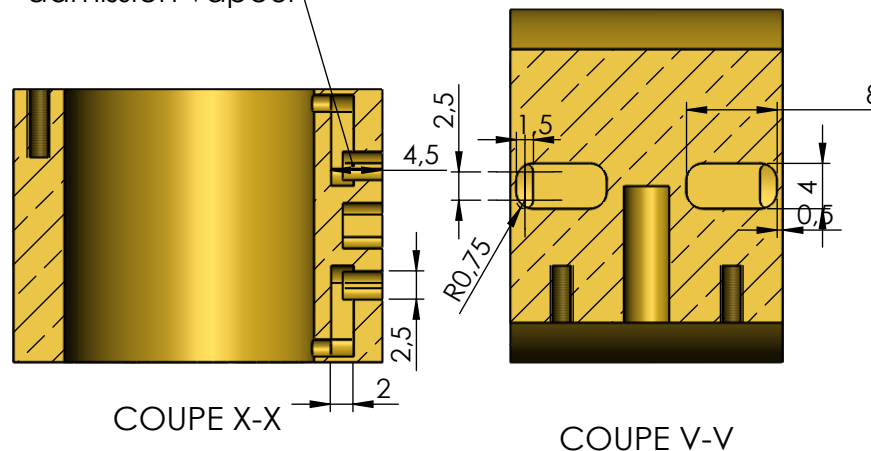
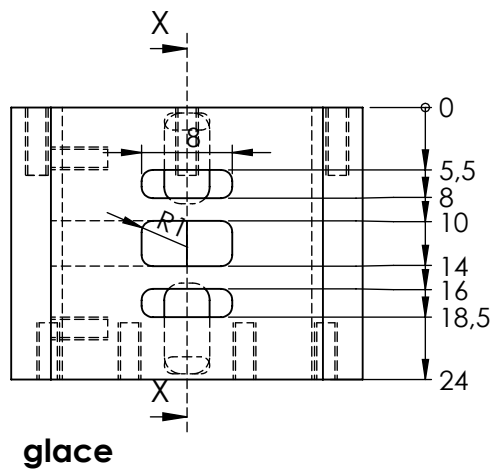
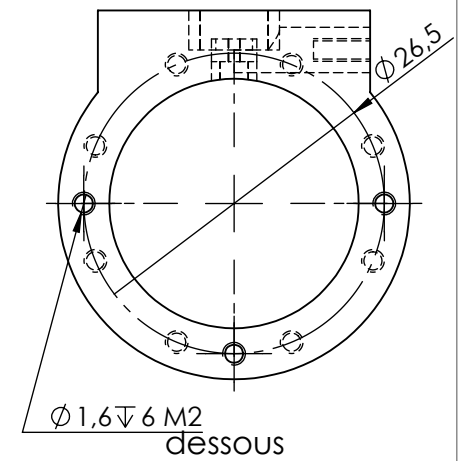
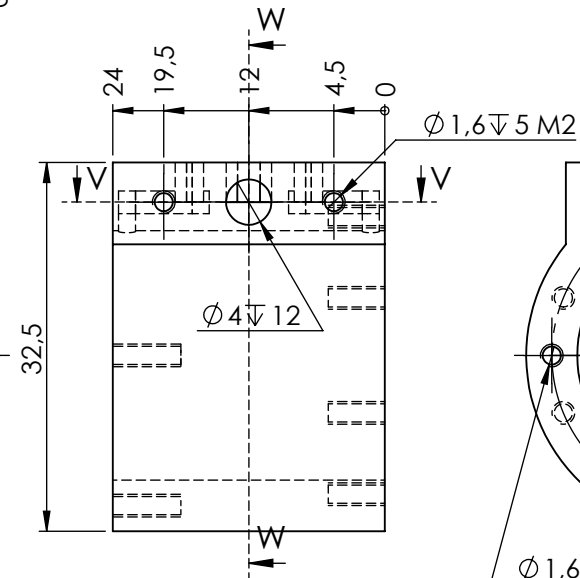
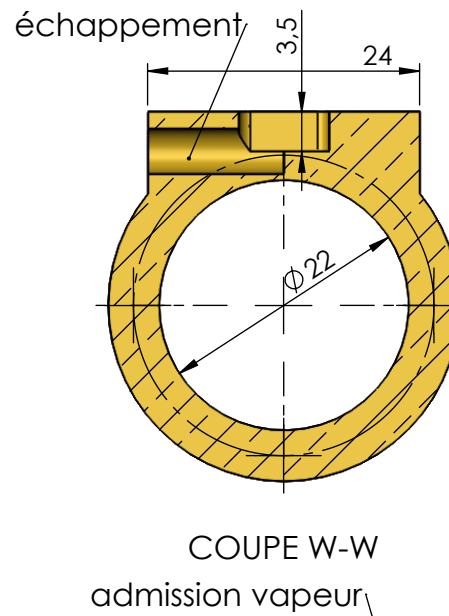
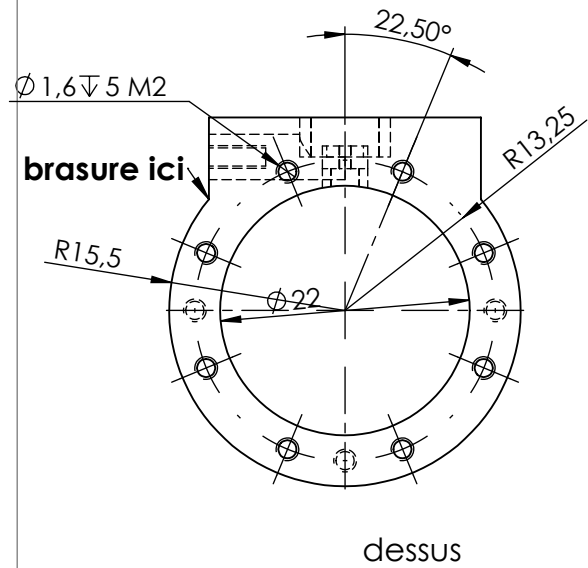
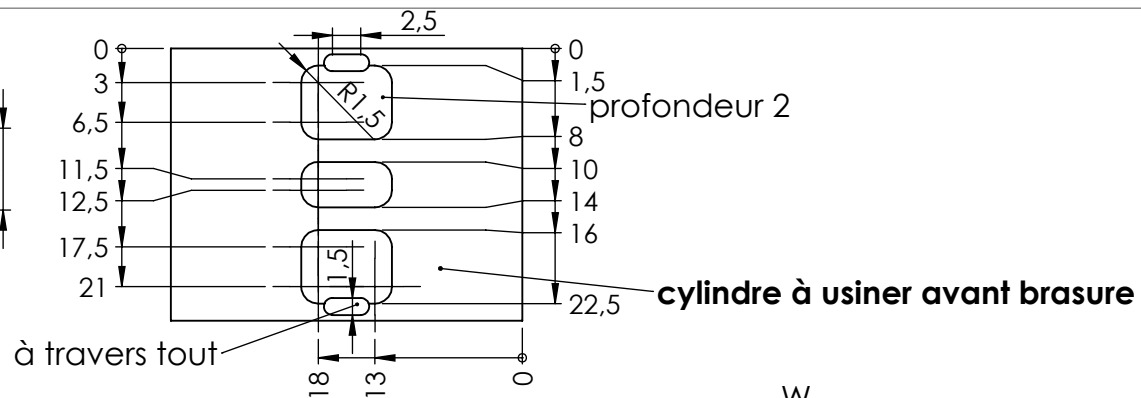
axe du tiroir BP



