

Q70R

BANQUE PT

PHYSIQUE & TECHNOLOGIE



Epreuve de Sciences Industrielles A

Durée 5 h

Si, au cours de l'épreuve, un candidat repère ce qui lui semble être une erreur d'énoncé, d'une part il le signale au chef de salle, d'autre part il le signale sur sa copie et poursuit sa composition en indiquant les raisons des initiatives qu'il est amené à prendre.

DOCUMENTS

ANNEXES

Tournez la page S.V.P

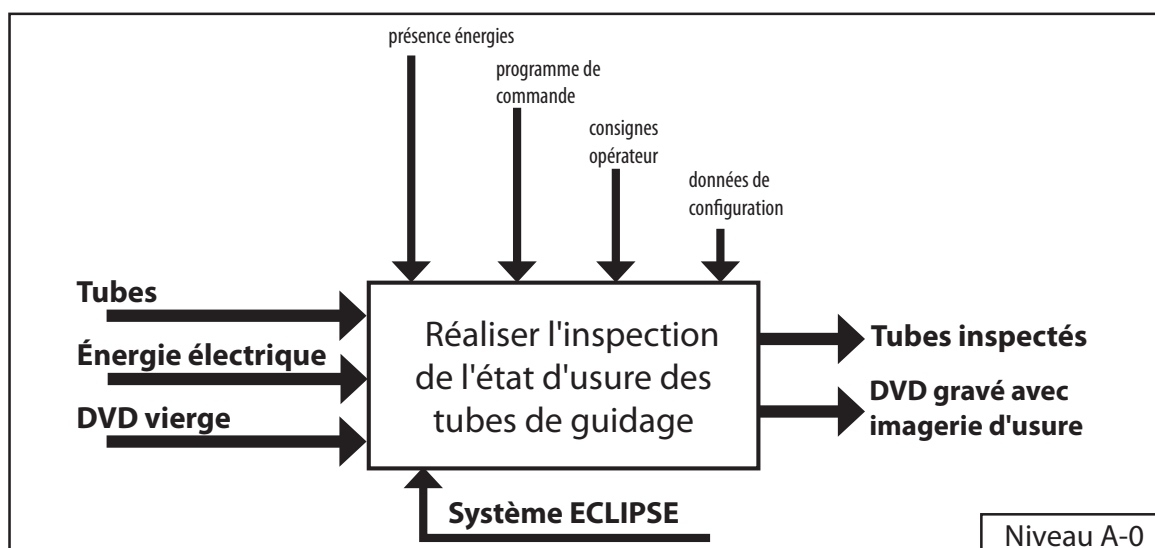


figure 1

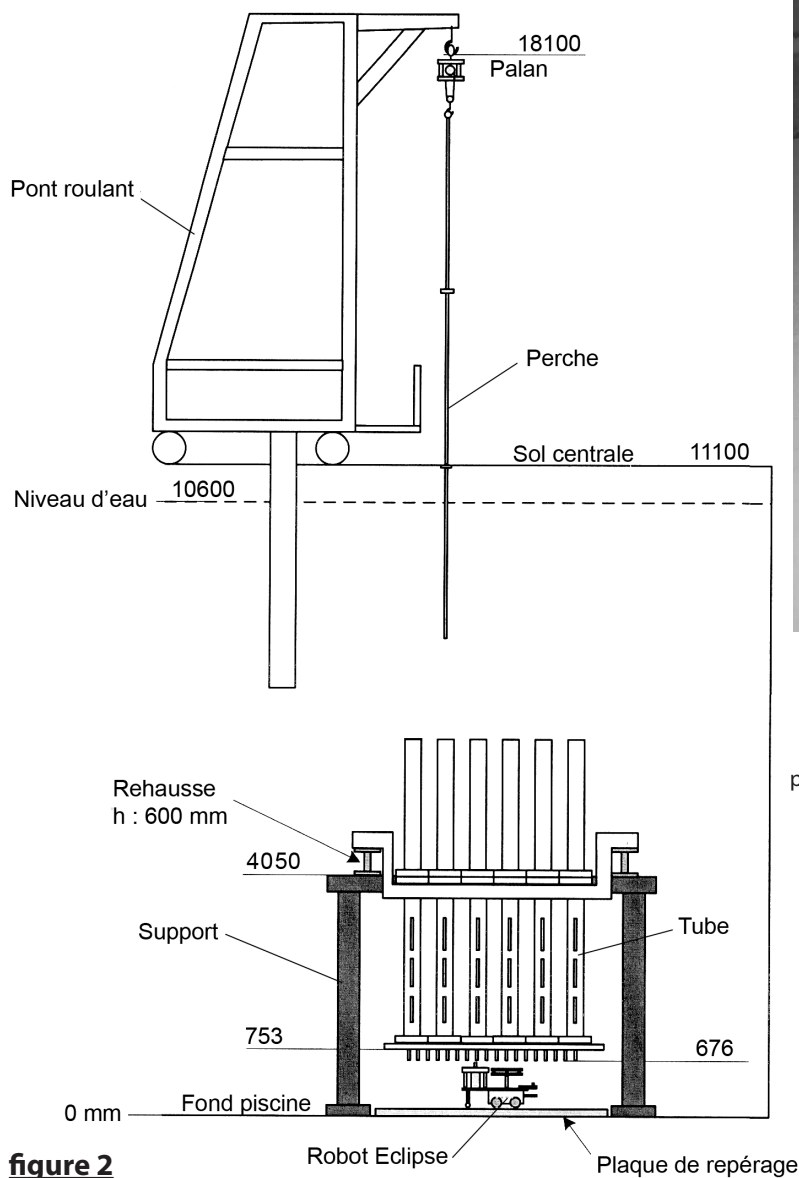
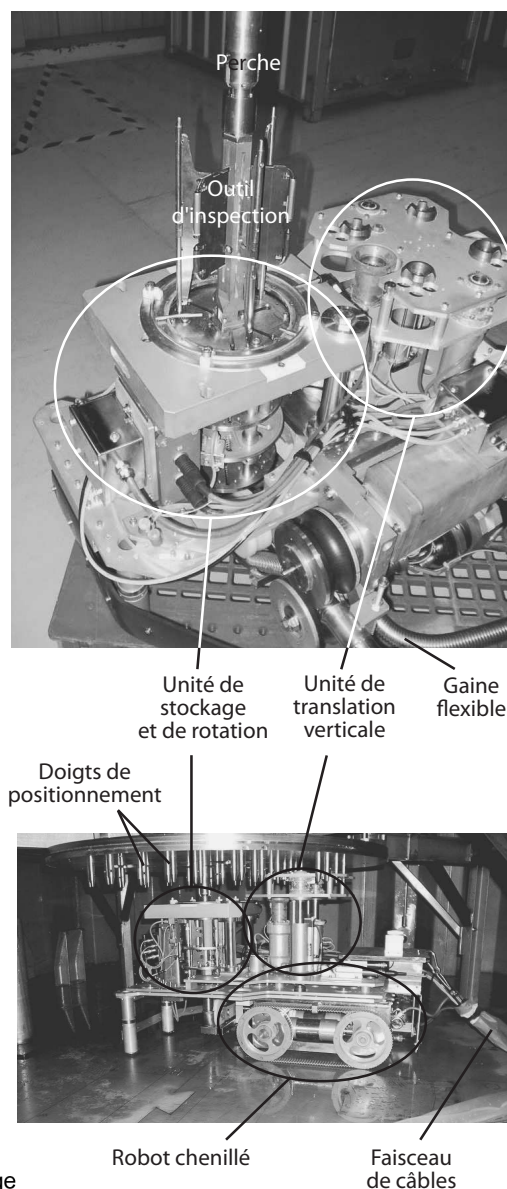
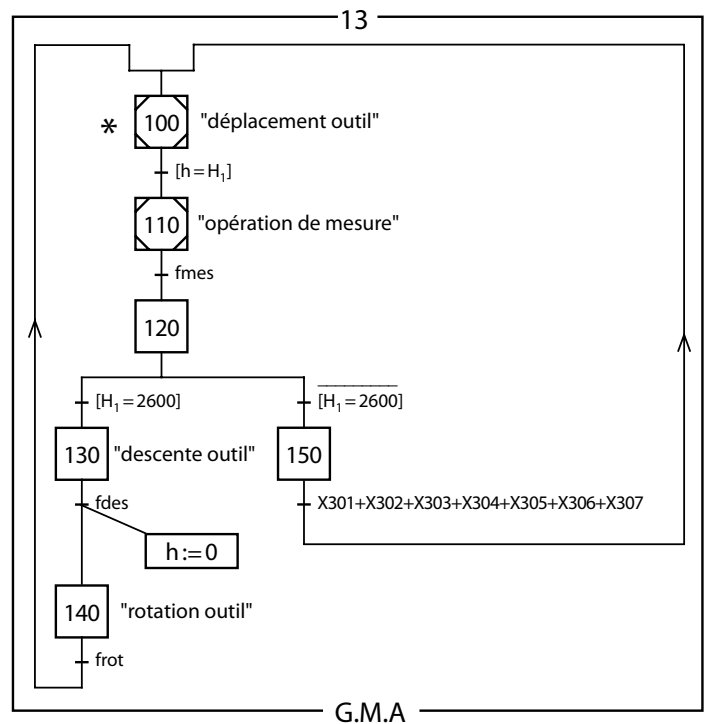
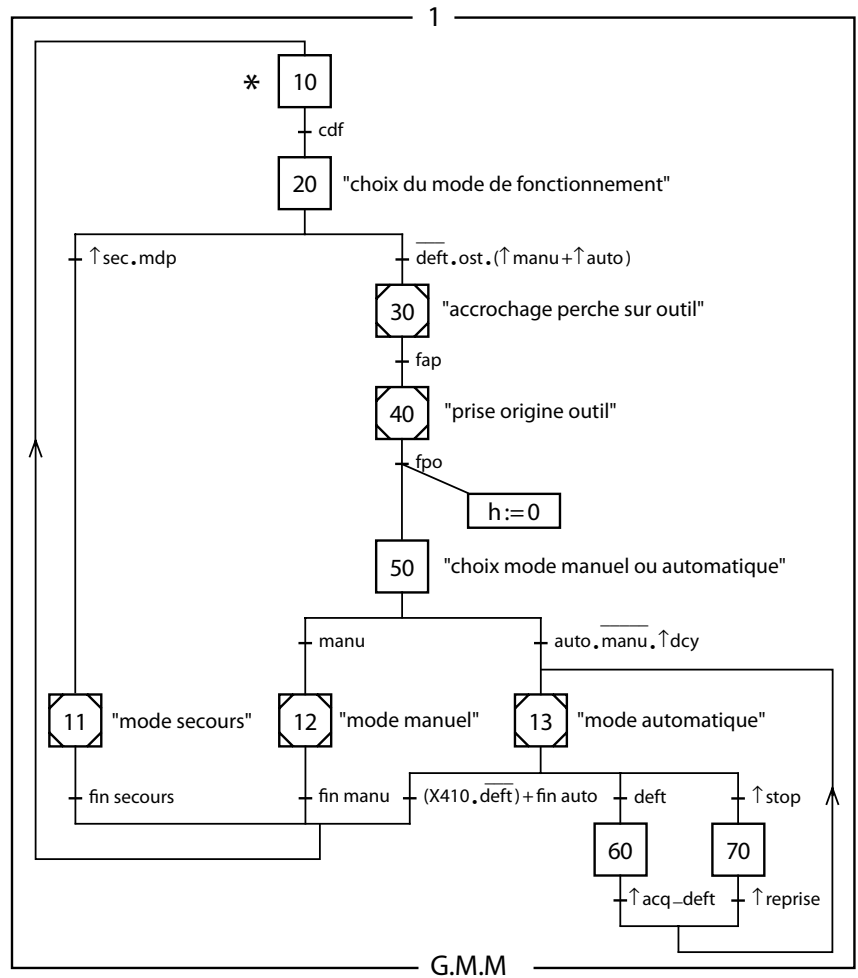
