

CPC COOPERATIVE PATENT CLASSIFICATION

F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

LIGHTING; HEATING

F28 HEAT EXCHANGE IN GENERAL (NOTES omitted)

F28C HEAT-EXCHANGE APPARATUS, NOT PROVIDED FOR IN ANOTHER SUBCLASS, IN WHICH THE HEAT-EXCHANGE MEDIA COME INTO DIRECT CONTACT WITHOUT CHEMICAL INTERACTION (safety devices in general [F16P](#); fluid heaters having heat generating means [F24H](#); with an intermediate heat-transfer medium coming into direct contact with heat-exchange media [F28D 15/00](#) - [F28D 19/00](#); details of heat-exchange apparatus of general application [F28F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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| 1/00

1/003
2001/006

1/02
1/04
1/06
1/08

1/10
1/12
1/14
2001/145

1/16

3/00
3/005
3/02
3/04
3/06
3/08

3/10
3/12 | Direct-contact trickle coolers, e.g. cooling towers
(building construction E04H 5/12 ; enclosed spaces cooled by trickle F25 ; components parts of trickle coolers F28F 25/00 ; {indirect-contact cooling towers F28B 1/06 })
. {comprising outlet ducts for exhaust gases}
. {Systems comprising cooling towers, e.g. for recooling a cooling medium (for condensers F28B 9/06)}
. with counter-current only
. with cross-current only
. with both counter-current and cross-current
. Arrangements for recovering heat from exhaust steam
. Arrangements for suppressing noise
. Arrangements for preventing clogging by frost
. comprising also a non-direct contact heat exchange
. . {with arrangements of adjacent wet and dry passages}
. Arrangements for preventing condensation, precipitation or mist formation, outside the cooler (F28C 1/14 takes precedence)

Other direct-contact heat-exchange apparatus
. {one heat-exchange medium being a solid (F28C 3/10 takes precedence)}
. the heat-exchange media both being gases or vapours
. the heat-exchange media both being liquids
. the heat-exchange media being a liquid and a gas or vapour (temperatures for cooling steam F22)
. . with change of state, e.g. absorption, evaporation, condensation (generating steam under pressure F22)
. one heat-exchange medium at least being a fluent solid, e.g. a particulate material
. . the heat-exchange medium being a particulate material and a gas, vapour, or liquid | 3/14 . . . the particulate material moving by gravity, e.g. down a tube
3/16 . . . the particulate material forming a bed, e.g. fluidised, on vibratory sieves
3/18 . . . the particulate material being contained in rotating drums |
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