

## F26B

**DRYING SOLID MATERIALS OR OBJECTS BY REMOVING LIQUID THEREFROM** (racks for drying fruit and vegetables [A01F 25/12](#); drying foodstuffs [A23](#); drying hair [A45D 20/00](#); body-drying implements [A47K 10/00](#); drying household articles [A47L](#), {e.g. drying footwear [A47L 23/20](#); } drying gases and vapours [B01D](#); chemical and physical processes for dewatering or like separating liquids from solids [B01D 43/00](#); centrifugal apparatus [B04](#); drying ceramics [C04B 33/30](#); drying yarns and fabrics in association with some other form of treatment [D06C](#); drying frames for laundry without heating or positive air circulation, domestic and like spin-dryers, wringing and hot pressing laundry [D06F](#); furnaces, kilns, ovens [F27](#); {treatment including a drying step of semiconductor substrates, e.g. wafers, [H01L 21/67028](#)})

### Definition statement

*This place covers:*

Processes and specific machines and arrangements for drying objects, solid materials or fluent materials containing solids by removing water or other liquids therefrom.

### Relationships with other classification places

Processing, e.g. drying of harvested produce	<a href="#">A01F</a>
Dairy products	<a href="#">A01J</a>
Food and foodstuffs; their treatment, e.g. drying	<a href="#">A23</a>
Drying household articles	<a href="#">A47L</a>
Drying gases and vapours	<a href="#">B01D</a>
Physical Processes and their relevant apparatus	<a href="#">B01J</a>
Centrifuges	<a href="#">B04B</a>
Preparation or pre-treatment, e.g. drying, of plastics to be shaped	<a href="#">B29B</a>
Presses in general	<a href="#">B30B</a>
Cement Making	<a href="#">C04B</a>
Drying of peat	<a href="#">C10F</a>
Fuels, e.g. solid fuels not otherwise provided for	<a href="#">C10L</a>
Drying yarns or fabrics in association with some other form of treatment	<a href="#">D06C</a>
Drying textile articles	<a href="#">D06F</a>
Production of cellulose, e.g. pulp	<a href="#">D21C</a>
Impregnating or coating of paper	<a href="#">D21H</a>
Regulating or controlling combustion	<a href="#">F23N</a>
Feeding fuel to combustion apparatus	<a href="#">F23K</a> and <a href="#">F23K</a>
Drying, conditioning of air in general	<a href="#">F24F</a>
Heat cycles, refrigeration	<a href="#">F25B</a>
Furnaces, kilns, ovens in general	<a href="#">F27B</a>
Details of furnaces, kilns and ovens in general	<b>F27C</b>
Cables, conductors and insulators	<a href="#">H01B</a>

Capacitors	<a href="#">H01G</a>
Feeding waste products to combustion apparatus	<a href="#">F23G</a>

## References

### Limiting references

*This place does not cover:*

Drying gases and vapours	<a href="#">B01D</a>
Evaporating of liquids	<a href="#">B01D 1/00</a>
Treatment including a drying step of semiconductor substrates, e.g. wafers	<a href="#">H01L 21/67028</a>

### Informative references

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

Apparatus for preserving meat, fish, eggs, fruit, vegetables by drying	<b>A23B/03</b>
Apparatus for preserving meat, fish, eggs, fruit, vegetables by freeze drying	<b>A23B/037</b>
Preservation of foodstuff by drying	<a href="#">A23L 3/40</a>
Machines for drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts	<a href="#">A23N 12/08</a>
Drying and activating adhesives in the process of glueing shoe parts	<a href="#">A43D 25/20</a>
Drying of shoes during manufacture	<a href="#">A43D 95/10</a>
Drying Hair	<a href="#">A45D 20/00</a>
Drying razor blades	<a href="#">A45D 27/48</a>
Body Drying Implements	<a href="#">A47K 10/00</a>
Drying footwear	<a href="#">A47L 23/20</a>
Physical or chemical process or apparatus in general for separating liquids from solids	<a href="#">B01D 43/00</a>
Drying of gases, i.e. removing vapour, e.g. water vapour	<a href="#">B01D 53/00</a>
Treating solid materials in general with rotating drums	<a href="#">B01J 19/28</a>
Drying grain before milling	<a href="#">B02B 1/08</a>
Pre- or after-treatment, e.g. drying or curing, of surfaces to which liquids, e.g. coatings or paints, are applied	<a href="#">B05D 3/00</a>
Auxiliary treatment of plastic granules, i.e. after making them	<a href="#">B29B 9/16</a>
Drying plastic pellets, e.g. before the extruder	<a href="#">B29B 13/065</a>
Apparatus for making layered products for laminating, e.g. by curing or drying	<a href="#">B32B 37/00</a>
Drying vehicle bodies, e.g. cars, after washing	<a href="#">B60S 3/002</a>
Drying of matches	<b>C01F1/06</b>
Drying of sludge	<a href="#">C02F 11/12</a>
Drying clay wares	<a href="#">C04B 33/30</a>
Drying or dewatering of peat	<a href="#">C10F 5/02</a>

