Title (en)

DEVICE AND METHOD FOR POSITIONING AT LEAST ONE OF TWO CASTING ROLLS IN A CONTINUOUS CASTING PROCESS FOR PRODUCING A METAL STRIP

Title (de)

VORRICHTUNG UND VERFAHREN ZUR POSITIONIERUNG MINDESTENS EINER VON ZWEI GIESSROLLEN IN EINEM KONTINUIERLICHEN GIESSVERFAHREN ZUR HERSTELLUNG EINES METALLBANDS

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR POSITIONNER AU MOINS L'UN DES DEUX ROULEAUX DE COULÉE DANS LE CADRE D'UN PROCÉDÉ DE COULÉE CONTINUE POUR LA FABRICATION D'UNE BANDE DE MÉTAL

Publication

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Application

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Priority

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- EP 2011066820 W 20110928
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Abstract (en)

[origin: EP2436459A1] The device for positioning casting rollers (2a, 2b) in a continuous casting method for producing a metal strip (10), comprises: a frame element; a pair of lever elements for positioning the casting roller whose lever elements are rotatably stored at a first end around a stationary first rotation axis arranged to the frame element; a lifting cylinder per lever element arranged at the frame element; and a receiving arrangement per lever element for receiving a bearing arrangement to a revolving storage of each end of the casting roller to be positioned. The device for positioning casting rollers (2a, 2b) in a continuous casting method for producing a metal strip (10), comprises: a frame element; a pair of lever elements for positioning the casting roller whose lever elements are rotatably stored at a first end around a stationary first rotation axis arranged to the frame element; a lifting cylinder per lever element arranged at the frame element; a receiving arrangement per lever element for receiving a bearing arrangement to a revolving storage of each end of the casting roller to be positioned; a lever stop per lever element arranged at the frame element; and a second pair of lever elements whose lever elements are rotatably stored at a first end around a stationary second rotation axis arranged to the frame element, where: the first rotation axis of the lever element comprises a common first longitudinal axis; the lifting cylinder engages at a second end of the respective lever element and is flexibly connected; the receiving arrangement is arranged on an upper side of the lever element; and a contact surface arranged on a lower side of the respective lever element touches a stop surface of the respective lever stop when the respective lifting cylinder is formed itself in a rest position. The second rotation axis has a common second longitudinal axis, which is arranged parallel to the first longitudinal axis. The first ends of the lever elements exhibit two pairs of lever elements to each other. A drive unit per casting roller is provided that is equipped to transfer the casting roller positionable by the pair of lever elements in rotation to its casting roller longitudinal axis. The drive unit associated to respective lever elements of each pair of the lever elements is arranged to a bearing assembly that is arranged against the lever elements. The drive unit is arranged lying opposite to a counterweight. A distance between the lever elements of the respective pair of lever elements is changeable such that the distance is adjustable to a length of the casting roller to be retained from the pair of lever elements. A coolant supply line is connected in an area of the first rotation axis and optionally the second rotation axis by which the respective casting roller is supplied with the cooling agent. The bearing assembly: is connected with the receiving arrangement via a pivot bearing; and is formed in height-adjustable manner towards the receiving arrangement. The bearing assembly per lever element for determining pressure force exerted by the casting roller on the bearing assembly comprises a force-measuring unit. The pair of lever elements of the frame element is present. A position encoder is installed at the each lifting cylinder and/or a rotary encoder is installed at the each first/second rotation axis. The device further comprises a regulating device, which is adapted to adjust a position of the lifting cylinder in dependence of a casting parameter, which influences a strip thickness and/or a surface profile of the metal strip. The casting parameter comprises: a compression force of casting roller on the bearing assembly; a surface finish of the casting roller; the strip thickness and/or speed and/or temperature and/or temperature distribution and/or spatial position and/or surface profile of the produced metal strip; a gap width (9a) of a casting gap (9); a temperature of a liquid metal (4) to be poured; a temperature of the cooling agent for cooling the casting roller; and a drive data of the drive units for driving the casting rollers. An independent claim is included for a method for positioning two contrary rotating casting rollers in a continuous casting method for producing a metal strip.

IPC 8 full level

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