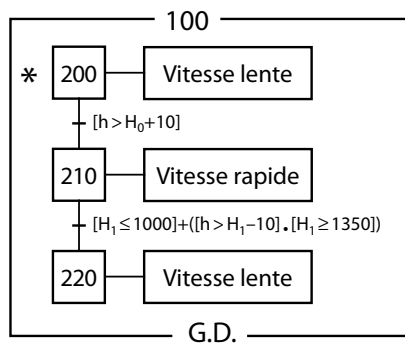
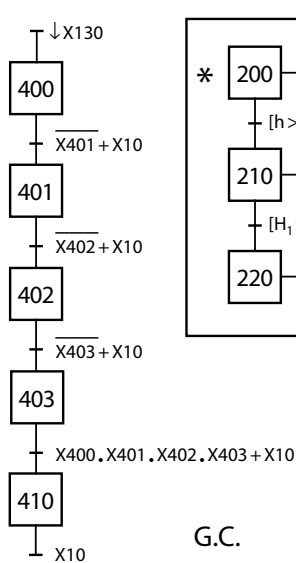
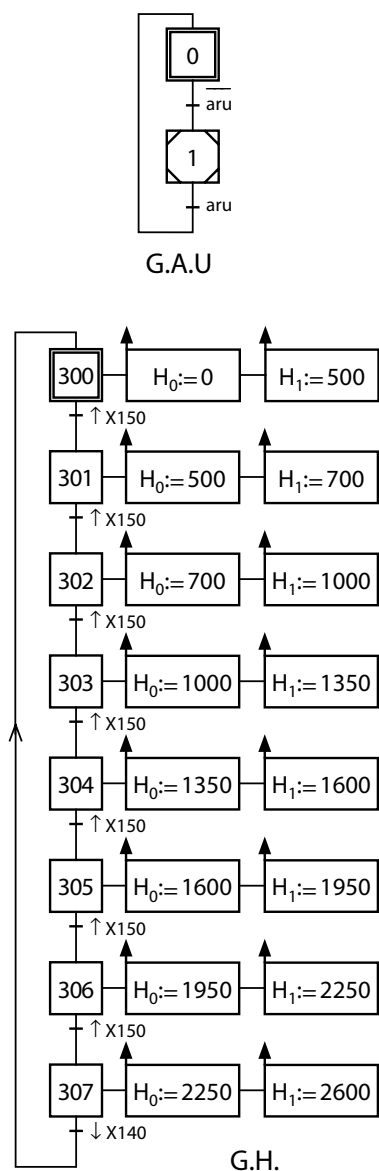
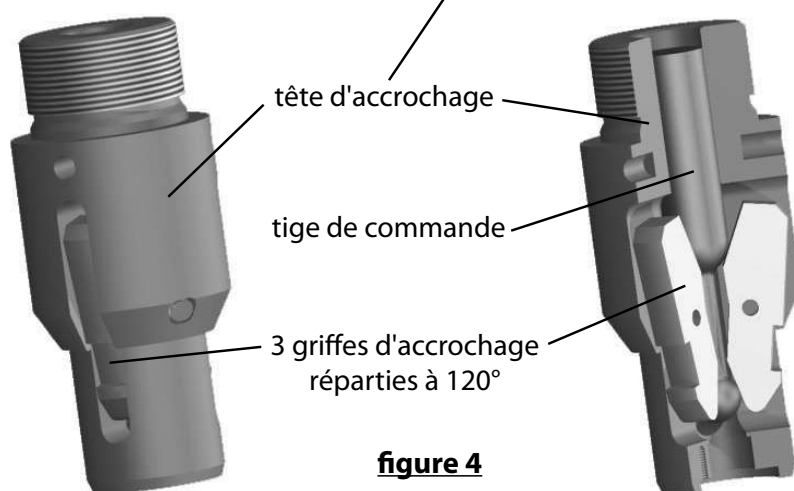
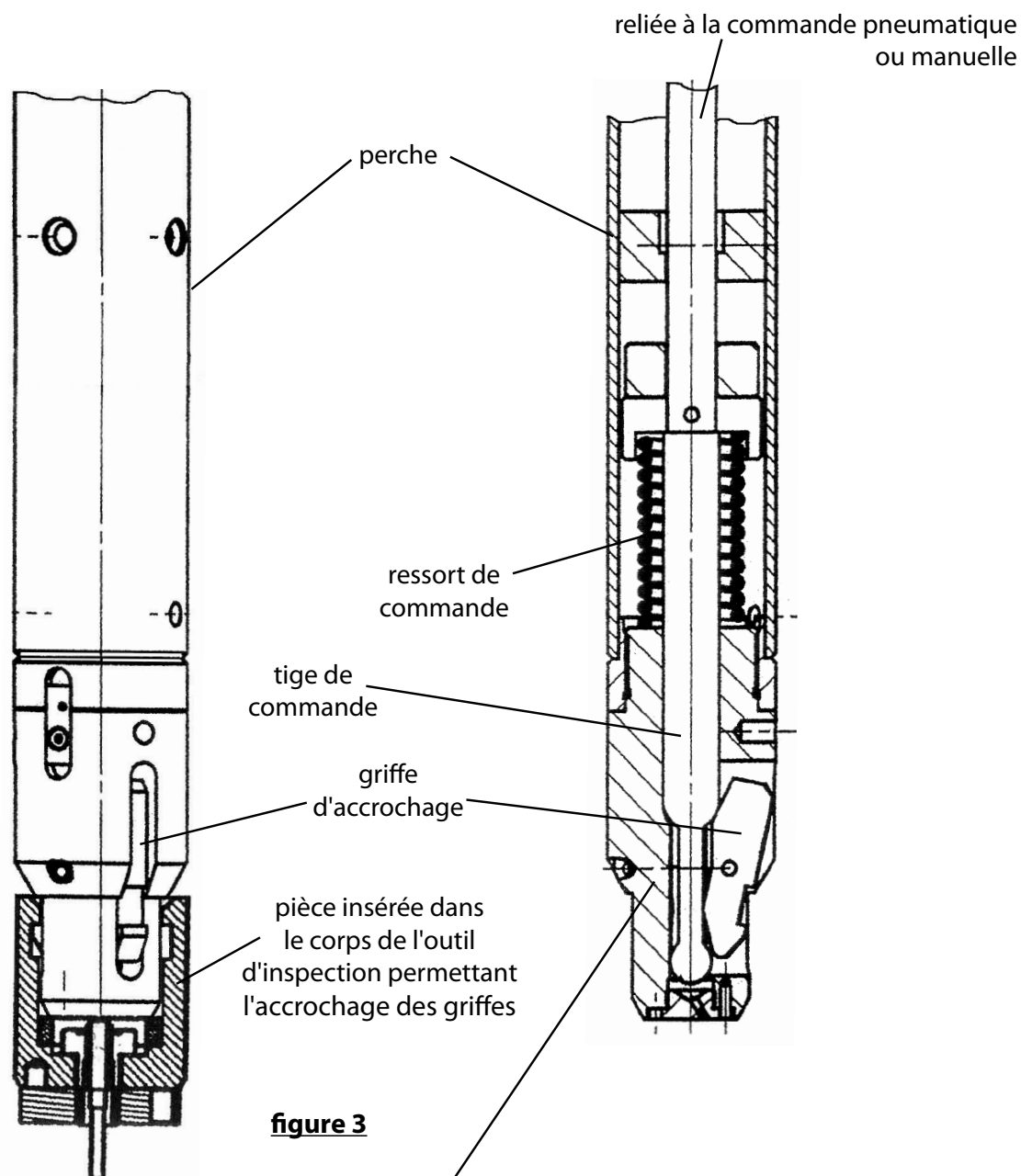