Drying apparatus for fuels	<a href="#">C10L</a>
Torrefying apparatus for fuels	<a href="#">C10L</a>
Heating solid fuel briquettes of mineral origin	<a href="#">C10L 5/28</a>
Solid biofuels	<a href="#">C10L 5/44</a>
Drying leather or hides as part of the manufacturing process	<a href="#">C14B 1/58</a>
Drying of retted fibres	<a href="#">D01B 1/48</a>
Forcing gases through textile materials	<a href="#">D06B 5/00</a>
Removing liquids from textile materials in association with previous liquid treatment	<a href="#">D06B 15/00</a>
Supporting means for linen or garments to be dried	<a href="#">D06F 57/00</a>
Domestic laundry dryer, e.g. tumbler	<a href="#">D06F 58/00</a>
De-watering of pulp	<a href="#">D21C 9/18</a>
Machines for preparing, e.g. heating and drying, of paving materials for roads	<a href="#">E01C 19/05</a>
Apparatus for drying pavement	<a href="#">E01C 23/14</a>
Drying of constructions, e.g. buildings, and keeping them dry	<a href="#">E04B 1/70</a>
Drying of waste products by heat prior to combustion	<a href="#">F23G 2201/10</a>
Dewatering of waste products by mechanical means prior to combustion	<a href="#">F23G 2201/20</a>
Preparation of solid fuel prior to combustion, e.g. drying	<a href="#">F23K 1/00</a>
Drying of solid fuel prior combustion	<a href="#">F23K 2201/20</a>
Equipment for the use of solar heat	<a href="#">F24S</a>
Drying of photographic film in processing apparatus	<b>G03D15/12</b>
Drying step in manufacturing of electric cables	<a href="#">H01B 13/30</a>
Drying step in manufacturing of electric insulators	<a href="#">H01B 19/02</a>
Drying of, e.g. oil cooled, transformers	<a href="#">H01F</a>
Drying, filling, purifying of, e.g. oil cooled, transformers	<a href="#">H01F 27/14</a>
Drying step in manufacturing capacitors	<a href="#">H01G 13/04</a>
Production of biofuels through pyrolysis	<a href="#">Y02E 50/14</a>
Production of biofuels through torrefaction	<a href="#">Y02E 50/15</a>

### Special rules of classification

Documents dealing with drying specific solid materials or objects belonging to other subclasses are classified in [F26B](#) only, if the disclosed drying process or machine is of general interest, i.e. not limited to the specific solid material or object.

## F26B 1/00

**Preliminary treatment of solid materials or objects to facilitate drying {, e.g. mixing or backmixing the materials to be dried with predominantly dry solids (F26B 5/005 takes precedence)}**

### Definition statement

*This place covers:*

Preliminary treatment, i.e. not the actual drying treatment, of solid materials or objects.

### References

#### Limiting references

*This place does not cover:*

Applying a combustible liquid, which is burnt off later, onto the solid materials or objects	<a href="#">F26B 3/005</a>
Dipping the solid materials or objects into, or mixing with, chemical liquids for subsequent drying	<a href="#">F26B 5/005</a>

#### Informative references

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

Replacing liquid in wet solids by other liquid	<a href="#">B01D 12/00</a>
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## F26B 3/00

**Drying solid materials or objects by processes involving the application of heat (in specific machines or apparatus [F26B 9/00](#) - [F26B 19/00](#))**

### Definition statement

*This place covers:*

Drying solid materials or objects by processes applying heat as primary drying principle.

### References

#### Limiting references

*This place does not cover:*

Processes involving direct heating, e.g. radiation, or indirect heating, e.g. convection, of the drying good merely as a measure to compensate cooling effects through evaporation, e.g. in a vacuum dryer	<a href="#">F26B 5/00</a>
Heat generated by friction through ultrasonic vibrations	<a href="#">F26B 5/02</a>
Condensing vapour other than steam onto the surface of the materials or objects to be dried	<a href="#">F26B 21/145</a>

#### Informative references

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

Preserving food in general by spray drying	<a href="#">A23L 3/46</a>
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Spray drying liquids	<a href="#">B01D 1/16</a>
Spray drying liquid solutions to obtain solids	<a href="#">B01D 1/18</a>
Fluidised bed technique in general	<a href="#">B01J 8/24</a>
UV-curing of paint	<a href="#">B01J 8/24</a>
Equipment for the use of solar heat	<a href="#">F24S</a>
Magnetrons for drying	<a href="#">H05B 6/78</a>

### Special rules of classification

Specific machines or apparatus ([F26B 9/00](#) - [F26B 19/00](#)) being inherent to the process take precedence.

