**Baccalauréat Professionnel**

**« Maintenance des Équipements Industriels »**

**ÉPREUVE E1 : Épreuve scientifique et technique**

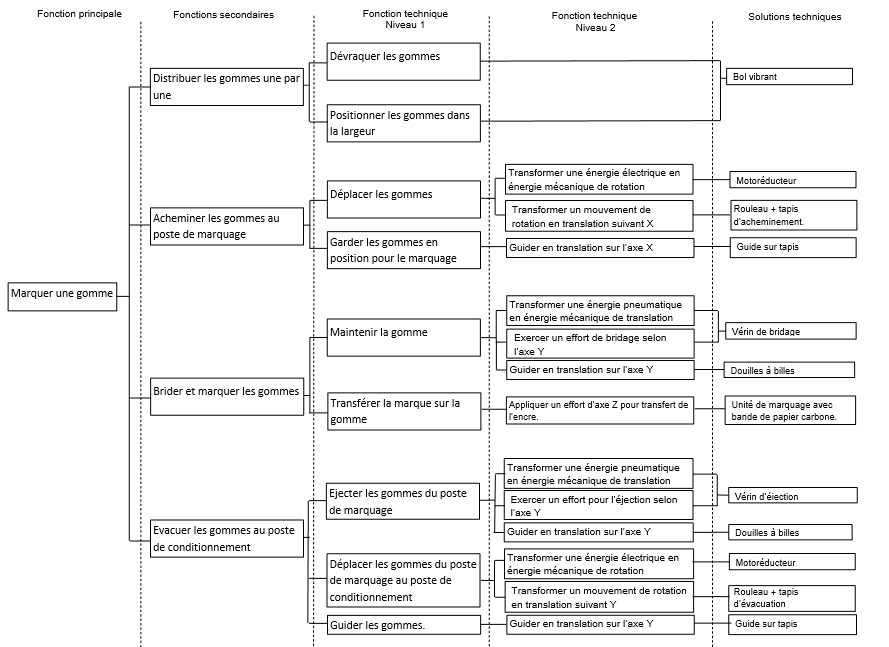
**Sous-épreuve E11 (unité 11) :**

**Analyse et exploitation de données techniques**

**SESSION 2018**

**DOSSIER TECHNIQUE et RESSOURCES**

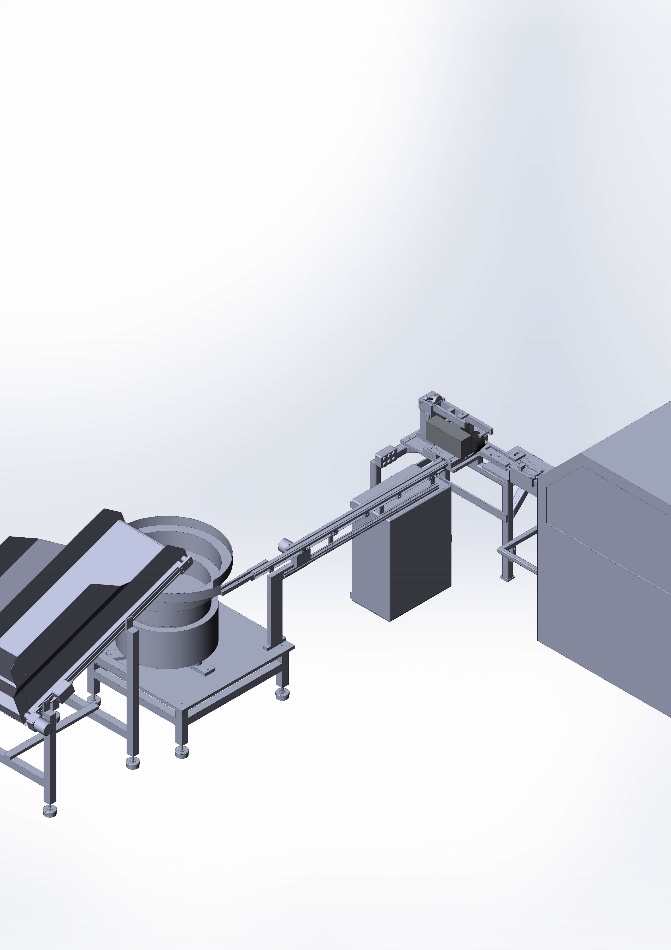
**DIAGRAMME FAST :**



**Chronogramme du fonctionnement :**

Voici les étapes d’un cycle de marquage des gommes.

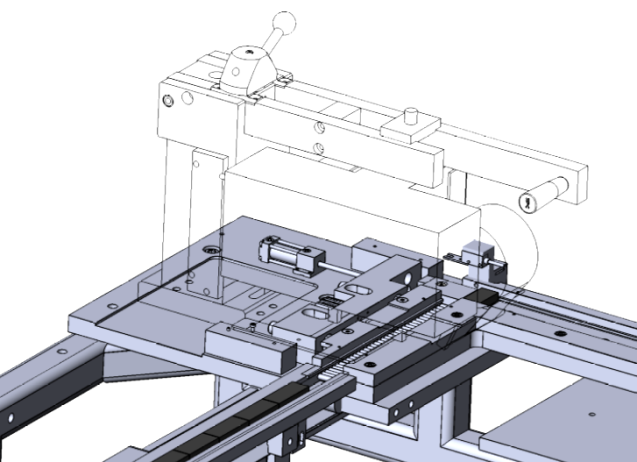
1. Arrivée des gommes au poste de marquage



1. Le tapis pousse les gommes sur les rouleaux

Arrivée des gommes

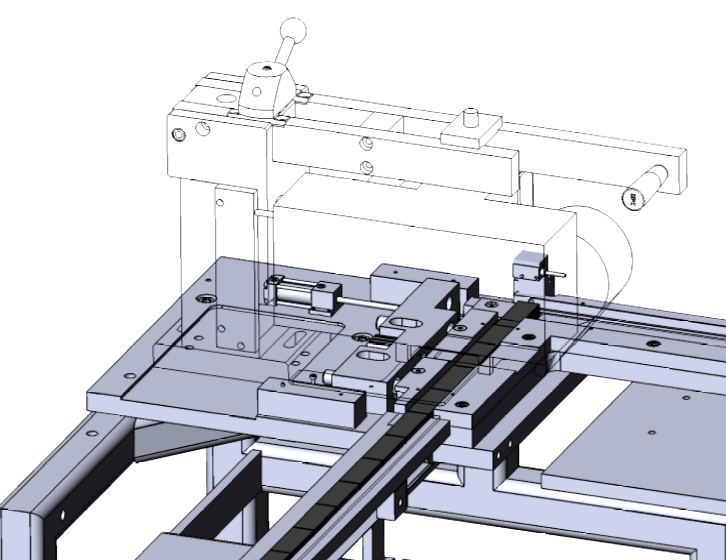
Rouleaux



Système de marquage en filigrane

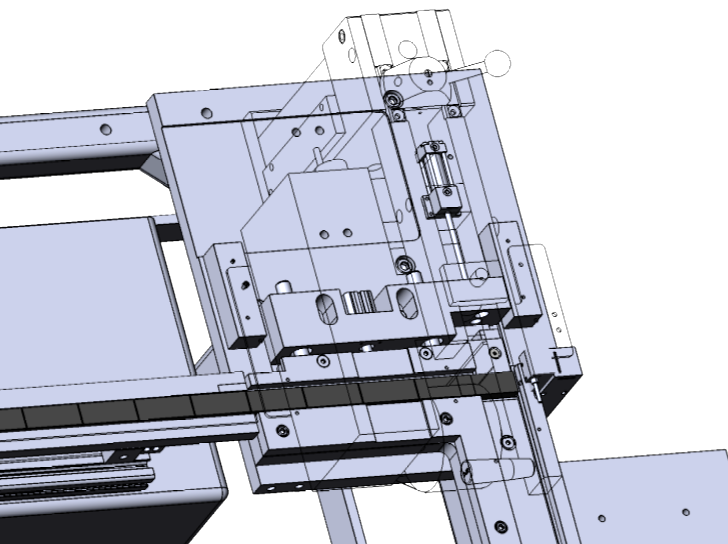
1. Lorsque le système détecte les gommes arrivées en place, cela enclenche le bridage des gommes

