



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B29C 45/17		A1	(11) International Publication Number: WO 98/29229
			(43) International Publication Date: 9 July 1998 (09.07.98)
(21) International Application Number: PCT/US97/23141		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, (SG), SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 11 December 1997 (11.12.97)			
(30) Priority Data: 08/774,583 31 December 1996 (31.12.96) US			
(71) Applicant: INZOS CORPORATION [US/US]; 1740 E. Maple Road, Troy, MI 48099-0485 (US).			
(72) Inventors: SILKOWSKI, George; 511 Rutledge, Holly, MI 48442 (US). GREB, Scott; 40773 Michael, Clinton Township, MI 48038 (US).			
(74) Agent: ARTZ, John, A.; Lyon & Artz, Suite 250, 28333 Telegraph Road, Southfield, MI 48034 (US).		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	

(54) Title: FLUID ASSIST VALVE-GATE BUSHING WITH CONCENTRIC PIN MEMBERS

(57) Abstract

Apparatus and methods for fluid-assisted injection molding systems or co-injection molding systems. A pair of concentric movable pin members (52, 54) are positioned in a mold bushing (12) and selectively controlled to facilitate or prevent the passage of molten plastic material and a fluid into the mold cavity. An inner pin member (54) is positioned within a hollow pin member (52) and both pin members (52, 54) are controlled by piston members (60, 62) which are selectively moved in a block member (16) by selective pressurization from a hydraulic or pneumatic source. Movements of the piston members (60, 62) selectively controls the operation of the pin members (52, 54) and thus the operation of the fluid-assisted injection molding system.