Therefore, inventions are additionally classified in [F26B 3/00](#) only, if the invention information lies within the process as such.

In any case, inventions are classified in [F26B 3/00](#), if adequate entries, i.e. classes, for machines or apparatuses do not exist.

### F26B 3/08

so as to loosen them, e.g. to form a fluidised bed {"fluidised-bed" technique in general [B01J 8/24](#); centrifugal fluidised beds [F26B 7/007](#)}}

### References

#### Limiting references

*This place does not cover:*

Centrifugal fluidised beds	<a href="#">F26B 7/007</a>
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#### Informative references

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

Fluidised bed technique in general	<a href="#">B01J 8/24</a>
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### F26B 3/12

in the form of a spray {, i.e. sprayed or dispersed emulsions or suspensions (spray drying of solutions [B01D 1/18](#))}

### References

#### Informative references

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

Freeze drying involving spraying	<a href="#">F26B 5/065</a>
Preserving food in general by spray drying	<a href="#">A23L 3/46</a>
Spray drying liquids	<a href="#">B01D 1/16</a>
Spray drying liquids or solutions to obtain solids	<a href="#">B01D 1/18</a>

**F26B 3/28**

by radiation, e.g. from the sun

**References****Informative references**

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

Heated fluid, other than combustion gases, in tubes or passages acting as radiative element	<a href="#">F26B 23/10</a>
UV-curing of paint	<a href="#">B05D 3/065</a>
Equipment for the use of solar heat	<a href="#">F24S</a>

**F26B 3/347**

Electromagnetic heating, e.g. induction heating or heating using microwave energy

**References****Informative references**

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

Magnetrons for drying	<a href="#">H05B 6/78</a>
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**F26B 5/00**

Drying solid materials or objects by processes not involving the application of heat (separating liquids from solids by straining [B01D](#); replacing liquids in wet solids by other liquids, e.g. water by spirit, [B01D 12/00](#); drying by electrophoresis [B01J](#))

**Definition statement**

*This place covers:*

Drying solid materials or objects by processes applying a primary drying principle not involving heat.

Direct heating, e.g. radiation, or indirect heating, e.g. convection, of the drying good as measure to compensate cooling effects through evaporation are not considered to be a primary drying principle.

**Relationships with other classification places**

Separating a liquid product from solids by straining: [B01D](#)

Drying by electrophoresis: [B01J](#)

Centrifuges in general; details of construction: [B04B](#)

## References

### Informative references

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

Apparatus for preserving meat, fish, eggs, fruit, vegetables by freeze drying	<a href="#">A23B/037</a>
Preserving food in general by freeze drying	<a href="#">A23L 3/44</a>
Domestic salad spin dryer	<a href="#">A47J 43/24</a>
Replacing liquid in wet solids by other liquid	<a href="#">B01D 12/00</a>
Physical or chemical process or apparatus for separating liquids from solids, in general	<a href="#">B01D 43/00</a>
Centrifuges, details of construction	<a href="#">B04B</a>
Metal rolling; removing liquids	<a href="#">B21B 45/0278</a>
Presses for squeezing out liquids	<a href="#">B30B 9/02</a>
Cleaning, e.g. drying paint applying hand tools	<a href="#">B44D 3/006</a>
Drying of peat using presses, rolls or centrifuges	<a href="#">C10F 5/04</a>
Wringing machines for textile articles with two or more cooperating rollers	<a href="#">D06F 45/00</a>
Apparatus of the press type for expelling water from textile articles	<a href="#">D06F 47/00</a>
Domestic spin dryers for textile articles	<a href="#">D06F 49/00</a>
Wet end, e.g. filter belt type, of machines for making a continuous web of paper	<a href="#">D21F 1/00</a>
Drying of constructions or buildings using electricity, e.g. electro-osmosis	<a href="#">E04B 1/7007</a>
Dewatering of waste products by mechanical means prior to combustion	<a href="#">F23G 2201/20</a>

## F26B 5/005

{by dipping them into or mixing them with a chemical liquid, e.g. organic; chemical, e.g. organic, dewatering aids ([F26B 3/005](#) takes precedence; using chemical vapours or gases [F26B 21/14](#))}

### Definition statement

*This place covers:*

by dipping them into or mixing them with a chemical liquid, e.g. organic; chemical, e.g. organic, dewatering aids

### References

#### Limiting references

*This place does not cover:*

Applying a combustible liquid onto the material, the liquid being burnt off subsequently	<a href="#">F26B 3/005</a>
Condensing vapour other than steam onto the surface of the material to be dried	<a href="#">F26B 21/145</a>

**Informative references**

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

Replacing liquid in wet solids by other liquid	<a href="#">B01D 12/00</a>
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**F26B 5/06****the process involving freezing****References****Informative references**