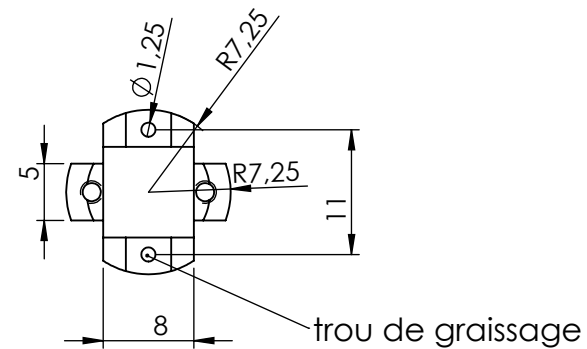
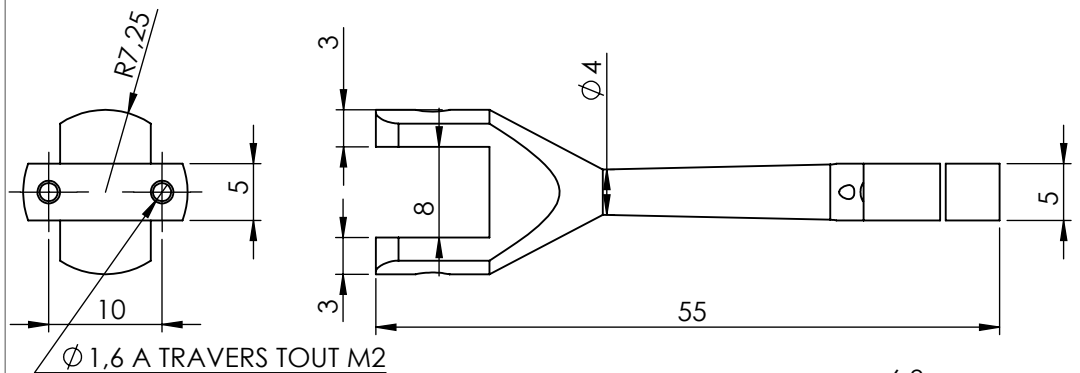
brasure boîte à vapeur