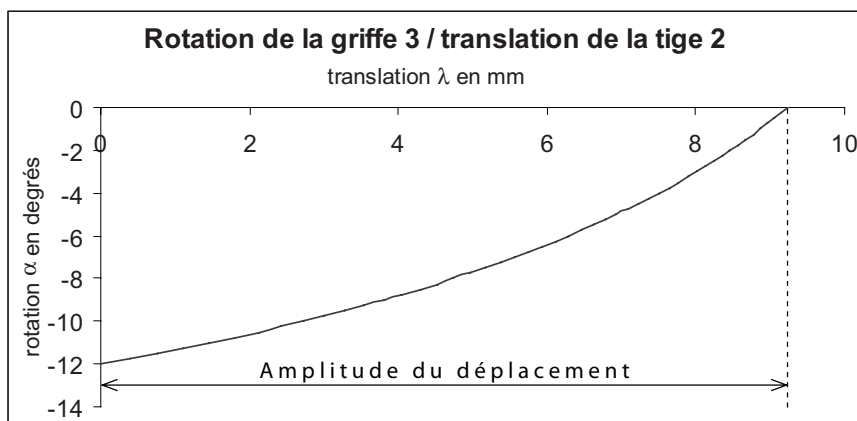
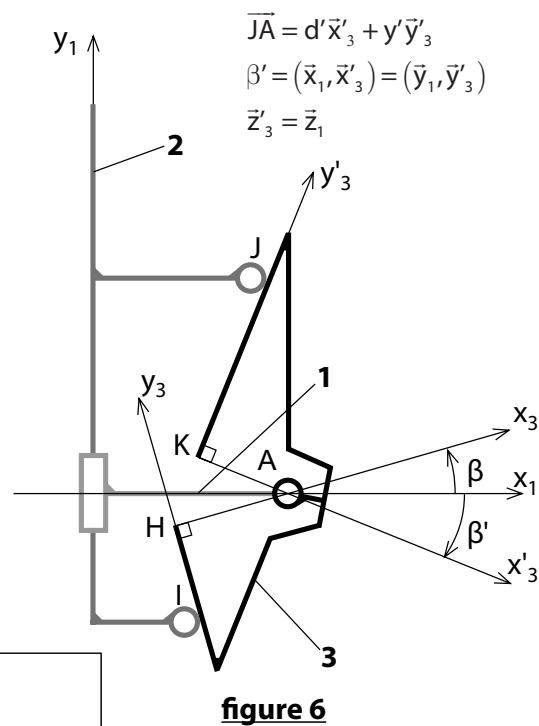
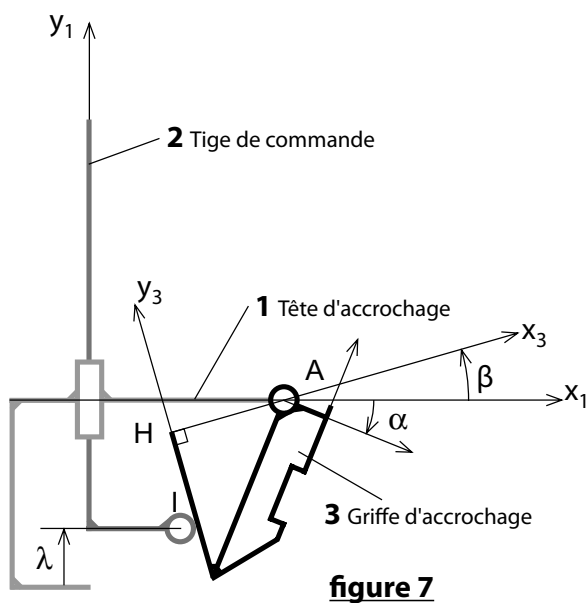
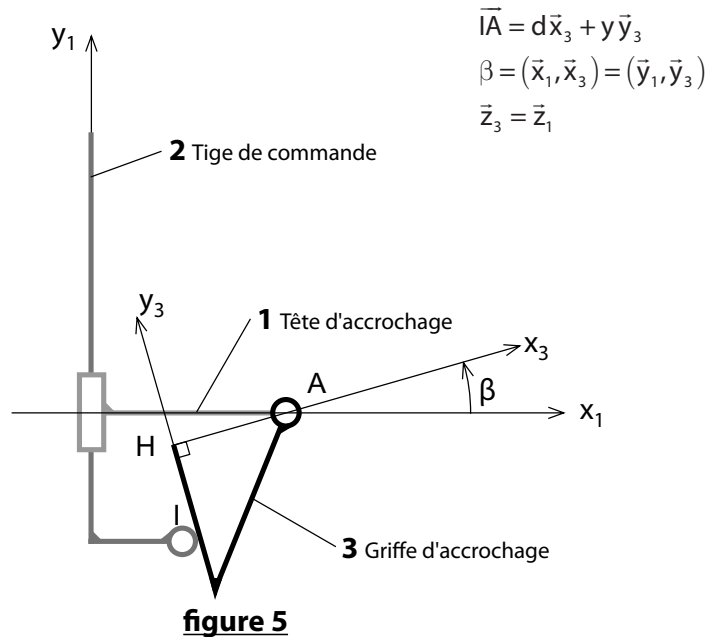
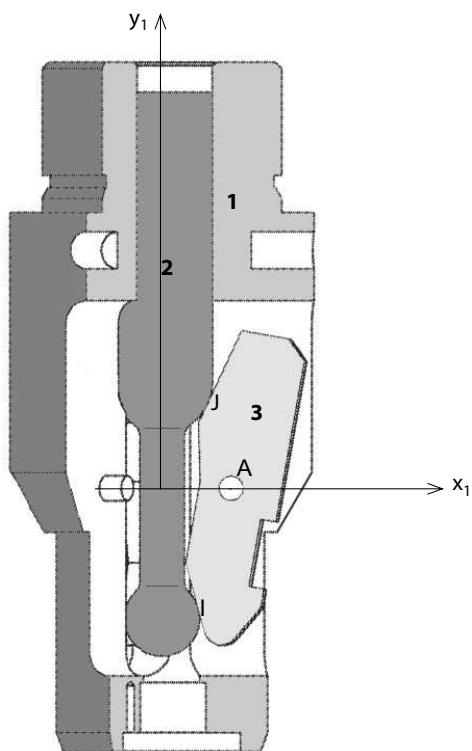


