F25D

REFRIGERATORS; COLD ROOMS; ICE-BOXES; COOLING OR FREEZING APPARATUS NOT OTHERWISE PROVIDED FOR (refrigerated showcases A47F 3/04; thermally-insulated vessels for domestic use A47J 41/00; refrigerated vehicles, see the appropriate subclasses of classes B60 - B64; containers with thermal insulation in general B65D 81/38; heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants, or materials for the production of heat or cold by chemical reactions other than by combustion C09K 5/00; thermally-insulated vessels for liquefied or solidified gases F17C; air-conditioning or air-humidification F24F; refrigeration machines, plants, or systems F25B; cooling of instruments or comparable apparatus without refrigeration G12B)

Definition statement

This place covers:

Refrigerators; cold rooms; ice-boxes; cooling or freezing apparatus not covered by any other subclass.

Relationships with other classification places

<u>F24F</u>: "air-conditioning" means the supply of air to rooms or spaces by means which provide for the treatment of the air in at least two of the following ways: heating-cooling-any other kind of treatment, e.g. humidification.

Other household appliance fields are A47L (domestic washing), D06F (domestic laundry driers), F24B (domestic stoves).

References

Limiting references

This place does not cover:

Refrigerated show cases	A47F 3/04
Thermally-insulated vessels for domestic use	A47J 41/00
Refrigerated vehicles	<u>B60</u> - <u>B64</u>
Containers with thermal insulation in general	B65D 81/38
Heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants, or material for the production of heat or cold by chemical reactions other than by combustion	C09K 5/00
Cooling of engines or pumps	F04B, F04C, F04D
Thermally-insulated vessels for liquefied or solidified gases	<u>F17C</u>
Air-conditioning or air-humidification	<u>F24F</u>
Refrigeration machines, plants or systems	<u>F25B</u>
Production, working, storing or distribution of ice	<u>F25C</u>
Cooling of instruments and comparable apparatus without refrigeration	<u>G12B</u>

F25D (continued) CPC - F25D - 2024.01

Informative references

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

Non-refrigerated containers specially adapted for transporting or storing living parts whilst preserving, e.g. cool boxes, blood bags or straws for seminal fluid	A01N 1/0263
Cooling of specific food	<u>A23B</u>
Cooling of meat	A23B 4/06
Cooling of fruit	A23B 7/04
Cooling of ice cream	A23G 9/00
Cooling of food in general	A23L 3/36
Cooled garments	A41D 13/0053
Casings for protecting, packaging, dispensing articles for surgery	A61B 50/30
Containers specially adapted for medical or pharmaceutical purposes	A61J 1/00
Cooling of protective clothing	A62B 17/006
Heat insulating devices, e.g. jackets for flasks, for laboratory	B01L 7/04
Conveyors	<u>B65G</u>
Laptop cooling	G06F 1/20
Coin-freed or like apparatus with heating or cooling means	G07F 9/105
Computer/electronics cooling	H05K 7/00

Special rules of classification

Devices not associated with refrigerating machinery: F25D 1/00-F25D 9/00

Devices associated with refrigerating machinery: F25D 11/00-F25D 16/00

Details or features of the devices covered by groups $\underline{\mathsf{F25D}}\ 1/00$ - $\underline{\mathsf{F25D}}\ 16/00$: $\underline{\mathsf{F25D}}\ 17/00$ - $\underline{\mathsf{F25D}}\ 31/00$

Only classify a household appliance when a refrigerator or freezer is mentioned or when a refrigerator or freezer is shown in the drawings. Always circulate to the following household appliance fields:

A47L (domestic washing), D06F (domestic laundry driers), F24B (domestic stoves).

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

means an enclosed space to be cooled; such devices being
associated either with refrigerating machinery, e.g. in a refrigerator,
or with other cold sources, e.g. in an ice-box.

F25D 3/005

{combined with heat exchangers}

Special rules of classification

Classify in <u>F25D 3/005</u> when only details of the heat exchanger are claimed.

When heat exchangers are combined with a cooling cycle: <u>F25D 16/00</u>.

Special rules of classification

When combined with or situated in refrigerators: <u>F25D 11/006</u>.

F25D 3/02

using ice, e.g. ice-boxes

Special rules of classification

Not only use of ice, but also PCM's, i.e. Phase Change Materials, blue ice.

F25D 3/06

Movable containers

Special rules of classification

Classify also in F25D 2303/08.