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

Apparatus for preserving meat, fish, eggs, fruit, vegetables by freeze drying	<b>A23B/037</b>
Preserving food in general by freeze drying	<a href="#">A23L 3/44</a>

**F26B 5/08****by centrifugal treatment****References****Informative references**

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

Domestic salad spin dryer	<a href="#">A47J 43/24</a>
Centrifuges	<a href="#">B04B</a>
Cleaning, e.g. drying paint applying hand tools	<a href="#">B44D 3/006</a>
Drying of peat using centrifuges	<a href="#">C10F 5/04</a>
Domestic spin dryers for textile articles	<a href="#">D06F 49/00</a>

**F26B 5/12****by suction****References****Limiting references**

This place does not cover:

Machines for drying material of long length with progressive movement by applying suction	<a href="#">F26B 13/30</a> or <a href="#">F26B 13/16</a>
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**Informative references**

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

Metal rolling; removing liquids	<a href="#">B21B 45/0278</a>
Wet end, e.g. filter belt type, of machines for making a continuous web of paper	<a href="#">D21F 1/00</a>



**F26B 5/14**

by applying pressure, e.g. wringing; by brushing; by wiping

**References****Limiting references**

*This place does not cover:*

Machines for drying material of long length with progressive movement by applying pressure, brushing or wiping	<a href="#">F26B 13/28</a>
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**Informative references**

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

Metal rolling; removing liquids	<a href="#">B21B 45/0278</a>
Presses for squeezing out liquids	<a href="#">B30B 9/02</a>
Drying of peat using presses or rolls	<a href="#">C10F 5/04</a>
Wringing machines for textile articles with two or more cooperating rollers	<a href="#">D06F 45/00</a>
Apparatus of the press type for expelling water from textile articles	<a href="#">D06F 47/00</a>
Wet end, e.g. filter belt type, of machines for making a continuous web of paper	<a href="#">D21F 1/00</a>

**F26B 5/16**

by contact with sorbent bodies, e.g. absorbent mould; by admixture with sorbent materials

**References****Limiting references**

*This place does not cover:*

Machines for drying material of long length with progressive movement by employing sorbent surfaces	<a href="#">F26B 13/26</a>
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**F26B 7/00**

Drying solid materials or objects by processes using a combination of processes not covered by a single one of groups [F26B 3/00](#) and [F26B 5/00](#) {{[F26B 1/005](#), [F26B 5/04](#), [F26B 23/026](#) take precedence}}

**Definition statement**

*This place covers:*

Drying solid materials or objects by processes using a synergy creating combination, opposed to a simple agglomeration, of a heat applying "hot" process and a "cold" process.

**Special rules of classification**

Documents classified in the combination group [F26B 7/00](#) are also to be classified in the relevant "hot" group [F26B 3/00](#), [F26B 9/00](#) - [F26B 19/00](#) respectively, and the relevant "cold" group [F26B 5/00](#).

**F26B 9/00**

**Machines or apparatus for drying solid materials or objects at rest or with only local agitation; Domestic airing cupboards {(domestic laundry drying cabinets or chambers having heating or ventilating means [D06F 58/10](#))}**

**Definition statement**

*This place covers:*

Machines or apparatus for drying "large" objects at rest.

Machines or apparatus for drying solid materials or "small" objects, e.g. bulk materials at rest or with local agitation, e.g. fixed or moving "small" stirrer in a "large" silo.

**References****Informative references**

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

Ventilating means for stacks of agricultural products	<a href="#">A01F 25/08</a>
Machines for drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts	<a href="#">A23N 12/08</a>
Drying Hair	<a href="#">A45D 20/00</a>
Drying razor blades	<a href="#">A45D 27/48</a>
Body Drying Implements	<a href="#">A47K 10/00</a>
Large containers having means for heating, cooling, aerating or other conditioning of contents	<a href="#">B65D 88/74</a>
Supporting means for linen or garments to be dried	<a href="#">D06F 57/00</a>
Domestic laundry drying cabinets	<a href="#">D06F 58/10</a>
Drying or keeping dry of constructions, e.g. buildings	<a href="#">E04B 1/70</a>

**F26B 9/003**

**{Small self-contained devices, e.g. portable}**

**References****Informative references**

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

Drying razor blades	<a href="#">A45D 27/48</a>
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**F26B 9/006**

**{Removable covering devices, e.g. pliable or flexible}**

**References****Informative references**

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

Roofs of drying chambers	<a href="#">F26B 25/10</a>
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**F26B 9/10**

in the open air; in pans or tables in rooms; **Drying stacks of loose material {on floors which may be covered, e.g. by a roof (ventilating means of stacks for agricultural produce [A01F 25/08](#))}**

**References****Informative references**

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

Ventilating means for stacks of agricultural products	<a href="#">A01F 25/08</a>
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**F26B 11/00**

**Machines or apparatus for drying solid materials or objects with movement which is non-progressive**

**Definition statement**

*This place covers:*

Machines or apparatus for drying solid materials or objects with primarily non-progressive, i.e. stirring, movement.