figure 2









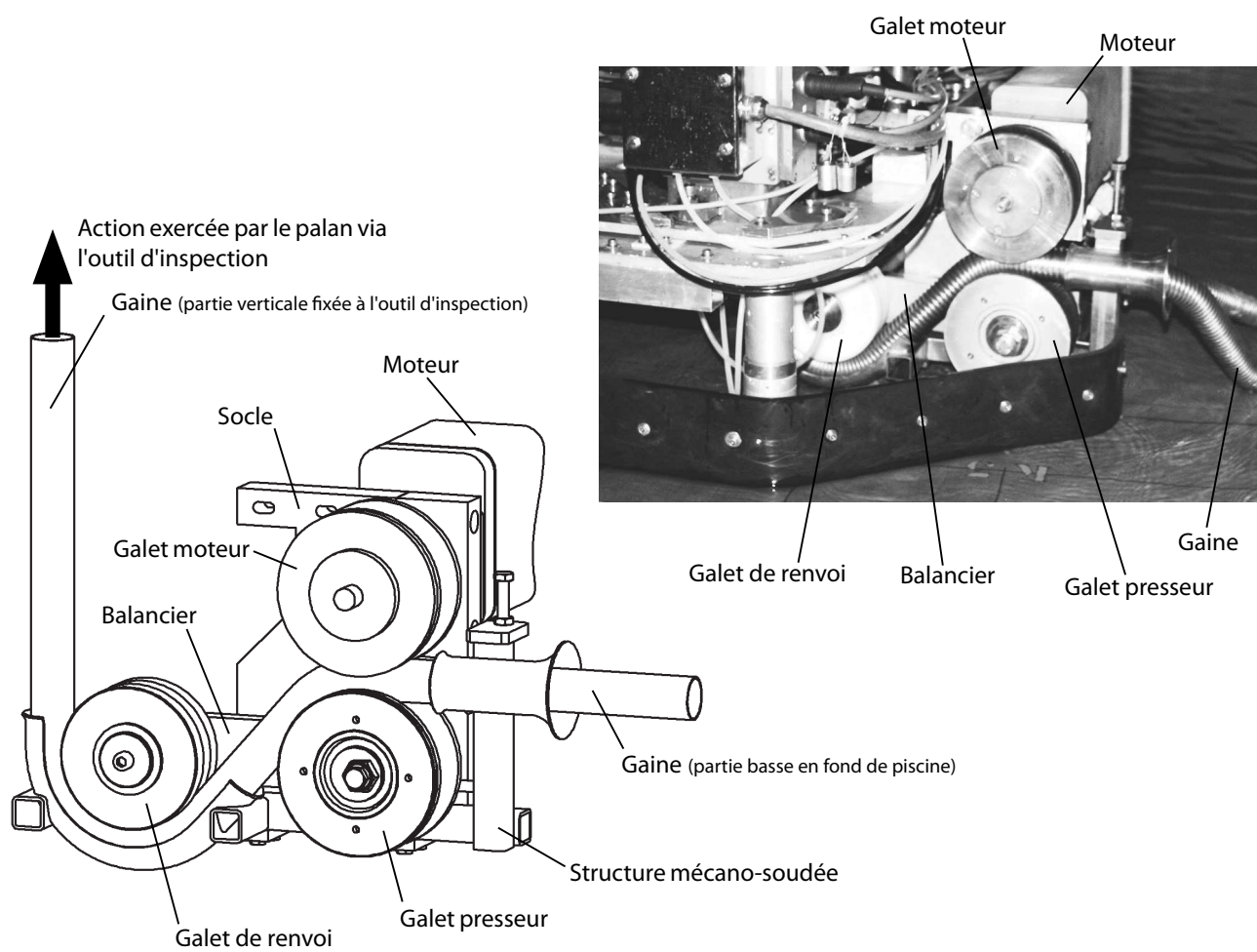
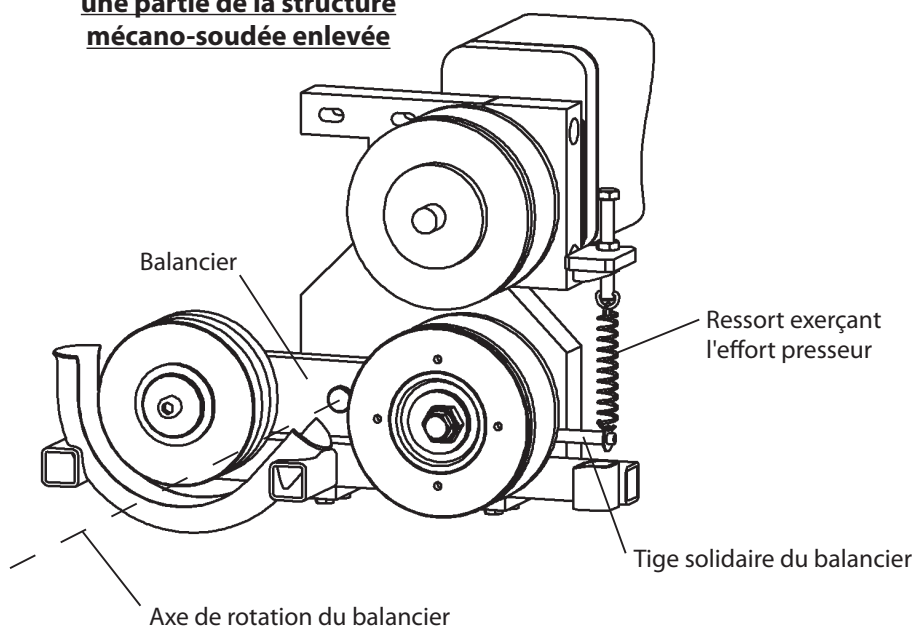
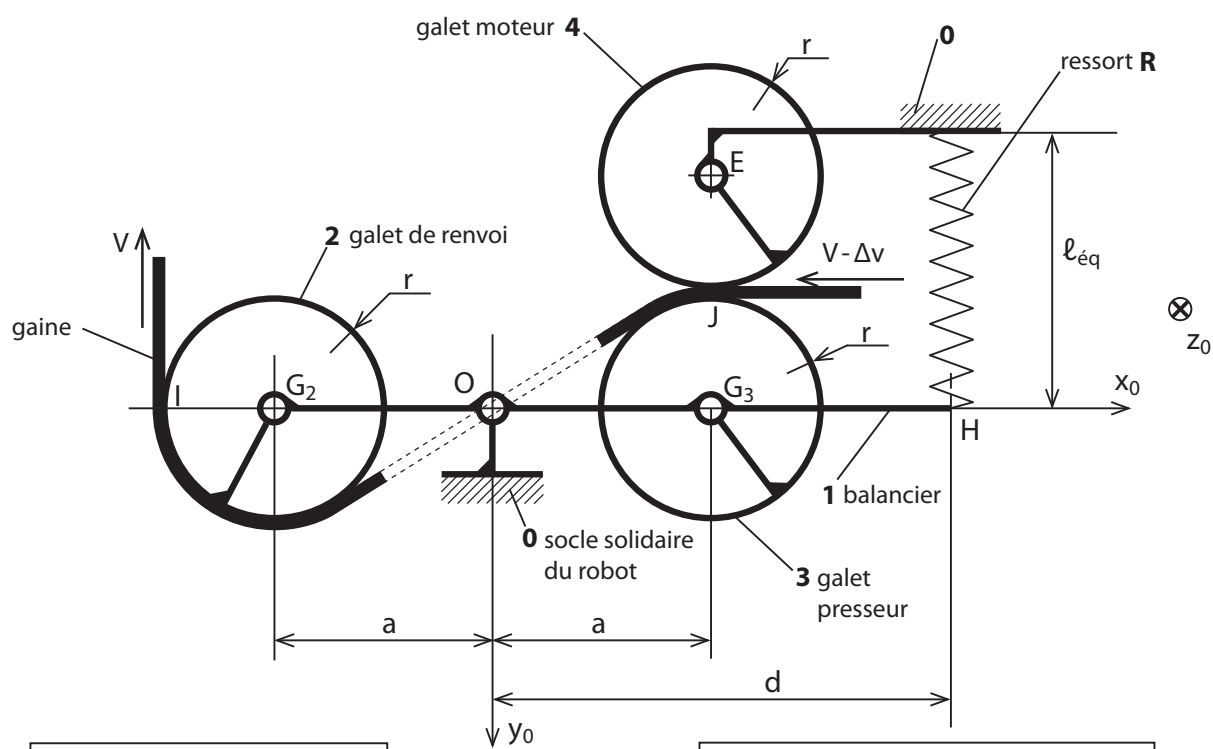