Détecteur réflex rep.28



Détecteur réflex rep.39

1. Le bridage des gommes s’effectue grace à la tige rep.52 du verin rep.29 qui pousse l’ensemble bride (rep 18, 20 et 38) guidé par les douilles rep. 41

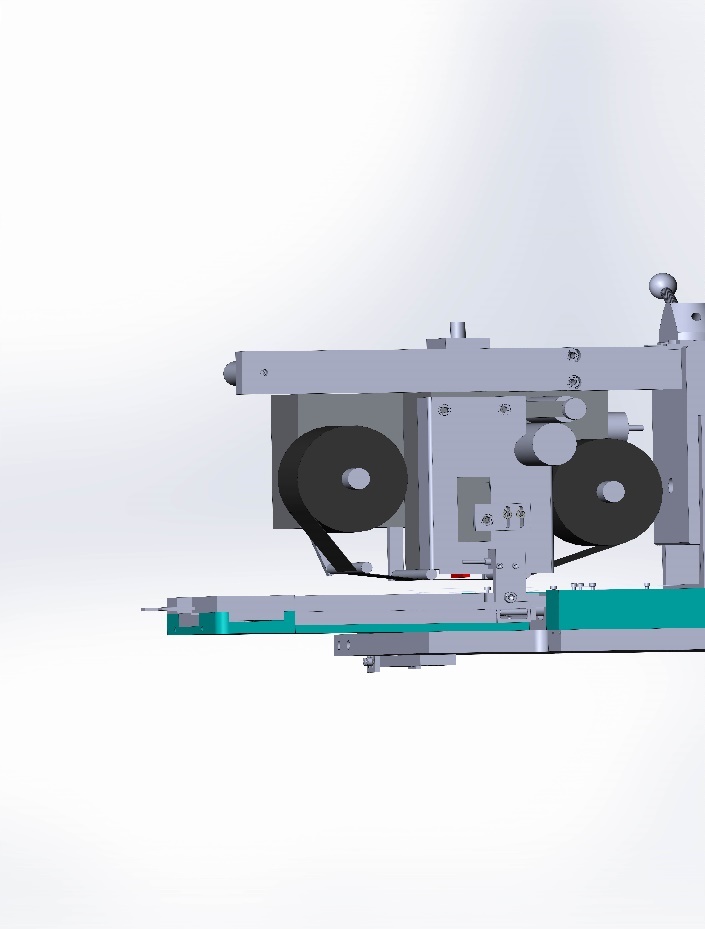


Vérin rep.29

Colonnes rep.20

Ensemble bride

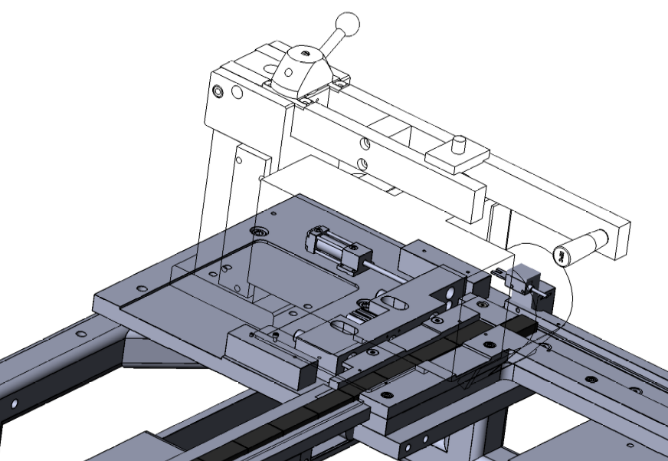
1. Le poincon viens décalquer le dessin sur la gomme grace au papier carbone puis les gommes sont libérées



