

Title (en)
Apparatus for bending tubes.

Title (de)
Vorrichtung zum Biegen von Rohren.

Title (fr)
Machine à cintrer les tubes.

Publication
EP 0109905 A1 19840530 (FR)

Application
EP 83402217 A 19831117

Priority
FR 8219404 A 19821119

Abstract (en)
1. A machine for bending tubes by means of a bending head through which the tube (5) to be bent passes axially and comprising at its front part two bending rollers with parallel axes between which said tube passes, namely an inner roller (1) to which the tube remains constantly tangential and against which it bears during the bending operation, and an outer roller (3) whose axis (4) is rotatable about that (2) of the inner roller (1), the plane containing the axes of the two rollers being perpendicular to the axis of the tube (5) in the inoperative position of the outer roller (3), and means for causing said axis (4) of the outer roller (3) to pivot about that (2) of the inner roller (1), characterised in that to enable the tube to be bent according to any radii of curvature, provided that they are equal to or greater than that of the inner roller (1), the axis (4) of the outer roller (3) is provided at such a distance from that (2) of the inner roller (1) that a space is present between it and the inner roller which is very slightly greater than the diameter of the tube (5) to be bent, thereby leaving a clearance of the order of 1 mm between the outer roller (3) and the tube (5) to be bent when said outer roller (3) is in the inoperative position, in that a guide nozzle (37) is secured to its front part immediately behind the inner bending roller (1) so that it is traversed axially by the tube (5) to be bent and so that it prevents deformation thereof by reaction in the opposite direction to that intended by its bending about the inner roller (1) under the action of the outer roller (3), and in that it also comprises means (21) for cutting the tube to length once the desired pipe has been formed, and other means (33) for shaping the two ends of said pipe and fitting thereto conventional threaded connectors with which they have to be provided.

Abstract (fr)
Cette machine est du type dans lequel le tube à cintrer arrive axialement et passe entre deux galets de cintrage, dont un galet intérieur a un rayon au plus égal au rayon de courbure du cintrage désiré, et un galet extérieur, dont l'axe est rotatif autour de celui du galet fixe situé sur une ligne passant par l'axe du galet intérieur et qui, en position inactive du galet extérieur, est perpendiculaire à l'axe de la tête de cintrage suivant lequel arrive le tube à cintrer, avec des moyens pour le faire pivoter autour de l'axe du galet intérieur. Elle est agencée de façon que sa tête de cintrage puisse pivoter à volonté autour de l'axe du tube destiné à être cintré et qui la traverse à cet effet, ce qui permet d'amener son plan de travail dans une orientation quelconque, correspondant au gauchissement désiré. Pour pouvoir réaliser avec une telle tête de cintrage des courbes de rayons de courbure quelconques, pourvu qu'ils soient supérieurs à celui du rayon du galet intérieur (1), l'axe (4) du galet extérieur (3) est à une distance de celui (2) du galet intérieur (1) telle qu'ils laissent entre eux un espace légèrement supérieur au diamètre du tube à cintrer (5), de l'ordre de 1 mm par exemple.

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CPC (source: EP)
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Citation (search report)
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