The movement of solid materials in e.g. horizontal rotating drums such as kilns is considered not primarily progressive even though opposed inlets and outlets are typically present.

**References****Informative references**

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

Treating in general with rotating drums	<a href="#">B01J 19/28</a>
Machines for preparing, e.g. heating and drying, of paving materials for roads	<a href="#">E01C 19/05</a>

**F26B 11/02**

**in moving drums or other mainly-closed receptacles ([F26B 11/18](#) takes precedence)**

**References****Informative references**

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

Treating in general with rotating drums	<a href="#">B01J 19/28</a>
Machines for preparing, e.g. heating and drying, of paving materials for roads	<a href="#">E01C 19/05</a>

**F26B 11/022****{Arrangements of drives, bearings, supports}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Driving arrangements specific to drying machines in general	<a href="#">F25B 25/02</a>
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**F26B 11/024****{Arrangements for gas-sealing the drum}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Seals, locks for drying machines in general	<a href="#">F26B 25/008</a>
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**F26B 11/026****{Arrangements for charging or discharging the materials to be dried, e.g. discharging by reversing drum rotation, using spiral-type inserts}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Charging and discharging of bulk materials to drying machines in general	<a href="#">F26B 25/002</a>
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**F26B 11/028****{Arrangements for the supply or exhaust of gaseous drying medium for direct heat transfer, e.g. perforated tubes, annular passages, burner arrangements, dust separation, combined direct and indirect heating}****Definition statement***This place covers:*

Arrangement for the supply or exhaust of gaseous drying medium for direct heat transfer, e.g. perforated tubes, annular passages, burner arrangements, dust separation, combined direct and indirect heat transfer

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

Arrangements for supplying drying gas in general	<a href="#">F26B 21/00</a>
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**F26B 11/04**

rotating about a horizontal or slightly-inclined axis {([F26B 11/022](#), [F26B 11/024](#), [F26B 11/026](#), [F26B 11/028](#) take precedence)}

**References****Informative references**

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

Machines for preparing, e.g. heating and drying, of paving materials for roads	<a href="#">E01C 19/05</a>
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**F26B 13/00**

**Machines and apparatus for drying fabrics, fibres, yarns, or other materials in long lengths, with progressive movement**

**Definition statement**

*This place covers:*

Machines and apparatus for drying materials in long length. The materials move progressively through the apparatus either in the form of a coil or uncoiled, e.g. in the form of a web.

**References****Limiting references**

*This place does not cover:*

Drying yarn hanks	<a href="#">F26B 15/124</a>
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**Informative references**

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

Drying fishing lines	<a href="#">A01K 97/16</a>
Apparatus for making layered products for laminating, e.g. by curing or drying	<a href="#">B32B 37/00</a>
Treating, e.g. drying, webs after printing	<a href="#">B41F 23/00</a>
Drying filamentary material, e.g. sheets, webs or cables during package formation	<a href="#">B65H 71/00</a>
Drying yarns during spinning or twisting	<a href="#">D01H 13/30</a>
Forcing gases through textile materials	<a href="#">D06B 5/00</a>
Removing liquids from textile materials in association with previous liquid treatment	<a href="#">D06B 15/00</a>
Wet end, e.g. filter belt type, of machines for making a continuous web of paper	<a href="#">D21F 1/00</a>
Dryer sections of machines for making a continuous web of paper	<a href="#">D21F 5/00</a>
Paper-impregnating material characterized by its constitution	<a href="#">D21H 17/00</a>
Paper-impregnating material characterized by its function, form or properties	<a href="#">D21H 21/00</a>

Drying step in manufacturing of cables	<a href="#">H01B 13/30</a>
Drying step in manufacturing of insulators	<a href="#">H01B 19/02</a>

## F26B 13/005

{Seals, locks, e.g. gas barriers for web drying enclosures}

### References

#### Informative references

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

Seal, locks in drying apparatus in general	<a href="#">F26B 25/008</a>
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## F26B 13/24

Arrangements of devices using drying processes not involving heating (such processes per se [F26B 5/00](#))

### References

#### Informative references

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

Metal rolling; removing liquids	<a href="#">B21B 45/0278</a>
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## F26B 13/26

using sorbent surfaces, e.g. bands or coverings on rollers

### References

#### Informative references

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

Drying process by contact with sorbent bodies	<a href="#">F26B 5/16</a>
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## F26B 13/28

for applying pressure; for brushing; for wiping

### References

#### Informative references

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

Drying process applying pressure, brushing, wiping	<a href="#">F26B 5/14</a>
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## F26B 15/00

**Machines or apparatus for drying objects with progressive movement; Machines or apparatus with progressive movement for drying batches of material in compact form ([F26B 13/00](#), [F26B 17/00](#) take precedence; conveyors in general [B65G](#))**

### Definition statement

*This place covers:*

Machines or apparatus for drying objects or object-like batches, e.g. material in a container.