F25D 3/08

portable, i.e. adapted to be carried personally

References

Informative references

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

Special arrangement or features of devices using cold storage material	F25D 2303/08
Type of cooled receptacles	F25D 2331/80
Lunch or picnic boxes	A45C 11/20
Drinking glasses	A47G 19/2205
Thermally insulated vessels with heat or cold storing elements or material for kitchen equipment	A47J 41/0044
Cooling bags for medical or therapeutic treatment of human body	A61F 7/10
Containers with thermal insulation in general	B65D 81/38
Materials undergoing a change of state from liquid to solid	C09K 5/06
Using latent heat	F28D 20/02

Special rules of classification

In case no details are claimed about cooling material, but only details about cooling box itself, no classification in $\frac{F25D 3/08}{100}$.

Special arrangements or features of devices using cold storage material are additionally classified in F25D 2303/08 and lower.

Features of the cooled receptacles are classified in <u>F25D 2331/80</u> and lower.

F25D 3/10

using liquefied gases, e.g. liquid air {(for cooling semiconductor devices H01L 23/445)}

References

Informative references

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

For cooling semiconductor devices	H01L 23/445
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Special rules of classification

Only cooled rooms, otherwise classify in F25B 19/005

Classify in F25D 3/12 when CO2 snow (dry ice) is claimed or mentioned.

F25D 3/11

with conveyors carrying articles to be cooled through the cooling space

Special rules of classification

Conveyors in general	<u>B65G</u>
Stationary devices with conveyors carrying articles to be cooled through the cooling space	F25D 13/06
By conveyors	F25D 25/04
Using solidified gases with conveyors carrying articles to be cooled through the cooling space	F25D 3/127

F25D 3/12

using solidified gases, e.g. carbon-dioxide snow

References

Informative references

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

Solidiying carbon dioxide	C01B 32/55

Special rules of classification

Classify in $\underline{\mathsf{F25D}\ 3/10}$ when liquid N2 is claimed or mentioned.

F25D 3/127

{Stationary devices with conveyors carrying articles to be cooled through the cooling space}

References

Informative references

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

Using liquefied gases with conveyors carrying articles to be cooled through the cooling space	<u>F25D 3/11</u>
Stationary devices with conveyors carrying articles to be cooled through the cooling space	F25D 13/06
By conveyors	F25D 25/04
Conveyors in general	<u>B65G</u>

F25D 5/00

Devices using endothermic chemical reactions, e.g. using frigorific mixtures

Definition statement

This place covers:

Cooling by endothermic chemical reaction between substances triggered by for example rupturing/piercing a membrane.

F25D 7/00

Devices using evaporation effects without recovery of the vapour (butter or cheese dishes with cooling devices A47G 19/26)

Definition statement

This place covers:

The cooling effect is derived from the evaporation of water, for which a supply of heat is required.

References

Limiting references

This place does not cover:

Vacuum coolers	F25D 31/00
Butter or cheese dishes with cooling devices	A47G 19/26
Evaporative coolers	F24F 5/0035, F28D 5/00

Special rules of classification

Classification of devices using evaporation effects without recovery of the vapour at ambient pressure.

F25D 11/00

Self-contained movable devices, e.g. domestic refrigerators

References

Limiting references

This place does not cover:

By forced circulation	F25D 17/06
Purses, travelling bags or baskets, suitcases	<u>A45C</u>
Hand carts	<u>B62B</u>
Containers for storage or transport of articles or materials	<u>B65D</u>

F25D 11/006

{with cold storage accumulators}

Special rules of classification

In case cold accumulators are arranged inside a refrigerator.

Cold storage accumulators in devices not associated with refrigerating machinery and emphasize on heat exchanger itself, classify in <u>F25D 3/005</u>.

When heat exchangers are combined with a cooling system, classify in <u>F25D 16/00</u>.

F25D 11/022

{with two or more evaporators}

References

Informative references

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

Compression machines, plant, or systems, with several evaporator	F25B 5/00
circuits, e.g. for varying refrigerating capacity	

F25D 11/025

{using primary and secondary refrigeration systems}

References

Informative references

Machines, plant, or systems, using primary and secondary systems	F25B 25/005
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F25D 11/027

{of the sorption cycle type}

Special rules of classification

Documents with one cooling compartment and sorption cycle classify in F25D 11/027 and F25D 11/00.

