

Title (en)  
FLASKLESS MOLDING MACHINE

Title (de)  
KASTENLOSE FORMMASCHINE

Title (fr)  
MACHINE DE MOULAGE SANS CHÂSSIS

Publication  
**EP 3427862 A4 20191002 (EN)**

Application  
**EP 17799306 A 20170512**

Priority  
• JP 2016098762 A 20160517  
• JP 2017018069 W 20170512

Abstract (en)  
[origin: EP3427862A1] A flaskless molding machine 1 includes: an upper flask 15 and a lower flask 17 capable of clamping a match plate; a drive unit (37) moving the lower flask in a vertical direction; a lower filling frame 41 capable of communicating with the lower flask; an upper plate 25 capable of entering and being retracted from the upper flask; a lower plate 40 capable of entering and being retracted from the lower filling frame; an upper flask oil-hydraulic cylinder (16) coupled to the upper flask; a first oil-hydraulic circuit (81) of the upper flask oil-hydraulic cylinder; a lower filling frame oil-hydraulic cylinder (42) coupled to the lower filling frame; a second oil-hydraulic circuit (83) of the lower filling frame oil-hydraulic cylinder; and drive units (37, 80) performing a squeeze process by moving the lower plate in an upward direction. The first oil-hydraulic circuit includes a back pressure circuit (82) applying, to the upper flask oil-hydraulic cylinder, a first back pressure serving as a resistance against an upward movement of the upper flask toward the upper plate during the squeeze process. The second oil-hydraulic circuit includes a back pressure circuit (84) applying, to the lower filling frame oil-hydraulic cylinder, a second back pressure serving as a resistance against a downward movement of the lower filling frame toward the lower plate during the squeeze process.

IPC 8 full level  
**B22C 11/10** (2006.01); **B22C 11/00** (2006.01); **B22C 15/02** (2006.01); **B22C 19/04** (2006.01)

CPC (source: EP KR US)  
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Citation (search report)  
• [Y] EP 2529858 A1 20121205 - SINTOKOGIO LTD [JP]  
• [Y] JP H05237597 A 19930917 - SINTOKOGIO LTD  
• [Y] JP H0691347 A 19940405 - SINTOKOGIO LTD  
• [Y] JP S6216118 A 19870124 - JAPAN STEEL WORKS LTD  
• [A] JP 2013252555 A 20131219 - METAL ENGINEERING KK  
• See references of WO 2017199882A1

Designated contracting state (EPC)  
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