Title (en)

HIGH EFFICIENCY RADIANT BURNER WITH HEAT EXCHANGER OPTION

Title (de)

HOCHLEISTUNGSSTRAHLUNGSBRENNER MIT WÄRMETAUSCHEROPTION

Title (fr)

BRÛLEUR RADIANT À HAUTE EFFICACITÉ AVEC OPTION D'ÉCHANGEUR DE CHALEUR

Publication

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Application

EP 16181257 A 20060807

Priority

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- EP 06789552 A 20060807
- US 2006030814 W 20060807

Abstract (en)

[origin: WO2007027379A1] A radiant burner (10) and optional heat exchanger (90) arrangement where the radiant burner (10) has a generally enclosed cavity (24) defined, at least in part, by fuel gas impermeable surroundings (12,14) and a lower surface (62) of fuel gas permeable burner element (60), wherein cavity (12) preferably has two opening (16a,16b) exposed to an oxidizer source. Sealingly coupled to openings (16a,16b) are mix tubes (50a,50b), each having respective first ends (52a,52b) and second ends (54a,54b), wherein first ends (52a,52b) occupy openings (16a, 16b) and second ends (54a, 54b) extend into and are exposed to cavity (12). Fuel gas injectors (48a,48b), which during use are in fluid communication with fuel gas (100), are positioned to introduce fuel gas into mix tubes (50a,50b). Pre-combustion gasses migrate to upper surface (64) and are available for ignition. A thermal fuel flow interrupt may be positioned between fuel gas (100) and gas injectors (48a,48b) to isolate the fuel gas in the event of an overheat malfunction. Because burner (60) functions as a radiant body, increased thermal transfer efficiency over the prior art can be achieved by exploiting this fact, such as by creating a dedicated heat exchanger arrangement (90) for containers (70) placed on or proximate to burner (60). Exposed surfaces (80,82,84) are established to exploit the relative slow velocity of heated combustion gasses, thereby increasing heat transfer flux into container (70).

IPC 8 full level

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