

Title (en)
Piston-cylinder-unit

Title (de)
Kolben-Zylinder-Einheit

Title (fr)
Unité de cylindre-piston

Publication
EP 2159428 A2 20100303 (DE)

Application
EP 09010310 A 20090810

Priority
• DE 202008011557 U 20080829
• DE 202009004673 U 20090408

Abstract (en)
The piston-cylinder-unit (14) has a piston (110) with a piston rod (120). The piston and the piston rod have a hollow chamber, in which a rod (130) is extended, by which an electrically conducting connection is made directly or indirectly. The inner side of the piston rod is coated with an insulated layer over a part of its length. A conductive layer is placed at the outer side of the piston rod.

Abstract (de)
Die vorliegende Erfindung betrifft eine Kolben-Zylinder-Einheit (14) mit einem in einem Zylinder verschieblich gelagerten Kolben (110) mit anschließender Kolbenstange (120), wobei der Kolben und die Kolbenstange einen Hohlraum aufweisen, in welchen mindestens eine Stange (130) hereinragt, über die direkt oder indirekt eine elektrisch leitende Verbindung herstellbar ist.

IPC 8 full level
F15B 15/14 (2006.01)

CPC (source: EP US)
B66C 23/80 (2013.01 - EP US); **F15B 15/1466** (2013.01 - EP US)

Citation (applicant)
• EP 1366253 B1 20060906 - PUTZMEISTER AG [DE]
• DE 10320382 A1 20041223 - UNIV STUTTGART VERTRETEN DURCH [DE]

Cited by
CN103267803A; DE202014000334U1; DE202015000212U1; WO2015106648A1; US10308487B2; DE202014000337U1; DE202015000213U1; DE202014000335U1; DE202015000262U1; EP3498548B1

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 SM TR

Designated extension state (EPC)
AL BA RS

DOCDB simple family (publication)
DE 202009004673 U1 20100128; CN 101660550 A 20100303; CN 101660550 B 20160803; EP 2159428 A2 20100303; EP 2159428 A3 20120808; EP 2159428 B1 20190306; JP 2010052945 A 20100311; JP 5864076 B2 20160217; US 2010050864 A1 20100304; US 8516945 B2 20130827

DOCDB simple family (application)
DE 202009004673 U 20090408; CN 200910171552 A 20090828; EP 09010310 A 20090810; JP 2009193481 A 20090824; US 54859209 A 20090827