

## SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

### F22 STEAM GENERATION

**F22G SUPERHEATING OF STEAM** (steam-separating arrangements in boilers F22B 37/26; removal of combustion products or residues, e.g. cleaning of the combustion contaminated surfaces of tubes of boilers, F23J 3/00)

**1/00 Steam superheating characterised by heating method** (exothermal chemical reactions not involving a supply of free oxygen gas, apparatus or devices for using the heat therefrom F24J)

- 1/02 • with heat supply by hot flue gases from the furnace of the steam boiler
- 1/04 • • by diverting flow or hot flue gases to separate superheaters operating in reheating cycle, e.g. for reheating steam between a high-pressure turbine stage and an intermediate turbine stage
- 1/06 • with heat supply predominantly by radiation
- 1/08 • • from heated brickwork or the like
- 1/10 • with provision for superheating by throttling
- 1/12 • by mixing steam with furnace gases or other combustion products
- 1/14 • using heat generated by chemical reactions
- 1/16 • by using a separate heat source independent from heat supply of the steam boiler, e.g. by electricity, by auxiliary combustion of fuel oil

**3/00 Steam superheaters characterised by constructional features; Details or component parts thereof** (general aspects of enclosed heat-exchangers F28D)

**5/00 Controlling superheat temperature** (control systems for steam boilers F22B; regulating or controlling in general G05)

- 5/02 • Applications of combustion-control devices, e.g. tangential-firing burners, tilting burners
- 5/04 • by regulating flue gas flow, e.g. by proportioning or diverting
- 5/06 • by recirculating flue gases
- 5/08 • • preventing furnace gas backflow through recirculating fan
- 5/10 • by displacing superheater sections
- 5/12 • by tempering the superheated steam, e.g. by injected water sprays (spray-mixers B01F 5/18)
- 5/14 • • by live steam
- 5/16 • by indirectly cooling or heating the superheated steam in auxiliary enclosed heat-exchanger
- 5/18 • by by-passing steam around superheater sections
- 5/20 • by combined controlling procedures

**7/00 Steam superheaters characterised by location, arrangement, or disposition**

- 7/02 • in fire tubes
- 7/04 • in jackets around fire tubes
- 7/06 • in furnace tubes
- 7/08 • in fire-boxes
- 7/10 • in smoke-boxes
- 7/12 • in flues
- 7/14 • in water-tube boilers, e.g. between banks of water tubes