

Title (en)

HIGH EFFICIENCY INJECTION HEAD FOR INJECTING CONSOLIDATING FLUID MIXTURES UNDER PRESSURE INTO THE SOIL

Title (de)

HOCHEFFIZIENTER INJEKTIONSKOPF ZUR INJEKTION KONSOLIDIERENDER FLUIDGEMISCHE UNTER DRUCK IN DEN BODEN

Title (fr)

TÊTE D'INJECTION À HAUTE EFFICACITÉ POUR INJECTION DE MÉLANGES DE FLUIDES DE CONSOLIDATION SOUS PRESSION DANS LE SOL

Publication

EP 3489418 A1 20190529 (EN)

Application

EP 17203408 A 20171123

Priority

EP 17203408 A 20171123

Abstract (en)

An injection unit (10) for injecting consolidating fluid mixtures under pressure into the soil (T), comprising:- an outer cylindrical body (11);- at least one outlet lateral nozzle (12) defining an injection hole (12a) substantially perpendicular to the axis of the central longitudinal outer cylindrical body (11) and- a conduit (13), for connecting the upper inlet (11a) to the outlet nozzle (12);wherein the conduit (13) has along its axial extent a section progressively decreasing from the upper entrance to the nozzle, so that the fluid mixture (M) which flows along the conduit (13) acquires a progressively increasing speed, andwherein the conduit (13) and the injection hole (12a) of the outlet lateral nozzle (12) have one or more stabiliser ridges or fins (14) which are formed and extend along their surface, from the area of the upper entrance to the outlet of the injection hole, and have the function of stabilising and making laminar the flow of the fluid mixture (M) to enable a high efficiency to the injection head (10) and a high power to the jet emitted by the outlet lateral nozzle (12).

IPC 8 full level

E02D 3/12 (2006.01)

CPC (source: EP)

E02D 3/12 (2013.01)

Citation (applicant)

- EP 1231326 B1 20040421 - CIE DU SOL [FR]
- EP 2407598 B1 20150401 - TREVI SPA [IT]
- US 5228809 A 19930720 - YOSHIDA HIROSHI [JP], et al
- EP 1396585 A1 20040310 - CIE DU SOL [FR]

Citation (search report)

- [AD] EP 1231326 A1 20020814 - CIE DU SOL [FR]
- [A] WO 2009136237 A1 20091112 - SOILMEC SPA [IT], et al
- [AD] EP 1396585 A1 20040310 - CIE DU SOL [FR]

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 3489418 A1 20190529; EP 3489418 B1 20200603

DOCDB simple family (application)

EP 17203408 A 20171123