Marquage

1. Le nez d’éjection rep.26 grace au vérin d’éjection rep 43 et la tige rep.44, pousse la gomme vers le conditionnement

Accumulation de 16 gommes pour atteindre le tapis du conditionnement



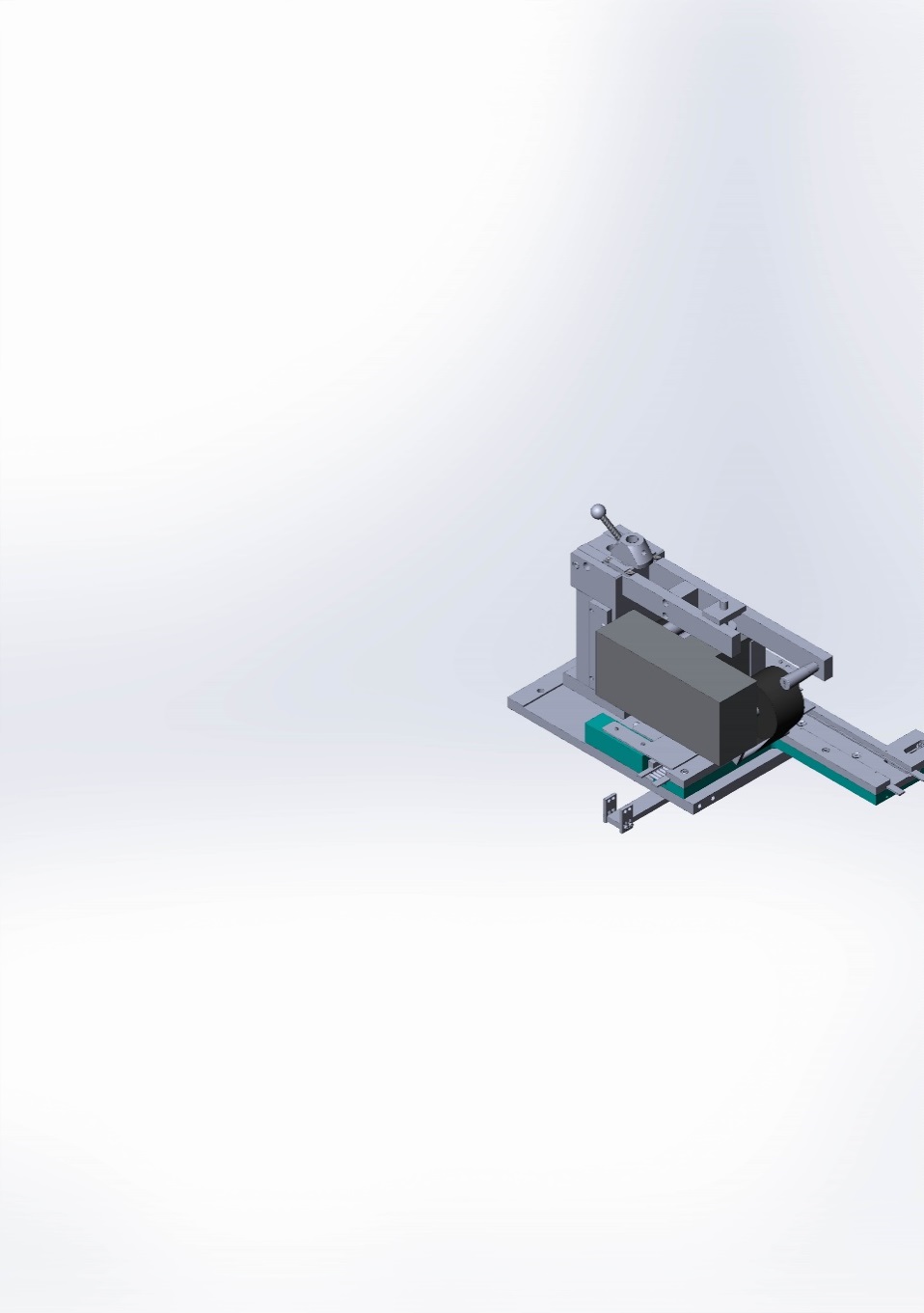
Vérin rep.43 et tige rep.44

Nez d’éjection rep.26

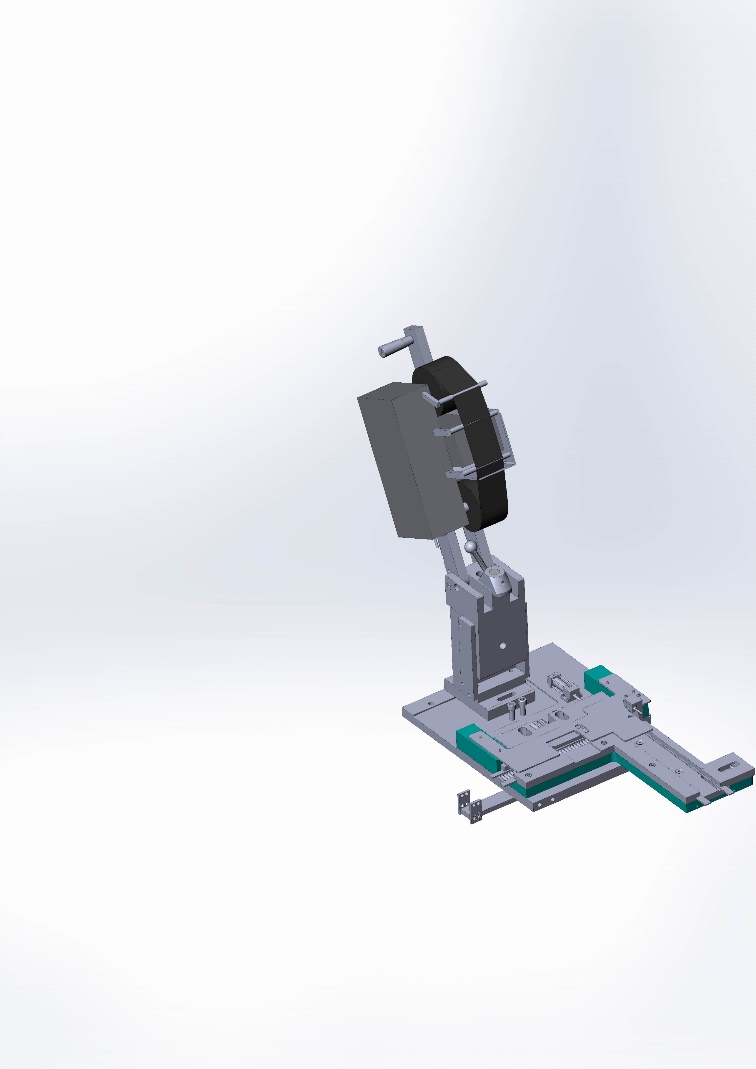
**Notice pour le changement de bobine de papier carbone :**

Lorsque la bande de papier carbonne n’est plus suffisante (qu’elle a été entirement utilisé), le système se mets en arret et indique sur le pupitre « Changer bobine ». Pour ce faire, réaliser les étapes suivantes :

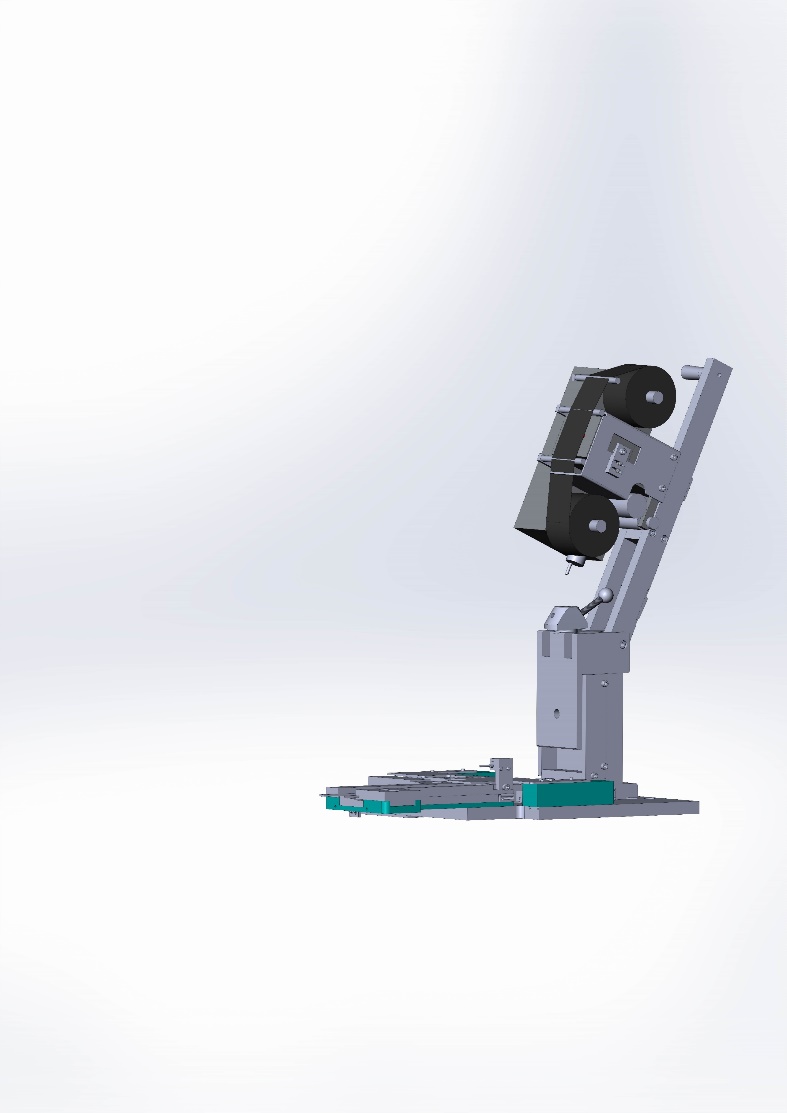
1. Faire pivoter l’écrou de vérouillage rep. 13 avec la manivelle rep. 46 comme ci-dessous