F25D 13/06

with conveyors carrying articles to be cooled through the cooling space

References

Informative references

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

Using liquefied gases with conveyors carrying articles to be cooled through the cooling space	F25D 3/11
Using solidified gases with conveyors carrying articles to be cooled through the cooling space	F25D 3/127
By conveyors	F25D 25/04
Conveyors in general	<u>B65G</u>

F25D 15/00

Devices not covered by group <u>F25D 11/00</u> or <u>F25D 13/00</u>, e.g. non-self-contained movable devices

Definition statement

This place covers:

Products cooled by a cooling system at a remote place;

Devices for freezing of pipes for forming a frozen ice plug in a section of a pipe to be repaired.

Movable devices implies also refrigerators.

Special rules of classification

Classify also in <u>F25D 17/02</u> in case of cooling by circulating a coolant.

Classify also in <u>F25D 17/06</u> in case of cooling by cold air.

F25D 16/00

Devices using a combination of a cooling mode associated with refrigerating machinery with a cooling mode not associated with refrigerating machinery

Special rules of classification

When heat exchangers are combined with a cooling system, classify in <u>F25D 16/00</u>.

In case cold accumulators are arranged inside a refrigerator, classify in F25D 11/006.

Cold storage accumulators in devices not associated with refrigerating machinery and emphasize on heat exchanger itself, classify in $\underline{\mathsf{F25D}\ 3/005}$.

F25D 17/005

{in cold rooms}

Special rules of classification

Classification in F25B 25/005 when primary refrigeration cycle is important.

F25D 17/04

for circulating air, e.g. by convection

Definition statement

This place covers:

Circulation of air by natural convection.

References

Limiting references

This place does not cover:

Forced circulation of air is classified in	F25D 17/06
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F25D 17/042

{Air treating means within refrigerated spaces (air conditioning in general F24F)}

References

Informative references

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

Treating air flowing to refrigeration compartments	F25D 2317/04
Preservation or chemical ripening of fruit or vegetables	A23B 7/00
Preservation of food in general	A23L 3/00
Disinfection, sterilization or deodorization of air	A61L 9/00
Filtering material for liquid or gaseous fluids	B01D 39/00
Ion generating apparatus	H01T 23/00

Special rules of classification

Treating air flowing to refrigeration compartments by purification (dehumidification, humidification, deodorizing, ozone generator and uv-lamp) is additionally classified in <u>F25D 2317/041</u> and lower.

Treating air flowing to refrigeration compartments by creating a vacuum in a storage compartment to store products under vacuum is additionally classified in <u>F25D 2317/043</u>. Vacuum cooling is classified in <u>F25D 31/00</u>.

F25D 17/045

{Air flow control arrangements}

Definition statement

This place covers:

Air dampers; Air valves.

F25D 17/06

by forced circulation

References

Informative references

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

Air flow control arrangements	F25D 17/045
Special arrangements or features of forced air circulation within refrigerated spaces	F25D 17/06
Ventilator details	<u>F04</u>

Special rules of classification

Circulation of air by natural convection is classified in F25D 17/04.

Control of air circulation is also classified in F25D 17/06.

Special arrangements or features of forced air circulation within refrigerated spaces are additionally classified in <u>F25D 17/06</u> and lower.

Additionally classify in F25D 21/002 in case of defrost control.

F25D 17/08

using ducts

Definition statement

This place covers:

Ducts for cooling by radiation, i.e. indirect cooling.

F25D 19/00

Arrangement or mounting of refrigeration units with respect to devices {or objects to be refrigerated, e.g. infrared detectors}

Definition statement

This place covers:

Mounting of complete refrigeration units.

References

Limiting references

This place does not cover:

Mounting of components of refrigerating machinery	F25D 23/006
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F25D 21/002

{Defroster control}

References

Limiting references

This place does not cover:

Classification in F25B 47/02 when frost is removed by heat of the refrigeration cycle.

F25D 21/06

Removing frost (defrosting cycles F25B 47/02)

References

Limiting references

This place does not cover:

Classification in F25B 47/02 when frost is removed by heat of the refrigeration cycle.

Informative references

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

Alternate defrosting	F25B 2347/021
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F25D 21/14

Collecting or removing condensed and defrost water; Drip trays

References

Limiting references

This place does not cover:

Passenger or goods spaces characterized by condensed liquid drainage means	B60H 1/3233
Removing condensate in air-conditioning	F24F 13/22
Collecting and removing condensate for heat-exchangers	F28B 9/08

Informative references

Special arrangements or features of collecting condense or defrost water	F25D 21/14
Cooling refrigerating machinery	F25D 23/003

Special rules of classification

Special arrangements or features of collecting condense or defrost water are additionally classified in F25D 21/14 and lower.