tiroir BP

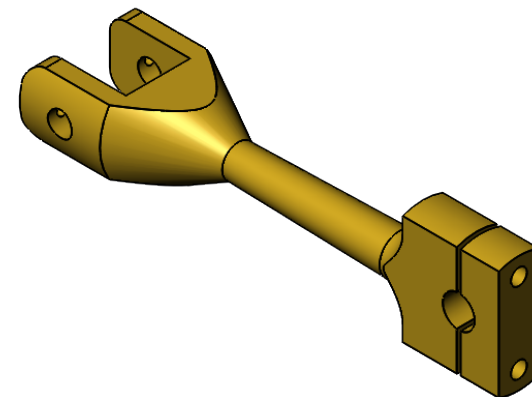
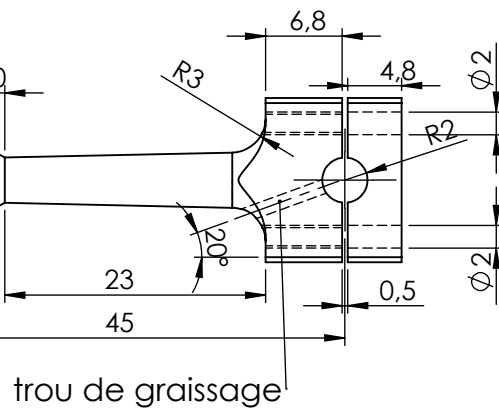
Machine triple
expansion BERTIN



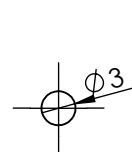
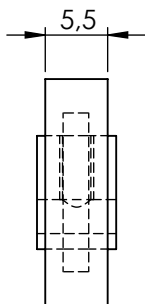
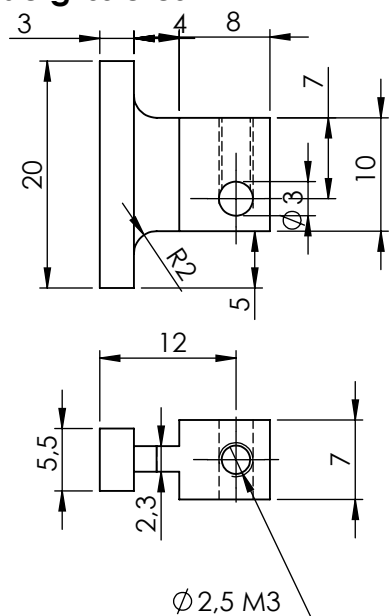
cylindre BP
Machine triple expansion BERTIN



