

Title (en)

Combustor comprising swirler with twisted vanes

Title (de)

Gasturbinenbrennkammer mit verwundenen Drallschaufeln

Title (fr)

Chambre de combustion avec une vrille avec des aubes tordues

Publication

**EP 0902237 B1 20031203 (EN)**

Application

**EP 98116591 A 19980902**

Priority

JP 24547797 A 19970910

Abstract (en)

[origin: EP0902237A2] Pre-mixture forming swirler in gas turbine pre-mixed flame type low NO<sub>x</sub> combustor is improved so as to accelerate mixing of fuel and air and to prevent occurrence of flame stagnation and burning of component. Three-dimensional swirler is constructed such that swirler vane (101a) is twisted from hub side thereof to tip side so that fitting angle (  $\beta$  ) of the tip side relative to fuel nozzle (102) center axis (C) is larger than that (  $\alpha$  ) of the hub side. Thereby, while the angle (  $\alpha$  ) of the hub side is set smaller so that flame stagnation and burning of components resulted therefrom may be prevented from occurring, the angle (  $\beta$  ) of the tip side may be selected so that shearing flow necessary for appropriate mixing of fuel (F) and air (A) is obtained, thus favorable pre-mixing is done, life deterioration due to the burning etc. is prevented and combustion efficiency is enhanced. <IMAGE>

IPC 1-7

**F23R 3/14**

IPC 8 full level

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CPC (source: EP)

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Cited by

EP1985924A1; EP2728260A1; EP2728261A1; CN103807879A; US7360363B2; US9557061B2; US7753677B2; KR20170003053A; KR20170003050A; WO03006887A1; WO2004025183A3; WO2008128955A1

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