

Title (en)
A spacer element for hydraulic apparatus

Title (de)
Distanzelement für eine Hydraulikvorrichtung

Title (fr)
Élément d'écartement pour dispositif hydraulique

Publication
EP 2415936 A3 20121107 (EN)

Application
EP 11176485 A 20110803

Priority
IT MI20101475 A 20100803

Abstract (en)
[origin: EP2415936A2] A spacer for mixers (A) comprises a body (2) having a prevalent development axis (X). The body (2) exhibits: a first end portion (3) externally provided with a thread for removable engagement of the spacer (1) to a first body (C1) of the mixer (A); a second end portion (5) externally provided with a second thread for engaging the spacer (1) to a second body (C2) of the mixer (A); an intermediate portion (7) interposed and joined in a single piece to the first (3) and to the second end portion (5); a first, a second and a third through-channel (8, 9, 10) which extend from respective mouths (8a, 9a, 10a) arranged at the first end portion (3) to respective mouths (8b, 9b, 10b) arranged at the second end portion (5) to enable transit of respective fluids; a lateral narrowing (11) suitable for defining an access opening towards the intermediate portion (7). The body (2) is made of a reinforced plastic material.

IPC 8 full level
E03C 1/04 (2006.01)

CPC (source: EP)
E03C 1/0401 (2013.01); **E03C 1/0403** (2013.01); **E03C 1/0404** (2013.01); **E03C 2001/0415** (2013.01)

Citation (search report)
• [YA] CH 695743 A5 20060815 - SIMILOR SA [CH]
• [Y] DE 102007009408 A1 20080828 - GROHE AG [DE]
• [Y] DE 3414838 A1 19851031 - TA ROKAL GMBH [DE]
• [Y] US 2010127202 A1 20100527 - BORS MARK S [US], et al
• [X] WO 2005056937 A1 20050623 - IDEAL STANDARD [DE], et al
• [A] EP 0589856 A1 19940330 - SOLID PLAST SRL [IT]
• [A] US 6123106 A 20000926 - BENSTEAD EVAN A [US]
• [A] EP 0866180 A2 19980923 - INAX CORP [JP]
• [A] US 5349987 A 19940927 - SHIEH MING-DANG [TW]
• [A] US 5845345 A 19981208 - KO HSI-CHIA [TW]

Cited by
CN111511996A; US11479952B2; WO2019086868A1

Designated contracting state (EPC)
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Designated extension state (EPC)
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