

Title (en)
FLASKLESS MOLDING MACHINE

Title (de)
KASTENLOSE FORMMASCHINE

Title (fr)
MACHINE DE MOULAGE SANS CHÂSSIS

Publication
EP 3427862 A1 20190116 (EN)

Application
EP 17799306 A 20170512

Priority
• JP 2016098762 A 20160517
• JP 2017018069 W 20170512

Abstract (en)
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 11/00 (2006.01); **B22C 11/10** (2006.01); **B22C 15/02** (2006.01)

CPC (source: EP KR US)
B22C 11/00 (2013.01 - EP US); **B22C 11/10** (2013.01 - EP KR US); **B22C 15/02** (2013.01 - EP KR US); **B22C 15/08** (2013.01 - EP US); **B22C 19/04** (2013.01 - EP US)

Designated contracting state (EPC)
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3427862 A1 20190116; **EP 3427862 A4 20191002**; **EP 3427862 B1 20220427**; BR 112018068835 A2 20190122; CN 109070196 A 20181221; CN 109070196 B 20210202; JP 2017205778 A 20171124; JP 6536480 B2 20190703; KR 20190009737 A 20190129; MX 2018013670 A 20190425; TW 201742687 A 20171216; US 2019151935 A1 20190523; WO 2017199882 A1 20171123

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