The objects or batches move progressively through the machine or apparatus.

## F26B 17/00

**Machines or apparatus for drying materials in loose, plastic, or fluidised form, e.g. granules, staple fibres, with progressive movement ([F26B 13/00](#) takes precedence {; feed or discharge arrangements [F26B 25/002](#)})**

### Definition statement

*This place covers:*

Machines or apparatus for drying materials in loose form, plastic or fluidized form.

The materials move progressively through the machine or apparatus.

### References

#### Limiting references

*This place does not cover:*

Machines with primarily non-progressive movement of materials, e.g. mixing of materials	<a href="#">F26B 11/00</a>
Fibres forming a material of long length, e.g. yarn, web	<a href="#">F26B 13/00</a>

#### Informative references

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

Machines for drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts	<a href="#">A23N 12/08</a>
Drying tobacco	<a href="#">A24B 3/04</a>
Drying grain before milling	<a href="#">B02B 1/08</a>
Treatment, e.g. drying of wood particles in the production of pressed articles, e.g. boards	<a href="#">B27N 1/00</a>

### Special rules of classification

The movement of materials through rotating drums, e.g. kiln, is considered non-progressive; rotating drums are therefore classified in [F26B 11/00](#)

**F26B 17/02**

with movement performed by belts carrying the materials; with movement performed by belts {or elements attached to endless belts or chains} propelling the materials over stationary surfaces {(the movement being in a helical path [F26B 15/26](#); [F26B 17/003](#), [F26B 17/263](#) take precedence)}

**References****Informative references**

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

Process with stationary surface conducting heat	<a href="#">F26B 3/20</a>
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**F26B 17/10**

with movement performed by fluid currents, e.g. issuing from a nozzle, {e.g. pneumatic, flash, vortex or entrainment dryers} ([F26B 3/08](#) takes precedence)

**References****Informative references**

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

Apparatus using free vortex flow for separating in general	<a href="#">B04C</a>
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**F26B 17/107**

{pneumatically inducing within the drying enclosure a curved flow path, e.g. circular, spiral, helical; Cyclone or Vortex dryers (swirl or curved flow path induced mechanically, i.e. by rotating element [F26B 3/0923](#))}

**References****Limiting references**

This place does not cover:

Drying processes for loose materials involving a fluidised bed	<a href="#">F26B 3/08</a>
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**Informative references**

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

Jet Mills, e.g. for drying and milling, having a cyclone or vortex type flow pattern	<a href="#">B02C 19/06</a>
Apparatus using free vortex flow for separating in general	<a href="#">B04C</a>



**F26B 17/14**

the materials moving through a counter-current of gas

**References****Informative references**

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

Drying plastic pellets, e.g. before the extruder	<a href="#">B29B 13/065</a>
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**F26B 17/24**

with movement performed by shooting or throwing the materials {, e.g. after which the materials are subject to impact ([F26B 17/108](#) takes precedence)}

**References****Informative references**

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

Auxiliary treatment of plastic granules, e.g. after making them	<a href="#">B29B 9/16</a>
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**F26B 17/26**

with movement performed by reciprocating or oscillating conveyors propelling materials over stationary surfaces; with movement performed by reciprocating or oscillating shelves, sieves, or trays {([F26B 17/006](#) takes precedence)}

**References****Informative references**

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

Auxiliary treatment of plastic granules, e.g. after making them	<a href="#">B29B 9/16</a>
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**F26B 19/00**

**Machines or apparatus for drying solid materials or objects not covered by groups [F26B 9/00](#) - [F26B 17/00](#)**

**Definition statement**

*This place covers:*

Miscellaneous machines and machines of any type for drying solid materials or objects featuring a self contained mobile arrangement, the drying taking place with the mobile machine at rest or with moving machine, e.g. moving along or around the large object to be dried.

**Special rules of classification**

Combinations of two or more non-mobile machines individually covered by groups [F26B 9/00](#) - [F26B 17/00](#) to be classified in [F26B 20/00](#).

Self contained mobile devices to be classified also in the relevant "stationary" groups  
[F26B 9/00](#) - [F26B 19/00](#).

## F26B 19/005

{Self-contained mobile devices, e.g. for agricultural produce (movable devices with radiation means [F26B 3/28](#); small self-contained devices for drying objects at rest [F26B 9/003](#))}

### References

#### Limiting references

*This place does not cover:*

Small self-contained devices for drying objects at rest	<a href="#">F26B 9/003</a>
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#### Informative references

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

Movable devices with radiation means	<a href="#">F26B 3/28</a>
Harvester with Dryer	<a href="#">A01D 41/133</a>
Large containers having means for heating, cooling, aerating or other conditioning of contents	<a href="#">B65D 88/74</a>
Apparatus for drying pavement	<a href="#">E01C 23/14</a>
Drying, or keeping dry, of constructions, e.g. buildings	<a href="#">E04B 1/70</a>

## F26B 20/00

Combinations of machines or apparatus covered by two or more of groups  
[F26B 9/00](#) - [F26B 19/00](#)

### Definition statement

*This place covers:*

Combinations of machines or apparatus, either creating a synergetic effect or being a simple agglomeration, covered by two or more of groups [F26B 9/00](#) - [F26B 19/00](#).

