

Title (en)

Bottom dead centre correction device for servo press machines

Title (de)

Vorrichtung zum Einstellen der Lage des untersten Totpunktes für eine mit Servomotor angetriebene Presse

Title (fr)

Dispositif de correction de la position du point mort inférieur pour presse entraînée par un servo-moteur

Publication

**EP 1537988 B1 20090211 (EN)**

Application

**EP 05003258 A 20001030**

Priority

EP 00309570 A 20001030

Abstract (en)

[origin: EP1537988A2] A bottom dead center correction device for a servo press machine which can correct the bottom dead center with a high precision not achieved by a bottom dead center correction by a slide position detection device provided on a frame includes a bottom dead center sensor 11 and a temperature sensor 12 on a lower mold 10B of a die 10. The bottom dead center of a set slide motion of slide 3 is corrected by the bottom dead center measurement value of bottom dead center detection sensor 11 and by the temperature drift of bottom dead center detection sensor 11 resulting from the rise of die 10 due to molding and detected by temperature sensor 12. A bottom dead center correction of one micron unit not previously achieved becomes possible. The bottom dead center correction device also can be provided as one which corrects for the fluctuations in the bottom dead center resulting from deformations in all of the construction parts and the die of the servo press. It includes a current detection device 8 which detects the current value supplied to a servo motor 5 to a screw shaft 4 which joins with a slide 3. A scale detection device 9 detects the position of slide 3. There is feedback of outputs from a current detection device 8 and a scale detection device 9 to a NC control device 6. When or the other of either the load value calculated from the current value or the slide position reaches a set value, a correction value is obtained corresponding to the difference between the other value and its set value. The bottom dead center precision can be improved to the range of 1-few microns. <IMAGE>

IPC 8 full level

**B30B 1/18** (2006.01); **B30B 15/00** (2006.01); **B30B 15/14** (2006.01)

CPC (source: EP)

**B30B 1/186** (2013.01); **B30B 15/0041** (2013.01); **B30B 15/0094** (2013.01)

Cited by

CN102198738A; CN108883593A; EP2156944A1; WO2007144210A1; US10766655B2; EP3109017B1

Designated contracting state (EPC)

DE GB

DOCDB simple family (publication)

**EP 1537988 A2 20050608**; **EP 1537988 A3 20050629**; **EP 1537988 B1 20090211**; DE 60041447 D1 20090312; DE 60041559 D1 20090326

DOCDB simple family (application)

**EP 05003258 A 20001030**; DE 60041447 T 20001030; DE 60041559 T 20001030