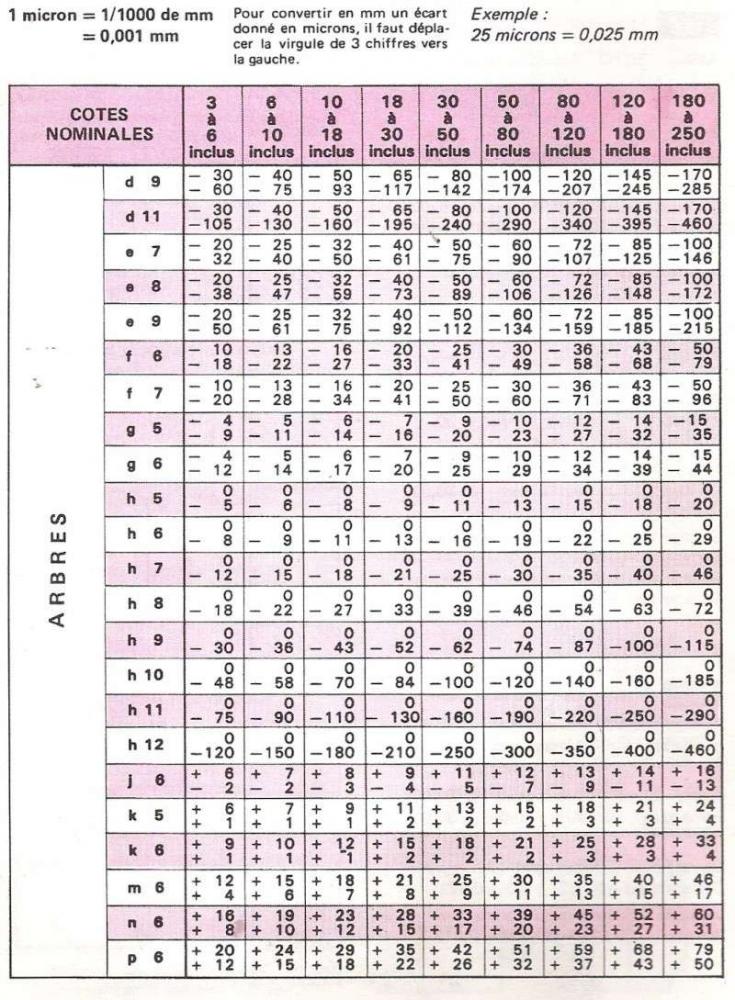
Relever l’ensemble bras de marquage grace à la poignée de manœuvre bras rep. 14

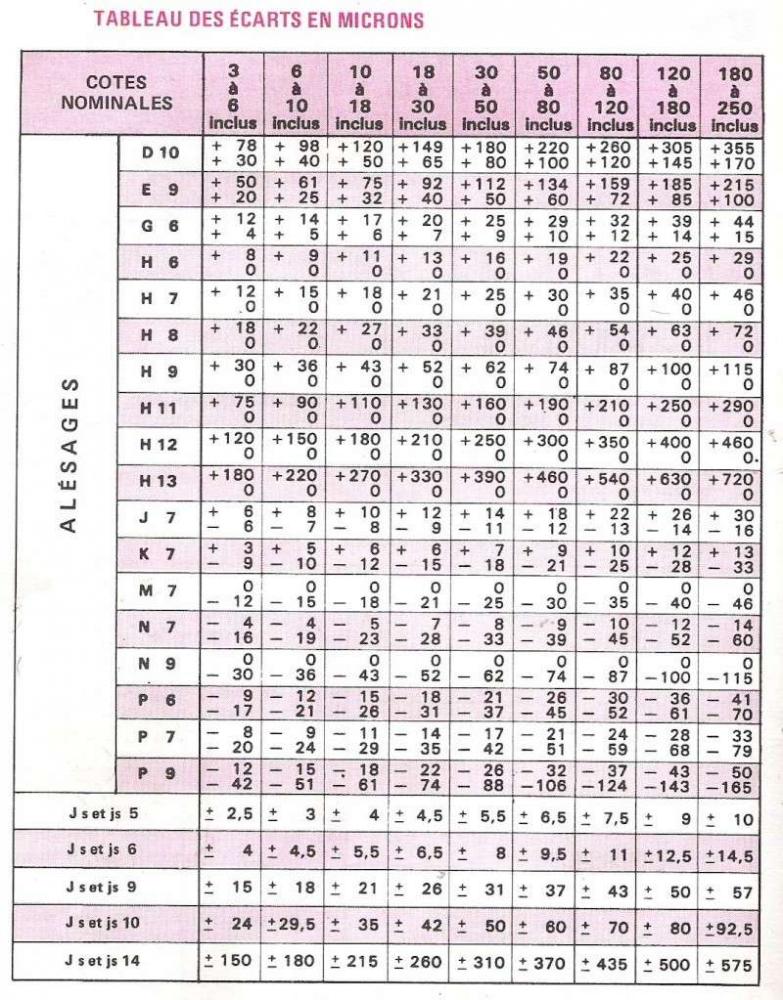


Remplacer la bobine en dévérouillant le tendeur et repositionner l’ensemble.



