

ABSTRACT

The present invention relates to the field of fluid heat transfer, and discloses a heat transfer enhancement pipe as well as a cracking furnace and an atmospheric and vacuum heating furnace including the same. The heat transfer enhancement pipe (1) includes a pipe body (10) of tubular shape having an inlet (100) for entering of a fluid and an outlet (101) for said fluid to flow out; the internal wall of the pipe body (10) is provided with a fin (11) protruding towards the interior of the pipe body (10), the fin (11) spirally extends in an axial direction of the pipe body (10), wherein at least one of a heat insulator (14) and a heat insulating layer (17) is provided at the outside of the pipe body (10). The heat transfer enhancement pipe can reduce thermal stress of itself, thereby increasing service life of the heat transfer enhancement pipe.

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Fig. 16