

Title (en)

DIAMOND HIGH TEMPERATURE SHEAR VALVE DESIGNED TO BE USED IN EXTREME THERMAL ENVIRONMENTS

Title (de)

HOCHTEMPERATUR-SCHERVENTIL AUS DIAMANT ZUR VERWENDUNG IN EXTREMEN THERMISCHEN UMGEBUNGEN

Title (fr)

VANNE À CISAILLEMENT HAUTE TEMPÉRATURE EN LOSANGE DESTINÉE À ÊTRE UTILISÉE DANS DES ENVIRONNEMENTS THERMIQUES EXTRÊMES

Publication

EP 3715582 A1 20200930 (EN)

Application

EP 20152711 A 20200120

Priority

US 201916365998 A 20190327

Abstract (en)

A control valve assembly (48) for a downhole wellbore (21) including a body (60) formed partially from a magnetic material. A plunger (160) is moveably mounted in the body (60). A portion (164) of the plunger (160) is formed from a magnetic material. A magnetic circuit having a gap (171) is arranged within the control valve assembly (48). The portion (64) of the body (60) formed from a magnetic material defines a first portion (164) of the magnetic circuit and the portion of the plunger (160) formed from magnetic material forms another portion of the magnetic circuit. A solenoid (120) is mounted at the body (60) and is selectively activated to create a magnetic field across the gap (171) in the magnetic circuit causing the plunger (160) to move thereby narrowing the gap (171) to produce a pressure pulse in the wellbore (21).

IPC 8 full level

E21B 47/24 (2012.01)

CPC (source: EP)

E21B 47/24 (2020.05); **E21B 34/066** (2013.01)

Citation (search report)

- [X] WO 2017156107 A1 20170914 - BAKER HUGHES INC [US]
- [A] US 2001048091 A1 20011206 - ENOMOTO SHIGEIKU [JP], et al

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 3715582 A1 20200930; **EP 3715582 B1 20231213**; EP 3947908 A1 20220209; EP 3947908 A4 20230118; SA 521430409 B1 20240324; WO 2020198420 A1 20201001

DOCDB simple family (application)

EP 20152711 A 20200120; EP 20777792 A 20200326; SA 521430409 A 20210926; US 2020024840 W 20200326