figure 9

figure 10

Vue de l'ensemble sans la gaine
une partie de la structure
mécano-soudée enlevée





Principales dimensions

$a = 100 \text{ mm}$

$r = 80 \text{ mm}$

$d = 200 \text{ mm}$

figure 11

Caractéristiques ressort R

raideur : $k = 600 \text{ N/m}$

longueur à vide : $\ell_0 = 50 \text{ mm}$

longueur à l'équilibre : $\ell_{eq} = 150 \text{ mm}$

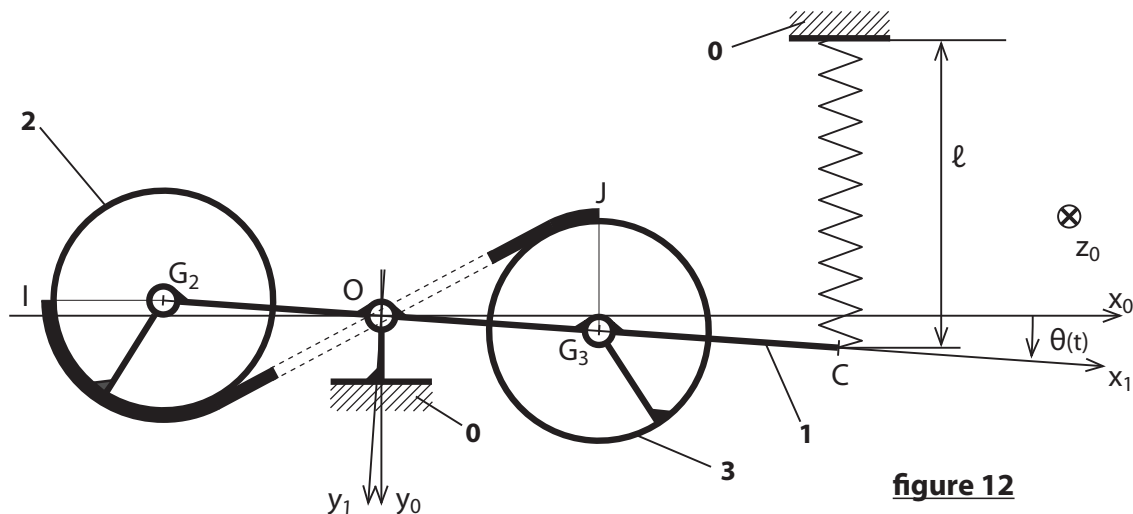