## F26B 21/00

Arrangements {or duct systems, e.g. in combination with pallet boxes,} for supplying and controlling air or gases for drying solid materials or objects ({[F26B 9/10](#) takes precedence; systems for vehicle body drying [B60S 3/002](#)}; air conditioning or ventilation in general [F24F](#))

### Definition statement

*This place covers:*

Arrangements for supplying drying air or gases or steam to the drying apparatus or directly to (or into) the object or solid materials.

Arrangements for routing and circulating the drying air or gases or steam.

Arrangements for controlling the properties of drying air or gases or steam.

Condensing vapour other than steam onto the surface of the materials or objects to be dried.

## References

### Limiting references

*This place does not cover:*

Machines or apparatus for drying solid materials in the open air or in large rooms featuring drying air supply arrangements	<a href="#">F26B 9/10</a>
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### Informative references

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

Processes condensing steam onto the surface of the materials or objects to be dried	<a href="#">F26B 3/00</a>
Details, component parts of blowers in general	<a href="#">F04D 29/00</a>
Valves in general	<a href="#">F16K</a>

## F26B 21/001

{Drying-air generating units, e.g. movable, independent of drying enclosure}

## References

### Informative references

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

Apparatus for drying pavement	<a href="#">E01C 23/14</a>
Drying of constructions, e.g. buildings	<a href="#">E04B 1/7015</a>

## F26B 21/006

{the gas supply or exhaust being effected through hollow spaces or cores in the materials or objects, e.g. tubes, pipes, bottles ([F26B 9/003](#) and [F26B 9/103](#) take precedence)}

## References

### Limiting references

*This place does not cover:*

Small self contained devices	<a href="#">F26B 9/003</a>
Drying air channels placed in a stack	<a href="#">F26B 9/103</a>

### Informative references

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

Drying footwear	<a href="#">A47L 23/20</a>
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**F26B 21/008**

{the objects being flexible articles, which may be blown up by the drying gas, e.g. tubes, sausage casings (fire hoses [A62C 33/02](#))}

**References****Informative references**

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

Drying fire hoses	<a href="#">A62C 33/02</a>
Providing support for textile articles to be dried, such as garments, gloves or stockings	<a href="#">D06F 59/00</a>

**F26B 21/08****Humidity****References****Informative references**

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

Separation of gases and vapours by absorption in general	<a href="#">B01D 53/14</a>
Drying gases	<a href="#">B01D 53/26</a>

**F26B 21/083**

{by using sorbent or hygroscopic materials, e.g. chemical substances, molecular sieves}

**References****Informative references**

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

Separation of gases and vapors by adsorption in general	<a href="#">B01D 53/02</a>
Drying gases by adsorption	<a href="#">B01D 53/261</a>

**F26B 21/086**

{by condensing the moisture in the drying medium, which may be recycled, e.g. using a heat pump cycle}

**References****Informative references**

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

Treatment of dryer exhaust gas by e.g. condensation	<a href="#">F26B 25/006</a>
Solvent recovery by condensation	<a href="#">B01D 5/00</a>
Solvent recovery by sublimation	<a href="#">B01D 7/00</a>

Separation of gases and vapours by condensation in general	<a href="#">B01D 53/002</a>
Drying gases by condensation	<a href="#">B01D 53/265</a>

## F26B 21/145

{Condensing the vapour onto the surface of the materials to be dried (using condensing steam [F26B 3/00](#); using chemical liquids [F26B 5/005](#))}

### References

#### Informative references

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

Processes condensing steam onto the surface of the materials or objects to be dried	<a href="#">F26B 3/00</a>
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## F26B 23/00

Heating arrangements ({by radiation, e.g. infra-red, ultra-violet, solar [F26B 3/28](#) and [F26B 3/30](#)} ; using heated air or gases [F26B 21/00](#))

### Definition statement

*This place covers:*

Heating arrangements providing a heat source for drying machines, located outside or within the drying enclosure. Drying air, gas, steam or vapour supply arrangements.

