

Title (en)
CONVERTER FOR CONVERTING MECHANICAL ENERGY INTO HYDRAULIC ENERGY AND ROBOT IMPLEMENTING SAID CONVERTER

Title (de)
WANDLER ZUR UMWANDLUNG VON MECHANISCHER ENERGIE IN HYDRAULISCHE ENERGIE UND DEN WANDLER
IMPLEMENTIERENDER ROBOTER

Title (fr)
CONVERTISSEUR D'ENERGIE MECANIQUE EN ENERGIE HYDRAULIQUE ET ROBOT METTANT EN OEUVRE LE CONVERTISSEUR

Publication
EP 2268921 B1 20110810 (FR)

Application
EP 09724364 A 20090325

Priority
• EP 2009053553 W 20090325
• FR 0851943 A 20080326

Abstract (en)
[origin: WO2009118366A1] The invention relates to a converter for converting mechanical energy into hydraulic energy, and to a robot implementing said converter. The invention can particularly be used in the production of humanoid robots in which autonomy is to be improved. The converter includes a shaft (10) rotated by mechanical energy about an axis (13) relative to a first casing (14), a hub (20) comprising a bore formed about a second axis, wherein the shaft (10) rotates in the bore, the two axes (13) being parallel and a distance between the axes defining an eccentricity (E), and at least two pistons capable of movement in a radial housing of the shaft (10), the piston bearing on the bore. According to the invention, the movement of the piston feeds a hydraulic fluid into two annular grooves of the casing (14), arranged in an arc of a circle about the first axis (13), the hydraulic energy being generated by a pressure difference of the fluid present between the two grooves (40, 41), while the hub (20) is capable of translation along a third axis perpendicular to the first two axes (13) in order to modify the value of the eccentricity (E) between two extreme values, i.e. a positive one and a negative one, so as to generate a pressure inversion of the fluid in the grooves (40, 41), thereby inverting the inlet and discharge roles of the grooves while maintaining the same rotation direction for the shaft (10).

IPC 8 full level
F04B 1/047 (2006.01); **F04B 1/07** (2006.01)

CPC (source: EP US)
F04B 1/047 (2013.01 - EP US); **F04B 1/0474** (2013.01 - EP US); **F04B 1/07** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2009118366 A1 20091001; AT E519945 T1 20110815; CA 2719843 A1 20091001; CA 2719843 C 20161004; CN 102027234 A 20110420; CN 102027234 B 20140416; EP 2268921 A1 20110105; EP 2268921 B1 20110810; ES 2370355 T3 20111214; FR 2929347 A1 20091002; JP 2011525222 A 20110915; JP 5613946 B2 20141029; KR 101729785 B1 20170424; KR 20110019356 A 20110225; MY 159090 A 20161215; PL 2268921 T3 20120131; US 2011085922 A1 20110414; US 8734123 B2 20140527

DOCDB simple family (application)
EP 2009053553 W 20090325; AT 09724364 T 20090325; CA 2719843 A 20090325; CN 200980116693 A 20090325; EP 09724364 A 20090325; ES 09724364 T 20090325; FR 0851943 A 20080326; JP 2011501226 A 20090325; KR 20107023833 A 20090325; MY PI2010004727 A 20090325; PL 09724364 T 20090325; US 93459209 A 20090325