figure 12

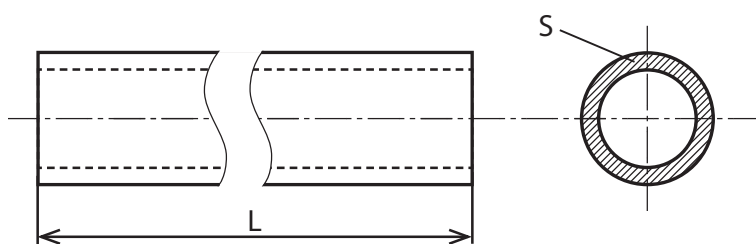


figure 14

Caractéristiques de la gaine

Section : $S = 120 \text{ mm}^2$

Module de Young : $E = 4500 \text{ MPa}$

Longueur (mm) : $400 < L < 3000$

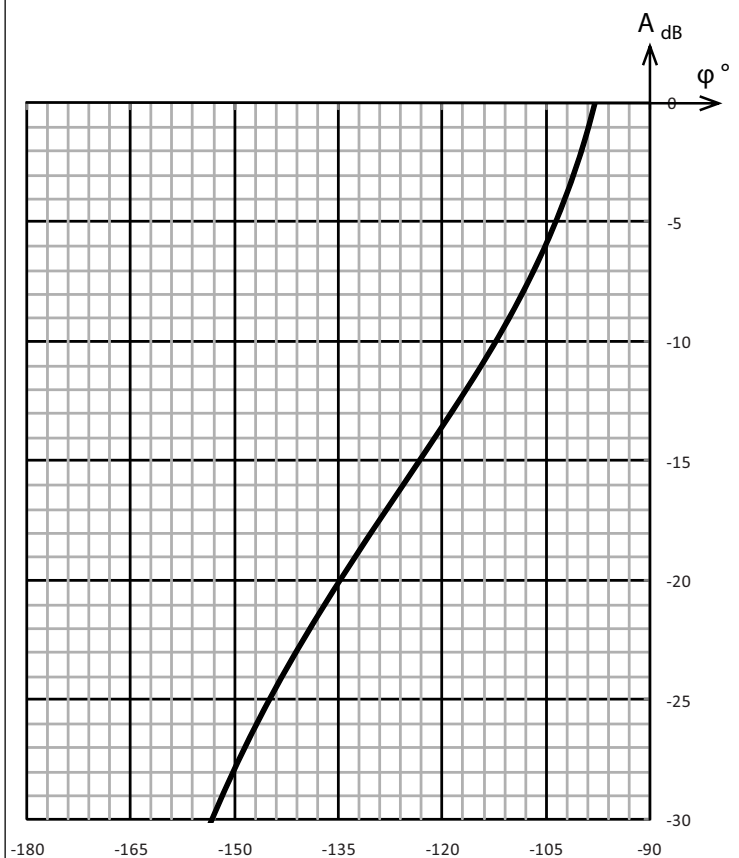
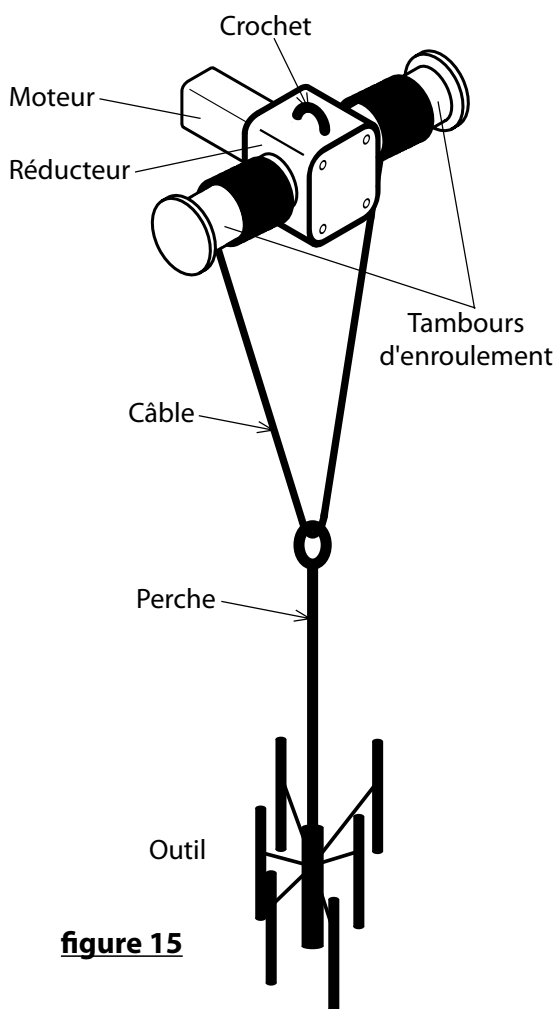
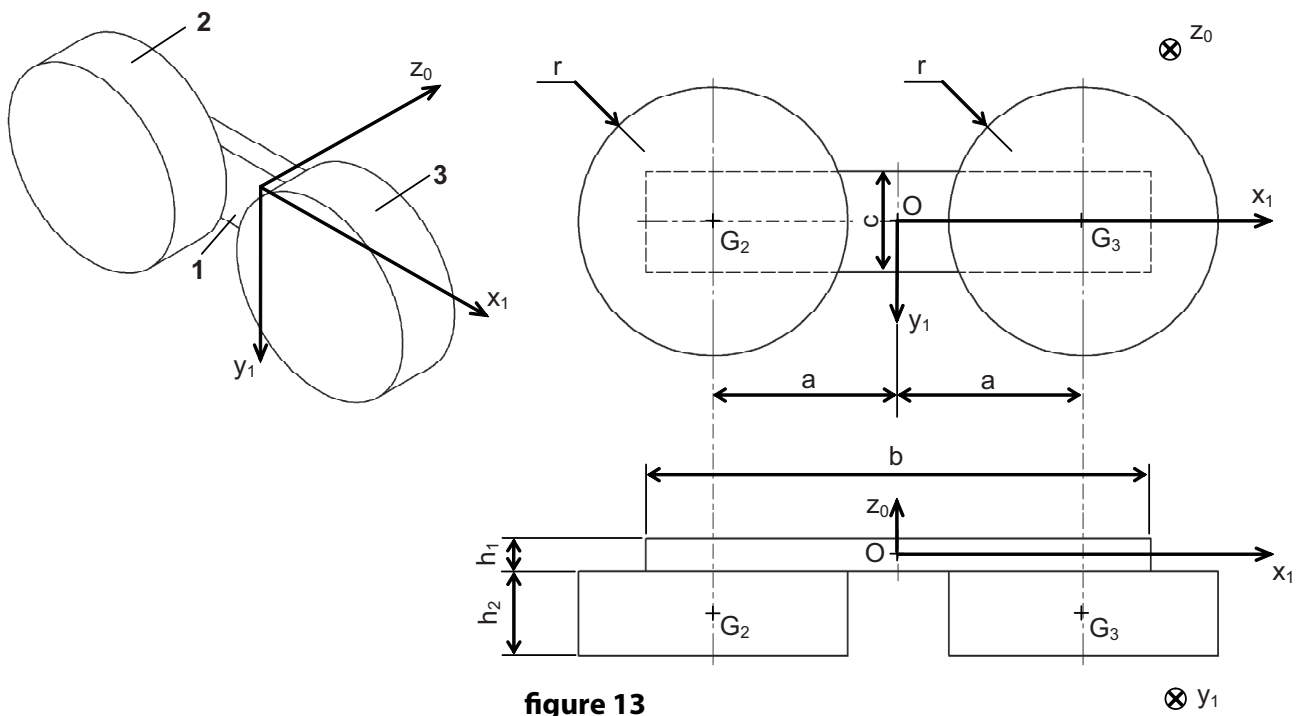


figure 17

Diagrammes de Bode
fonction $W(p)$

