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Abstract (en)
[origin: WO2006010949A1] A fluid mover (1) includes a hollow body (2) provided with a straight-through passage (3) of substantially constant cross section with an inlet end (4) an outlet end (5) for the entry and discharge respectively of a working fluid. A nozzle (16) substantially circumscribes and opens into the passage (3) intermediate the inlet (4) and outlet (5) ends. An inlet (10) communicates with the nozzle (16) for the introduction of a transport fluid and a mixing chamber (3A) is formed within the passage (3) downstream of the nozzle (16). The nozzle internal geometry and the bore profile immediately upstream of the nozzle exit are disposed and configured to optimise the energy transfer between the transport fluid and working fluid. In use, through the introduction of transport fluid, the working fluid or fluids are atomised to form a dispersed vapour/droplet flow regime with locally supersonic flow conditions within a pseudo-vena contracta, resulting in the creation of a supersonic condensation shock wave (17) within the downstream mixing chamber (3A) by the condensation of the transport fluid. Methods of moving and processing fluids using the fluid mover are also disclosed.

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