TABLEAUX DES ECARTS NF EN 20 286-2, ISO 286-2

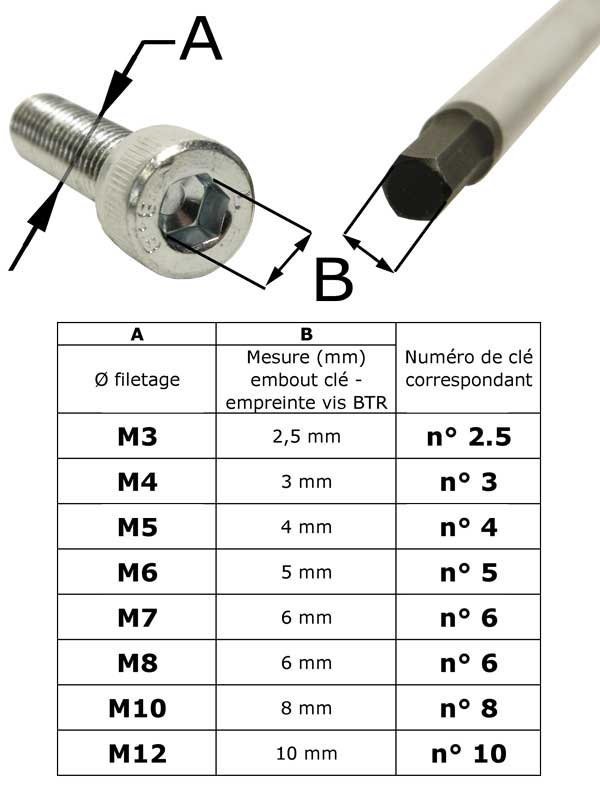
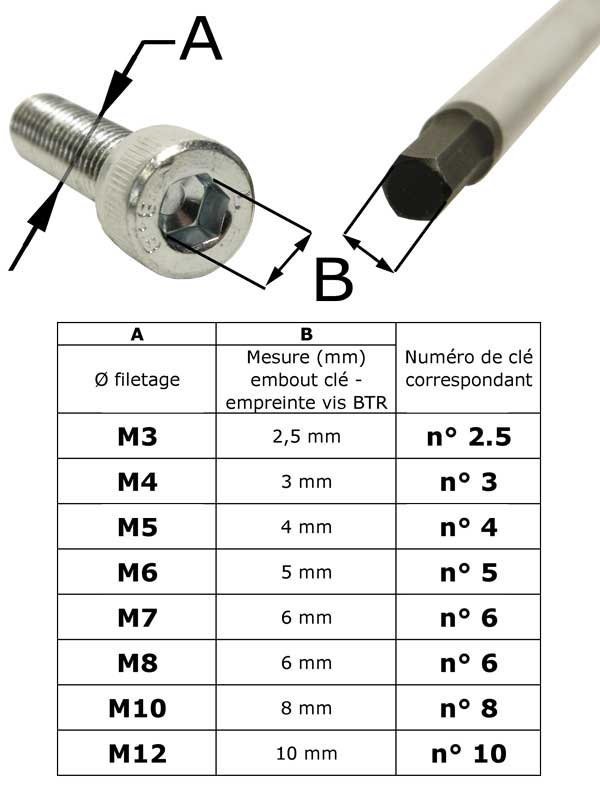
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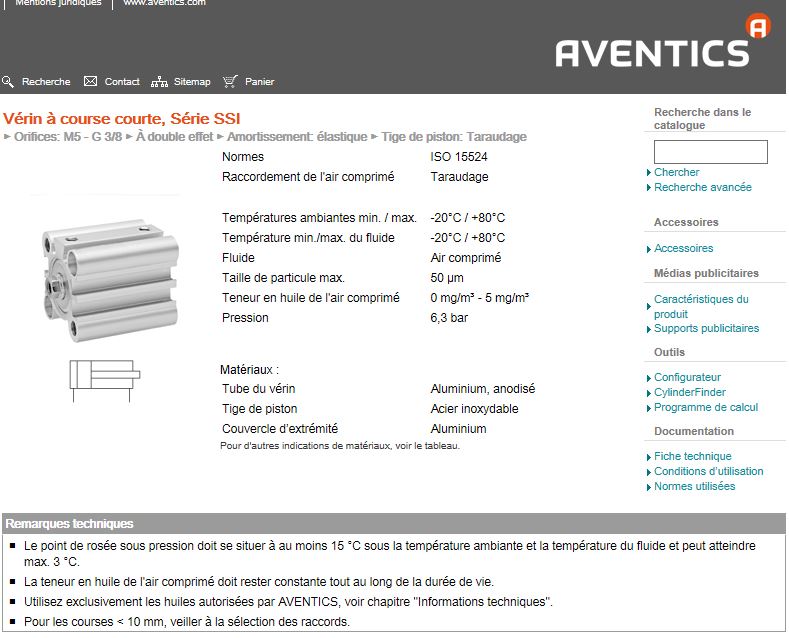
**Tableau des liaisons mécaniques élémentaires**

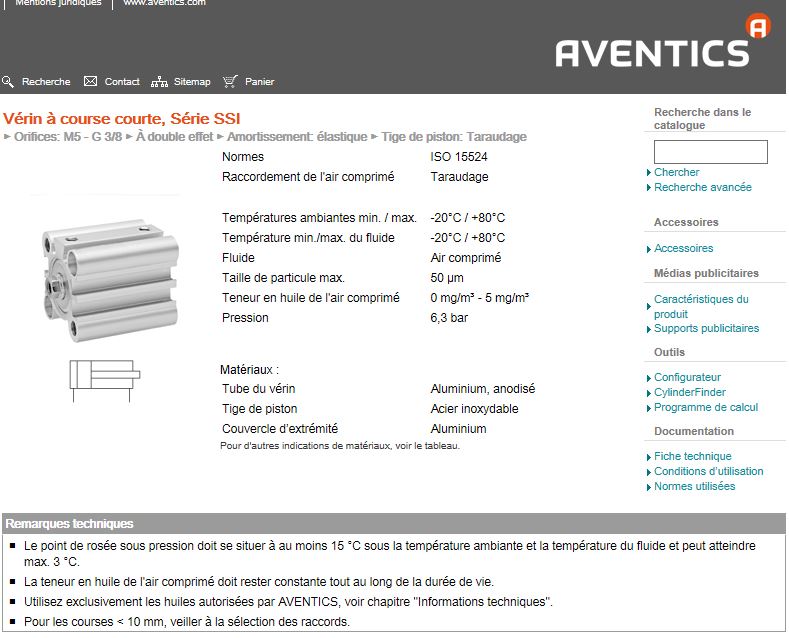
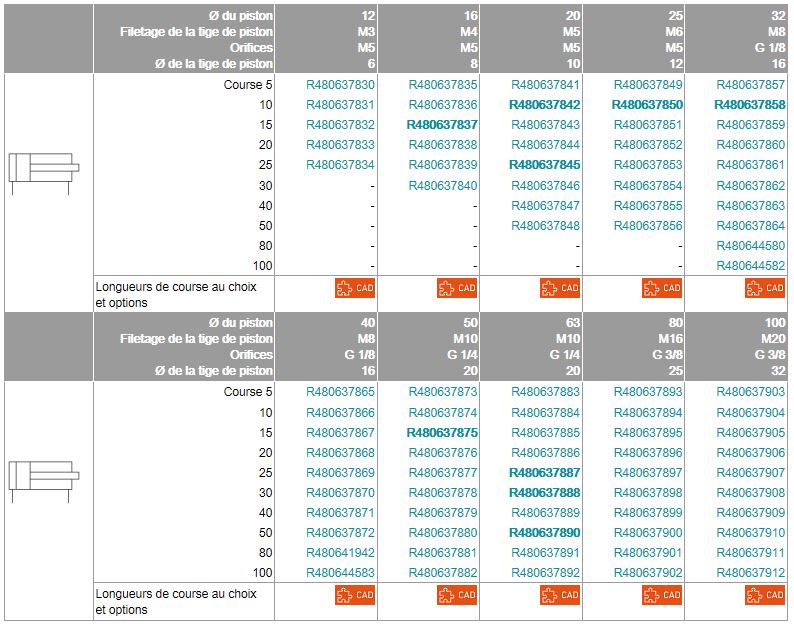
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Nom de la liaison** | **Degré de liberté** | **Mouvements relatifs** | | **Symbole** | |
| ***Représentation plane*** | ***Perspective*** |
| Encastrement ou  Fixe | 0 | **0** | Translation |  |  |
| **0** | Rotation |
| Pivot | 1 | **0** | Translation |  |  |
| **1** | Rotation |
| Glissière | 1 | **1** | Translation |  |  |
| **0** | Rotation |
| Hélicoïdale | 1 | **1** | Translation | avec : RH : hélice à droite  LH : hélice à gauche |  |
| **1** | Rotation |
| Translation et Rotation conjuguées | |
| Pivot glissant | 2 | **1** | Translation |  |  |
| **1** | Rotation |
| Sphérique à doigt | 2 | **0** | Translation |  |  |
| **2** | Rotation |
| Appui plan | 3 | **2** | Translation |  |  |
| **1** | Rotation |
| Rotule ou  sphérique | 3 | **0** | Translation |  |  |
| **3** | Rotation |
| Linéaire annulaire ou sphère | 4 | **1** | Translation |  |  |
| **3** | Rotation |
| Linéaire rectiligne | 4 | **2** | Translation |  |  |
| **2** | Rotation |
| Ponctuelle ou  Sphère-plan | 5 | **2** | Translation |  |  |
| **3** | Rotation |