F25D 23/003

{for cooling refrigerating machinery}

Definition statement

This place covers:

Cooling of compressor and condenser of refrigerated enclosures.

References

Informative references

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

Special arrangements or details for cooling refrigerating machinery	F25D 2323/002
Cooling of compressor or motor	F25B 31/006
Condensers with refrigerant heat exchange tubes positioned inside or around a vessel containing water or pcm to cool the refrigerant gas	F25B 2339/046
Water-cooled condensers	F25B 2339/047

F25D 23/006

{for mounting refrigerating machinery components}

Definition statement

This place covers:

Mounting of components of refrigerating machinery.

References

Limiting references

This place does not cover:

Mounting of complete refrigeration units:	F25D 19/00

Special rules of classification

Special arrangements or features for cooling refrigerating machinery are additionally classified in F25D 2323/002 and lower.

F25D 23/02

Doors; Covers (<u>F25D 23/08</u> takes precedence {locks or fastenings <u>E05B 65/0042</u>})

References

Limiting references

This place does not cover:

Details not related to door itself, e.g. hinges, handles, actuators, dispensers are classified in	F25D 23/028
Parts formed wholly or mainly of plastics materials	F25D 23/08
Transparent doors	A47F 3/0434

Informative references

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

Special arrangements or details of doors or covers not otherwise covered	F25D 23/028, F25D 23/04
Night covers display case	A47F 3/0469
Locks or fastenings	E05B 65/0042
Doors	<u>E06B</u>

Special rules of classification

F25D 23/08 takes precedence.

French doors are additionally classified in <u>F25D 2323/021</u>;

Doors that can be pivoted either left-handed or right-handed are additionally classified in F25D 2323/022.

Door in door constructions are additionally classified in <u>F25D 2323/023</u>.

F25D 23/028

{Details}

References

Limiting references

This place does not cover:

Details of refrigerator doors are classified in <u>F25D 23/02</u>.

Informative references

	A47B 95/02, F24C 15/024, E05F 11/54
Locks or fastenings	E05B 65/0042, E05C
Hinges	E05D, F25D 2323/024

Special rules of classification

All details not related to refrigerator door itself, e.g. hinges, handles, actuators, dispensers are classified in $\frac{\text{F25D }23/028}{\text{F25D }23/028}$.

Door hinges are additionally classified in F25D 2323/024.

F25D 23/06

Walls (F25D 23/08 takes precedence; containers with thermal insulation B65D 81/38)

References

Informative references

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

Insulation	F25D 2201/00
Collapsible walls	F25D 2323/061
Inflatable walls	F25D 2323/062
Details of cabinets, racks or shelf units	A47B 96/00
Shaping or joining of plastics; Shaping of substances in a plastic state, in general; after-treatment of shaped products, e.g. repairing	<u>B29C</u>
Foaming	B29C 44/00
Extrusion molding	B29C 48/00
Production of refrigerators	B29L 2031/7622
Insulation, layered products	<u>B32B</u>
Containers with thermal insulation	B65D 81/38
Insulation, vacuum panel	E04B 1/803
Supports for pipes, cables or protective tubing	F16L 3/00
Supports for pipes or cables inside other pipes or sleeves	F16L 7/00
Thermal insulation in general	F16L 59/00

Special rules of classification

F25D 23/08 takes precedence.

Insulation (with respect to heat or sound) is additionally classified in <u>F25D 2201/00</u>.

Collapsible walls are additionally classified in F25D 2323/061.

Inflatable walls are additionally classified in F25D 2323/062.

F25D 23/087

{Sealing strips}

References

Informative references

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

Magnetic gaskets	E05C 19/161

F25D 23/126

{Water cooler}

References

Informative references

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

Refrigerator doors; covers	F25D 23/02	
Special arrangements or details of the water filter for the water/ice dispenser	F25D 2323/121	
Special arrangements or details of the water tank for the water/ice dispenser	F25D 2323/122	
Filtering devices	B01D 35/00	
Dispensing beverages	<u>B67D</u>	
Ice dispenser	F25C 5/22	

Special rules of classification

Additionally classify in:

F25D 23/02 when details of the door are claimed.

F25C 5/22 when details of an ice dispenser are claimed.

<u>F25D 2323/121</u> when special arrangements or details of the water filter are claimed.

F25D 2323/122 when special arrangements or details of the water tank are claimed.