### References

#### Limiting references

*This place does not cover:*

Radiation heating the drying good	<a href="#">F26B 3/00</a>
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## F26B 23/001

{using waste heat}

### References

#### Informative references

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

Waste heat recuperation with combustion	<a href="#">F23G 2206/00</a>
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**F26B 23/02**

using combustion heating ({[F26B 3/305](#), [F26B 13/186](#), [F26B 21/001](#), } [F26B 23/10](#) take precedence)

**References****Limiting references**

*This place does not cover:*

Combustion for generating IR radiation, either through flame radiation or combustion heated tubes	<a href="#">F26B 3/305</a>
Heating rollers for drying materials of long length	<a href="#">F26B 13/186</a>
Drying-air generating units	<a href="#">F26B 21/001</a>

**Informative references**

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

Arrangements of gas flames for drying materials of long length	<a href="#">F26B 13/22</a>
Waste combustion control aspects	<a href="#">F23G 2207/00</a>
Regulating or controlling combustion	<a href="#">F23N</a>

**F26B 23/028**

{using solid fuel; burning the dried product}

**References****Informative references**

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

Using combustion flue gas to predry fuel	<a href="#">F23G 2206/10</a>
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**F26B 25/00**

Details of general application not covered by group [F26B 21/00](#) or [F26B 23/00](#) (loading, conveying, and unloading in general [B65G](#))

**Definition statement**

*This place covers:*

Details of machines or processes other than arrangements of drying air or gas supply or heating arrangements such as:

Cleaning arrangements, e.g. for drying chambers.

Loading, unloading and other handling of objects or materials to be dried or dried.

Treatment of dryer exhaust gases.

Seals, locks and air curtains for drying enclosures.

Alarm, safety and fire protection systems.

Driving mechanisms specific for drying machines.

Agitating, stirring or scraping devices.

Drying chambers and parts thereof.

Rollers, e.g. for conveying specific to drying machines and their requirements.

Controlling the drying process depending on the liquid content of dried material or wet material being charged.

## References

### Limiting references

*This place does not cover:*

Driving mechanisms for rotary drums, e.g. kiln	<a href="#">F26B 11/022</a>
Arrangements for gas sealing drum dryers, e.g. kilns	<a href="#">F26B 11/024</a>
Loading and unloading materials in rotary drums, e.g. kilns	<a href="#">F26B 11/026</a>
Seals, locks for web drying enclosures	<a href="#">F26B 13/005</a>
Rollers and driving mechanisms for rollers for drying material of long length	<a href="#">F26B 13/14</a>
Treatment of dryer exhaust gas through incineration of volatiles	<a href="#">F26B 13/22</a>
Loading and unloading of wicket conveyor	<a href="#">F26B 15/085</a>
Material feeding means for pneumatic, flash or vortex dryers	<a href="#">F26B 17/103</a>
Safety and fire protection system using inert gases	<a href="#">F26B 21/14</a>
Driving mechanisms covered by another subclass, e.g. regarding centrifuges	<a href="#">B04B 9/00</a>

### Informative references

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

Mixing or backmixing of wet materials to be charged, thus changing the liquid content	<a href="#">F26B 1/00</a>
Drying process involving brushing or wiping	<a href="#">F26B 5/14</a>
Stationary drying chamber with mechanical agitating device	<a href="#">F26B 9/082</a>
Loading and unloading materials in rotary drums, e.g. kilns	<a href="#">F26B 11/026</a>
Moving stirring devices in stationary drums	<a href="#">F26B 11/12</a>
Moving stirring devices in stationary dishes, tray or pans	<a href="#">F26B 11/22</a>
Arrangements for wiping material of long length, e.g. webs	<a href="#">F26B 13/28</a>
Scraping device to remove dried material from roller or disc, e.g. doctor blade	<a href="#">F26B 17/286</a>
Large containers having means for heating, cooling, aerating or other conditioning of contents	<a href="#">B65D 88/74</a>
Loading, conveying and unloading in general	<a href="#">B65G</a>
Driving mechanisms in connection with general conveying machines	<a href="#">B65G</a>

**F26B 25/002**

{for bulk goods ([F26B 17/103](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Loading and unloading materials in rotary drums, e.g. kilns	<a href="#">F26B 11/026</a>
Material feeding means for pneumatic, flash or vortex dryers	<a href="#">F26B 17/103</a>

**Informative references**

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

Loading and unloading materials in rotary drums, e.g. kilns	<a href="#">F26B 11/026</a>
Material feeding means for pneumatic, flash or vortex dryers	<a href="#">F26B 17/103</a>
Devices for feeding particles into and evacuation of particles out of the reactor	<a href="#">B01J 8/0015</a>

**F26B 25/008**

{Seals, locks, e.g. gas barriers or air curtains, for drying enclosures  
([F26B 11/024](#) and [F26B 13/005](#) take precedence)}

**References****Limiting references**

*This place does not cover:*

Arrangements for gas sealing drum dryers, e.g. kilns	<a href="#">F26B 11/024</a>
Seals, locks for web drying enclosures	<a href="#">F26B 13/005</a>

**Informative references**

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

Seals in general	<a href="#">F16J 15/00</a>
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