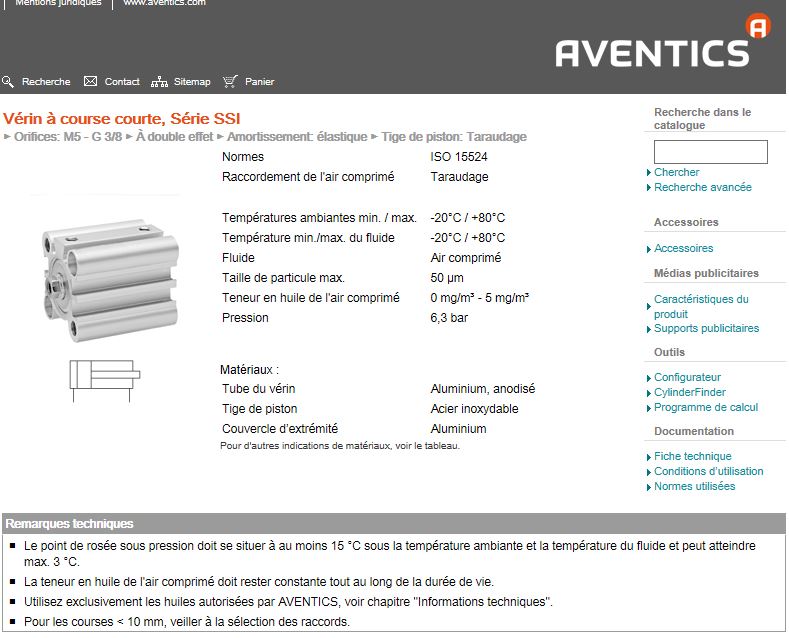
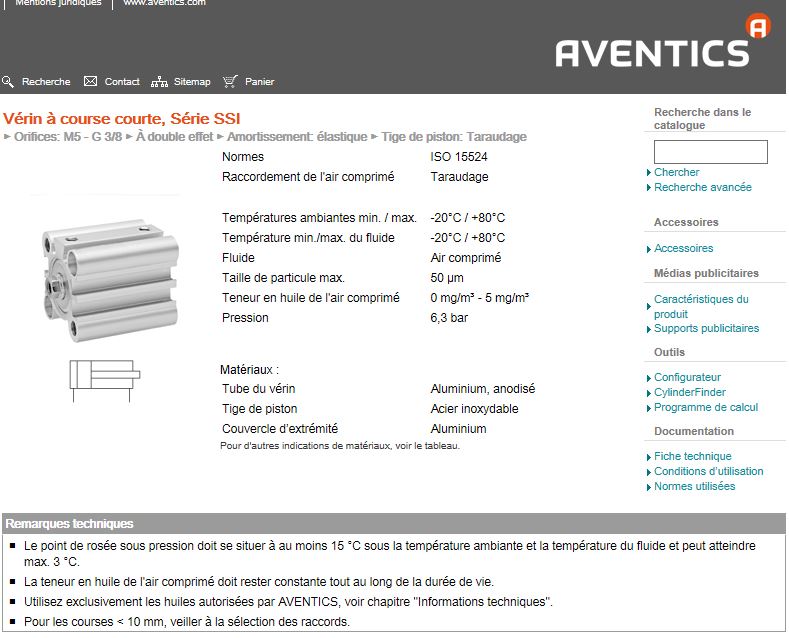
**Tableau de correspondance taille de vis clé 6 pan ISO 4762**