F25D 25/00

Charging, supporting, and discharging the articles to be cooled

Special rules of classification

Additionally classify in:

F25D 2331/80: Type of cooled receptacles.

F25D 25/02

by shelves

References

Informative references

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

Special arrangements or features of shelves with several possible configurations	F25D 2325/021
Special arrangements or features of shelves made of glass or ceramic	F25D 2325/022
Special arrangements or features of shelves made of wires	F25D 2325/023
Type of cooled receptacles	F25D 2331/80
Drawers, shelves	<u>A47B</u>
Show stands, hangers or shelves	A47F 7/00

Special rules of classification

Additionally classify in:

<u>F25D 2325/021</u>: Special arrangements or features of shelves with several possible configurations

F25D 2325/022: Special arrangements or features of shelves made of glass or ceramic

F25D 2325/023: Special arrangements or features of shelves made of wires

F25D 2331/80: Type of cooled receptacles.

F25D 25/022

{Baskets}

Definition statement

This place covers:

Wire baskets.

F25D 25/025

{Drawers}

References

Informative references

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

Type of cooled receptacles	F25D 2331/80
Drawers	<u>A47B</u>

Special rules of classification

Additionally classify drawers opened by sliding doors in F25D 23/021.

F25D 25/04

by conveyors (in general **B65G**)

References

Informative references

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

Using liquefied gases with conveyors carrying articles to be cooled through the cooling space	F25D 3/11
Using solidified gases with conveyors carrying articles to be cooled through the cooling space	F25D 3/127
Stationary devices with conveyors carrying articles to be cooled through the cooling space	F25D 13/06
Conveyors in general	<u>B65G</u>

Special rules of classification

Shelves or drawers which can be adjusted in height are classified in A47B 57/06.

F25D 27/00

Lighting arrangements (in general F21)

Definition statement

This place covers:

Lighting arrangements for lighting cooling enclosures, both inside and outside the enclosure.

Relationships with other classification places

Lighting in general: F21.

References

Informative references

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

Special arrangements or features for lighting arrangements on the external side of the refrigerator, freezer or cooling box	F25D 2327/001
Lighting devices	F21V 33/00
Circuit arrangements for electric light sources	H05B 47/00

F25D 29/00

Arrangement or mounting of control or safety devices

References

Informative references

Control issues <u>F25D</u>	F25D 2600/00
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Informative references

Means for sensing or measuring <u>F25D</u> ; Sensors therefor <u>F25D</u>	F25D 2700/00
Arrangement or mounting of control or safety devices	F25B 49/00
Telecontrol of temperature	G05D 23/1905
Inventory	G06Q 10/087

Special rules of classification

F25D 17/06 takes precedence;

F25D 21/00 takes precedence;

<u>F25B 49/02</u> takes precedence, classify in <u>F25D 29/00</u> to distinguish a refrigerator over a refrigeration cycle.

 $\underline{\text{F25B 5/00}}$ takes precedence, classify in $\underline{\text{F25D 29/00}}$ or $\underline{\text{F25D 11/022}}$ to distinguish a refrigerator over a refrigeration cycle.

Additional classification of control issues in F25D 2600/00.

Additional classification of means for sensing or measuring and sensors therefor in F25D 2700/00.

F25D 29/005

{Mounting of control devices}

Definition statement

This place covers:

Mounting of control devices; Mounting of sensors to refrigeration devices

Special rules of classification

Mounting of sensors to refrigeration devices are classified in F25D 29/005/CCA.

F25D 31/00

Other cooling or freezing apparatus

Definition statement

This place covers:

Cooling by creating a vacuum.

References

Limiting references

This place does not cover:

Storing of products in a refrigerated enclosure under vacuum:	F25D 2317/043
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F25D 31/002

{Liquid coolers, e.g. beverage cooler (receptacle coolers F25D 31/006)}

References

Limiting references

This place does not cover:

Repectac	cle coolers	F25D 31/006

Informative references

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

Cooling of liquids with pour-throughs F25D 2331/811	Cooling of liquids with pour-throughs	F25D 2331/811
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F25D 31/006

{specially adapted for cooling receptacles, e.g. tanks}

References

Informative references

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

Type of cooled receptacles	F25D 2331/80
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F25D 31/007

{Bottles or cans}

References

Informative references

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

Type of cooled receptacles	F25D 2331/80

F25D 31/008

{Drinking glasses}

Definition statement

This place covers:

Pre-chilling of glasses.

References

Informative references

Type of cooled receptacles; Glasses	F25D 2331/808
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