

Title (en)

FLUID JET CUTTING SYSTEM FOR CARDIAC APPLICATIONS

Title (de)

FLÜSSIGKEITSSTRAHLSCHNEIDESYSTEM ZUR ANWENDUNG IN DER KARDIOLOGIE

Title (fr)

DISPOSITIF DE COUPE PAR JET FLUIDIQUE POUR APPLICATIONS EN CARDIOLOGIE

Publication

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Application

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Abstract (en)

[origin: WO9933510A1] The present invention is directed to a system (10) and method for generating a high pressure fluid jet for cutting or drilling into the heart, particularly during TMR/PMR procedures. When used in TMR/PMR procedures, the system (10) preferably includes a variable pressure pump (24) for creating a high-pressure fluid jet which drills channels in the heart at predetermined depths corresponding to the pressure and the duration of the jet, with multiple pulses, increased duration, and/or increased pressure increasing the depth of the channel. The size or diameter of the hole is determined by the stand-off distance of the nozzle (40) from the surgical site, the design of the nozzle (40) and the diameter of the nozzle's orifice (43). The system also preferably includes a console (22) for housing the pump (24) and other control mechanisms which allow the surgeon to input information into the system (10), for example to selectively vary the diameter of the jet stream, the pressure of the jet, the desired depth of the cut into the heart, and the like, thereby allowing the system to be customized by the surgeon depending upon the details of the application. In one embodiment, the drilling solution may contain additives to achieve certain functional purposes.

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