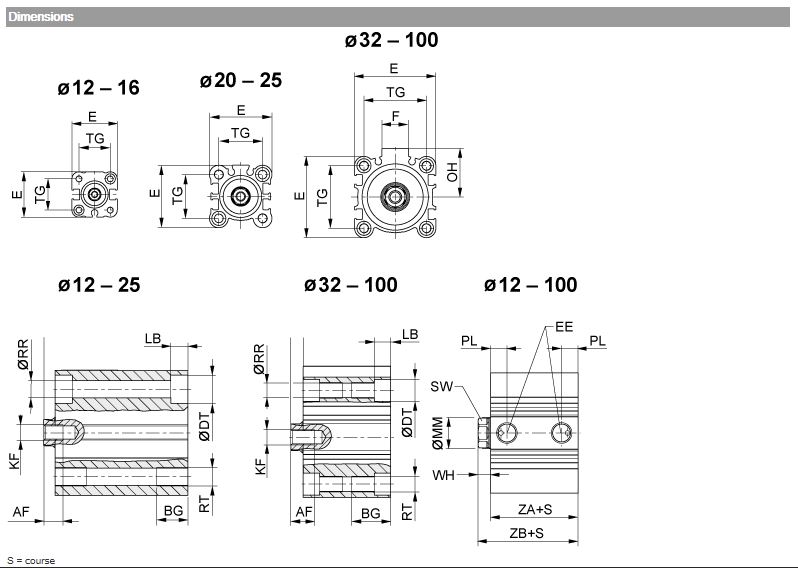


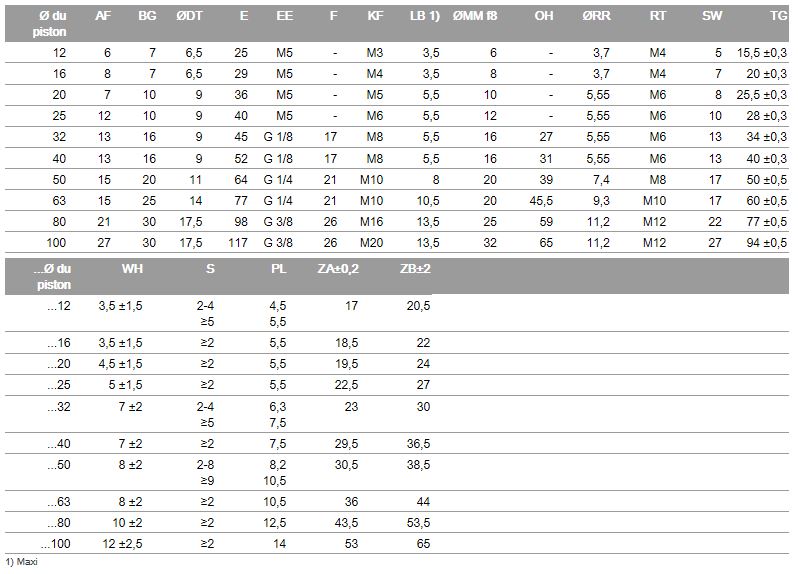
**Extrait de catalogue AVENTICS**



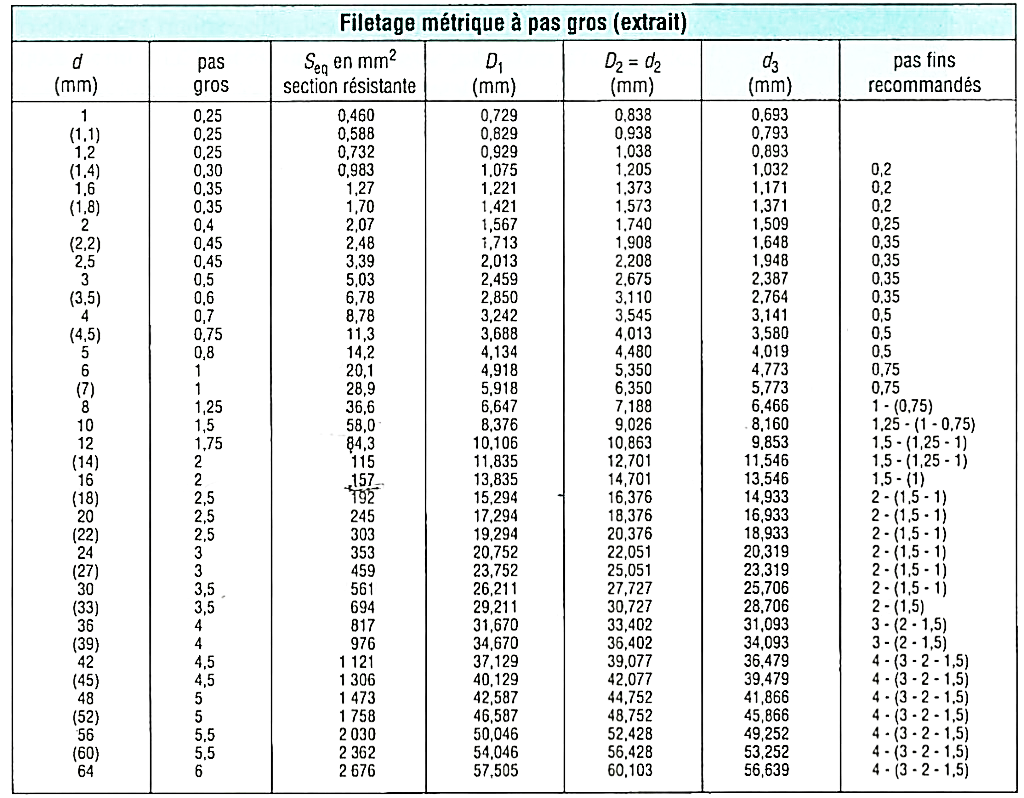


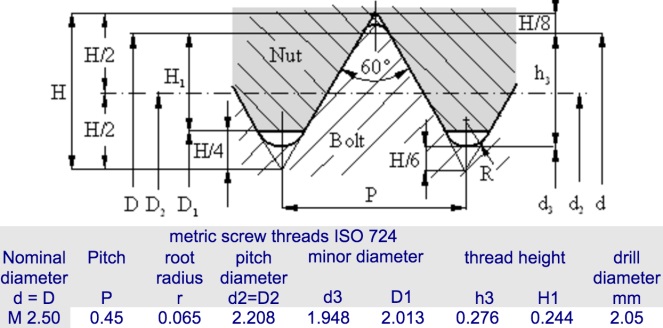


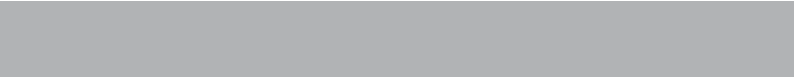
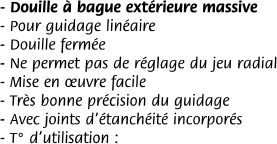
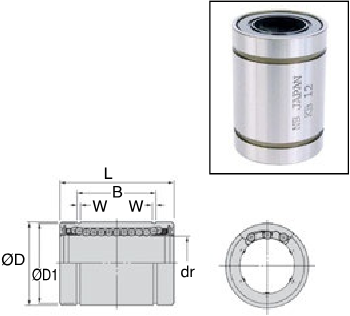
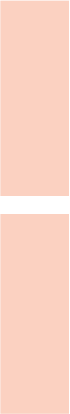
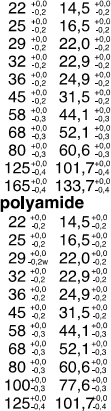
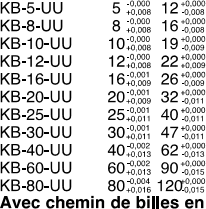


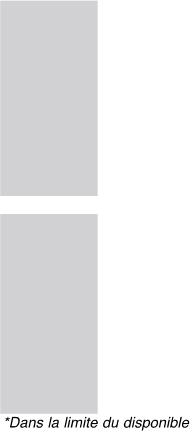


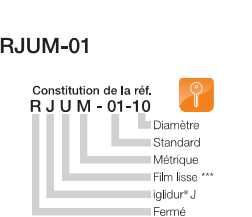
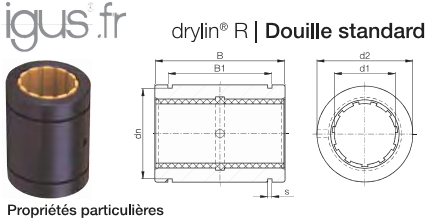
**Les vis d’assemblage : section résistante en fonction du diamètre**

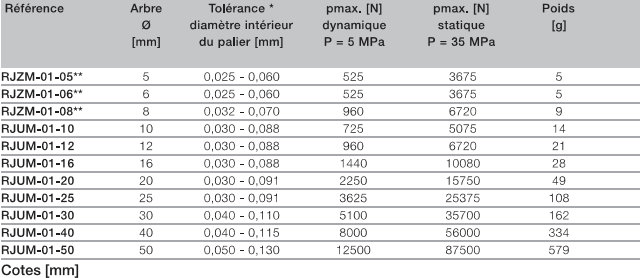
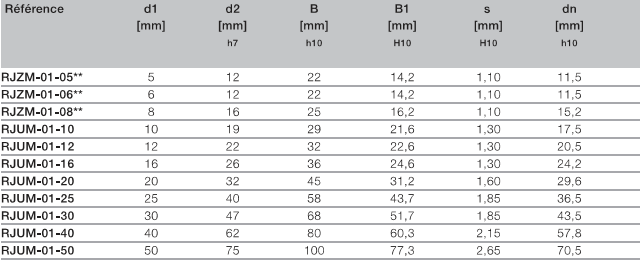




