

F23M

CONSTRUCTIONAL DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR (construction or support of tube walls for steam boilers F22B; generating combustion products of high pressure or high velocity F23R)

Definition statement

This subclass/group covers:

- Constructional details of combustion chambers, including accessories and peripheral devices such as for example lining, cooling, baffles for creating special flow path, doors, heat storage means independently of the type of the fuel which is burned.
- Safety measures.
- Noise reduction means.

References relevant to classification in this subclass

This subclass/group does not cover:

| | |
|---|----------------------|
| Construction or support of tube walls for steam boilers | F22B |
| Combustion chambers and related components specially adapted for generating combustion products of high pressure or high velocity | F23R |

Informative references

Attention is drawn to the following places, which may be of interest for search:

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| Details of heat-treatment chambers | F27D |
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Special rules of classification within this subclass

When classifying in this subclass, add also codes [F23M 2900/05001-F23M 2900/13004](#).

Codes [F23M 2700/00-F23M 2700/008](#) are not used.

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

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| Air | a mixture of gases containing free oxygen and able to promote or support combustion |
| Primary air | air supplied to the burning fuel in order to liberate combustible gases |
| Secondary air | air supplied to the combustible gases liberated by the primary air in order to complete their combustion. The term "secondary air" covers "tertiary air" etc. |
| Ash | means any solid combustion residues, for example remaining in the fuel bed or suspended in the flue gases |
| Burner | a device by which fluid fuel or solid fuel suspended in air is passed to a combustion space where it burns to produce a self-supporting flame |
| Combustion | means the direct combination of oxygen gas, e.g. in air, and a burnable substance |
| Combustion chamber | a chamber in which fuel is burned to establish a self-supporting fire or flame and which surrounds that fire or flame |
| Combustion zone | the part of the apparatus where the reaction takes place between air and fuel |
| Firebridge | a low wall separating the fuel bed from adjacent flue gas passages in apparatus for combustion of solid fuel, for example in reverberatory furnaces or fire-tube boilers |
| Flue gases | any gaseous products of combustion |
| Grate | a perforated surface, e.g. a grid, which supports or delimits a bed of |

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| | burning fuel and serves to supply primary air |
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Synonyms and Keywords

In patent documents the expression/word "boiler" is often used with the meaning "combustion apparatus".

In patent documents the expression/word "burner" is often used with the meaning "combustion apparatus".

F23M 3/00

Firebridges (baffles non confining the fire F23M9/06)

References relevant to classification in this group

This subclass/group does not cover:

| | |
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| Baffles non confining the fire | F23M 9/06 |
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Informative references

Attention is drawn to the following places, which may be of interest for search:

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| Firebridges modified for circulation of fluids, e.g. air, steam, water | F23M 3/02 |
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F23M 5/00

Casings, Linings, Walls (casings, linings, or walls of heat-treatment chambers of ovens, kilns, or retorts F27D)

References relevant to classification in this group

This subclass/group does not cover:

| | |
|---|----------------------|
| Casings, linings, or walls of heat-treatment chambers of ovens, kilns, or retorts | F27D |
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Informative references

Attention is drawn to the following places, which may be of interest for search:

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| Ceramic materials | C04B 33/00 , C04B 35/00 |
| Casings characterised by the shape of the bricks or blocks used | F23M 5/02 |
| Support for linings | F23M 5/04 |

F23M 7/00

Doors specially adapted for combustion chambers (in general E06B; for flues or smoke-boxes F23J13/08)

References relevant to classification in this group

This subclass/group does not cover:

| | |
|--------------------------------|----------------------------|
| Doors in general | E06B |
| Doors for flues or smoke-boxes | F23J 13/08 |

F23M 9/00

Baffles or deflectors for air or combustion products; Flame shields

References relevant to classification in this group

This subclass/group does not cover:

| | |
|---|----------------------------|
| Controlling combustion using gas detectors | F23N 5/003 |
| Safety arrangements obtained by means of controlling combustion | F23N 5/24 |
| Alarm systems | G08B |

Informative references

Attention is drawn to the following places, which may be of interest for search:

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| Interconnection of water-tubes in boilers for fluid flow | F22B 37/00 |
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F23M 11/00

Safety arrangements (by controlling combustion F23N5/24)

F23M 99/00

Subject matter not provided for in other groups of this subclass, [N: e.g. heat storage from flames]