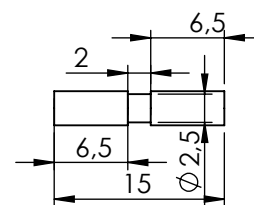
3 bielles en bronze



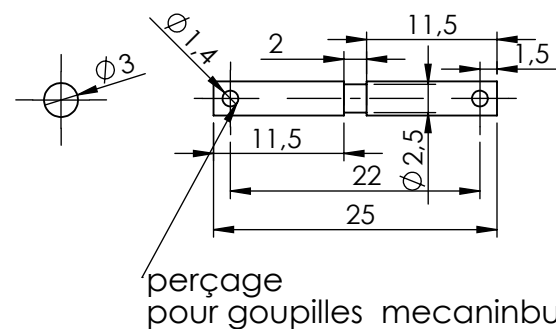
3 patins de glissières



axes pieds de bielle HP et MP

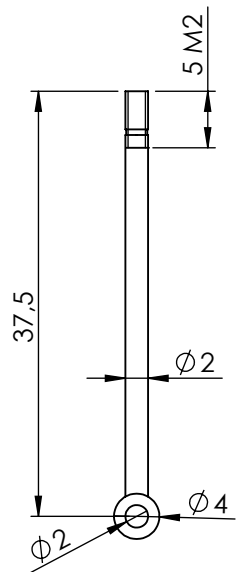


axe pied de bielle BP

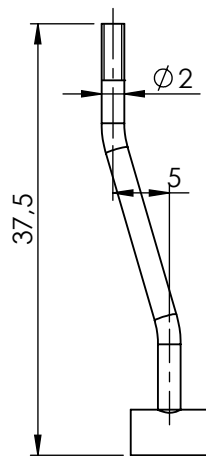


bielle patin

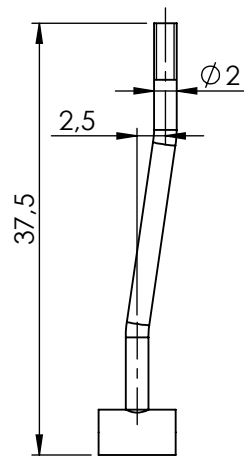
Machine triple
expansion BERTIN



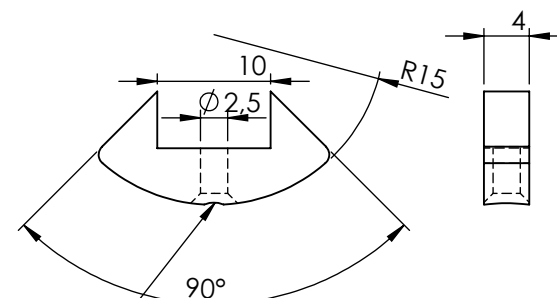
2 bielles d'excentrique
marche AV HP et BP



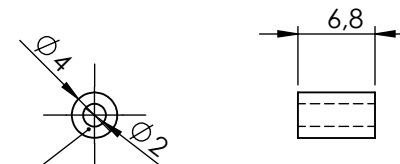
2 bielles d'excentrique
marche AR HP et BP



2 bielles d'excentrique
marche AR et AR du MP

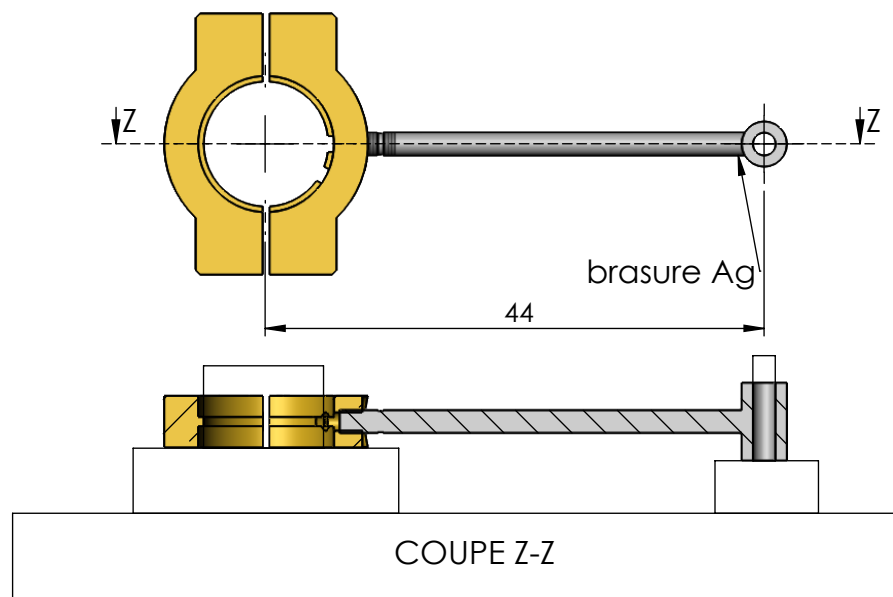


6 contre poids pris dans
deux rondelles de plomb
tenus par une vis TFIØ 2 mm



6 douilles d'excentriques à braser sur les
tiges Ø 2mm en inox puis former ces tiges
selon le déport

présenter ensuite l'ensemble sur le calibre de
soudage et braser la tige sur la douille



calibre de soudage

chariots et bielles ex

Machine triple
expansion BERTIN