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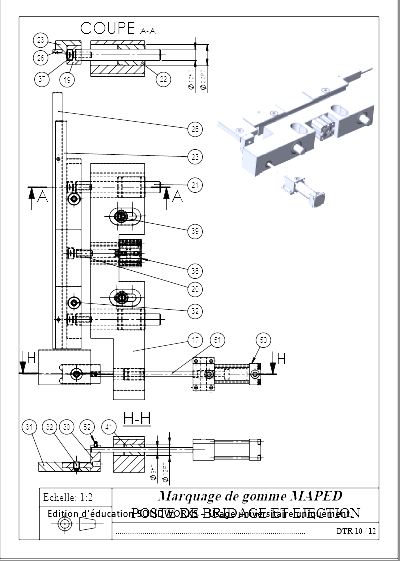
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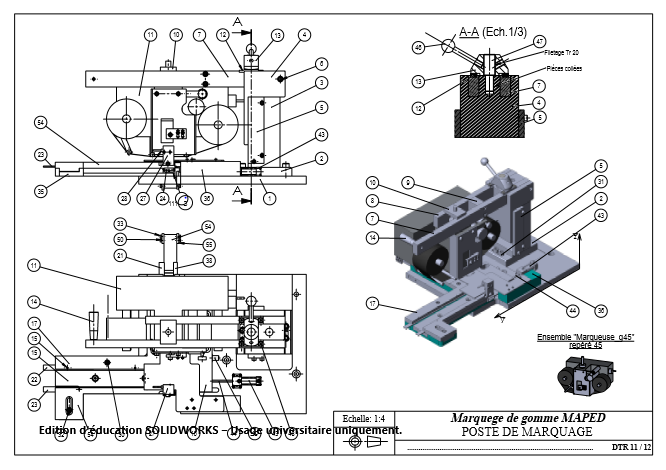
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**Nomenclature du poste de marquage**

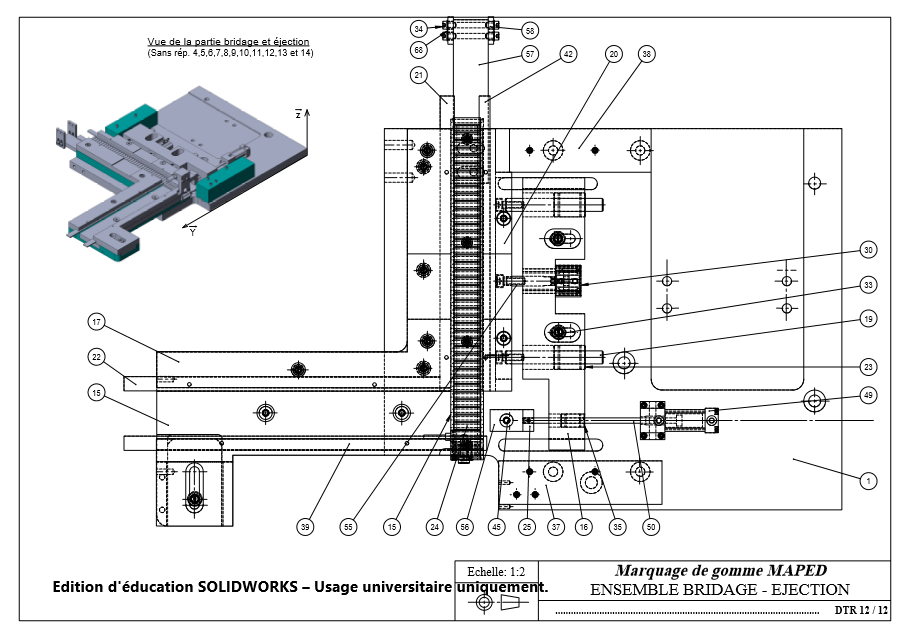
|  |  |  |  |
| --- | --- | --- | --- |
| 57 | 1 | Vis à tête fraisé à 6 pans creux ISO 4762 – M6 × 1 0 |  |
| 56 | 1 | Platine départ conditionnement |  |
| 55 | 1 | Support de rouleau |  |
| 54 | 1 | Plaque de recouvrement |  |
| 53 | 2 | Plaquette liaison avec convoyeur d'acheminement |  |
| 52 | 1 | Tige de vérin bridage |  |
| 51 | 1 | Patte liaison avec convoyeur d'acheminement |  |
| 50 | 1 | Support guide gomme gauche |  |
| 49 | 4 | Rondelle plate ISO 10673 - type N - 4 |  |
| 48 | 4 | Vis à tête fraisée 6 pans creux ISO 4762 - M5 x 25 |  |
| 47 | 1 | Axe d'écrou de verrouillage | Fileté M8 pas gros avec fente de manœuvre |
| 46 | 1 | Manivelle |  |
| 45 | 4 | Vis à tête fraisé à 6 pans creux ISO 4762 – M6 × 20 |  |
| 44 | 1 | Tige de vérin éjecteur |  |
| 43 | 1 | Corps de vérin éjecteur |  |
| 42 | 16 | Vis à tête cylindrique à 6 pans creux ISO 4762 - M3 x 25 |  |
| 41 | 2 | Douille à billes Ø12 | Nippon Bearing Chemin de bille polyamide |
| 38 | 1 | Guide gomme arrivé gauche |  |
| 37 | 1 | Support plaque de protection marquage droit |  |
| 36 | 1 | Support plaque de protection marquage gauche |  |
| 35 | 1 | Platine support guide |  |
| 34 | 1 | Douille à billes Ø5 | Nippon Bearing Chemin de bille polyamide |
| 33 | 8 | Vis à tête cylindrique à 6 pans creux ISO 4762 - M4 x 8 |  |
| 32 | 3 | Vis à tête cylindrique à 6 pans creux ISO 4762 - M8 x 25 |  |
| 31 | 4 | Vis à tête cylindrique à 6 pans creux ISO 4762 - M10 x 40 |  |
| 30 | 22 | Vis à tête cylindrique à 6 pans creux ISO 4762 - M6 x 20 |  |
| 29 | 1 | Vérin à course courte | AVENTICS R480637835 |
| 28 | 1 | Détecteurs réflex | Baumer FHDK 10P1101/KS35 |
| 27 | 1 | Support de détecteur |  |
| 26 | 1 | Ejecteur |  |
| 25 | 1 | Nez d'éjection |  |
| 24 | 45 | Rouleau |  |
| 23 | 1 | Guide gomme évacuation gauche |  |
| 22 | 1 | Guide gomme évacuation droit |  |
| 21 | 1 | Guide gomme arrivé droit |  |
| 20 | 1 | Support guide gomme mobile gauche |  |
| 19 | 2 | Colonne de bridage |  |
| 18 | 1 | Nez de bridage |  |
| 17 | 1 | Support guide gomme droit |  |
| 16 | 1 | Guide bridage et éjection |  |
| 15 | 8 | Vis sans tête à 6 pans creux ISO 4762 - M3 x 6 |  |
| 14 | 1 | Poignée de manœuvre bras |  |
| 13 | 1 | Ecrou de verrouillage |  |
| 12 | 2 | Plaquette de verrouillage |  |
| 11 | 1 | Marqueuse\_g45 |  |
| 10 | 1 | Platine de maintien marquage |  |
| 9 | 1 | Entretoise sur bras |  |
| 8 | 1 | Bras court |  |
| 7 | 1 | Bras long |  |
| 6 | 1 | Axe de pivot |  |
| 5 | 2 | Flasque de colonne |  |
| 4 | 1 | Colonne avec pivot |  |
| 3 | 1 | Colonne principale |  |
| 2 | 1 | Socle de colonne |  |
| 1 | 1 | Platine support |  |
| **Rep.** | **Nb** | **Désignation** | Observations |



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