EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1644

DATE: AUGUST 1, 2024

PROJECT MP12027

The following classification changes will be effected by this Notice of Changes:

Action	**Subclass**	**Group(s)**
SCHEME:		
Titles Changed:	B03C	1/002
	B03C	3/025, 3/49, 3/885
	B03C	5/00, 5/005
	B03C	7/006
	B03C	2201/02, 2201/10, 2201/16, 2201/20, 2201/22, 2201/24, 2201/26, 2201/28
Warnings Deleted:	B03C	Subclass
Notes Modified:	B03C	5/00
DEFINITIONS:		
Definitions Deleted: (no frozen (F) symbol definitions should be deleted)	B03C	1/015
Definitions New:	B03C	1/035, 1/12, 1/20
	B03C	3/12, 3/51, 3/885
	B03C	5/026, 5/028
	B03C	7/00
Definitions Modified:	B03C	Subclass
	B03C	1/00, 1/002, 1/01, 1/025, 1/0337, 1/034, 1/10, 1/28, 1/30
	B03C	3/00, 3/017, 3/06, 3/09, 3/41, 3/49, 3/74, 3/746, 3/763, 3/78, 3/88
	B03C	5/00, 5/005
	B03C	9/00
	B03C	11/00

The following subclasses/groups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL): B01D35/00, G01N27/447

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

☒ A. New, Modified or Deleted Group(s)

☒ B. New, Modified or Deleted Warning(s)

☒ C. New, Modified or Deleted Note(s)

- ☐ D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS
   - ☒ A. New or Modified Definitions (Full definition template)
   - ☐ B. Modified or Deleted Definitions (Definitions Quick Fix)
3. ☐ REVISION CONCORDANCE LIST (RCL)
4. ☐ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
5. ☒ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS B03C - MAGNETIC OR ELECTROSTATIC SEPARATION OF SOLID MATERIALS FROM SOLID MATERIALS OR FLUIDS; SEPARATION BY HIGH-VOLTAGE ELECTRIC FIELDS (separating isotopes B01D 59/00; combinations of magnetic or electrostatic separation with separation of solids by other means B03B, B07B)

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
M	B03C1/002	1	{High gradient magnetic separation (acting directly on the substance being separated B03C 1/025; acting on the medium containing the substance being separated B03C 1/32)}	
M	B03C3/025	2	{Combinations of electrostatic separators, e.g. in parallel or in series, stacked separators or dry-wet separator combinations}	
M	B03C3/49	4	tubular	
M	B03C3/885	3	{by travelling or oscillating electric fields, e.g. electric field curtains}	
M	B03C5/00	0	Separating dispersed particles from liquids by electrostatic effect (combined with centrifuges B04B 5/10)	
M	B03C5/005	1	{Dielectrophoresis, i.e. dielectric particles migrating towards the region of highest field strength}	
M	B03C7/006	1	{Charging without electricity supply, e.g. by tribo-electricity or pyroelectricity}	
M	B03C2201/02	1	Electrostatic separation of liquids from liquids	
M	B03C2201/10	1	Ionising electrode with two or more serrated ends or sides	
M	B03C2201/16	1	Magnetic separation of gases from gases, e.g. oxygen from air	
M	B03C2201/20	1	Magnetic separation of bulk or dry particles in mixtures	
M	B03C2201/22	1	characterised by the magnetic field, e.g. its shape or generation	
M	B03C2201/24	1	for measuring or calculating of parameters, e.g. efficiency	
M	B03C2201/26	1	for use in medical or biological applications	

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Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	B03C2201/28	1	Parts being designed to be removed for cleaning purposes	

B. New, Modified or Deleted Warning(s)

SUBCLASS B03C - MAGNETIC OR ELECTROSTATIC SEPARATION OF SOLID MATERIALS FROM SOLID MATERIALS OR FLUIDS; SEPARATION BY HIGH-VOLTAGE ELECTRIC FIELDS (separating isotopes B01D 59/00; combinations of magnetic or electrostatic separation with separation of solids by other means B03B, B07B)

Type*	**Location**	**Old Warning**	**New/Modified Warning**
D	B03C	{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.}	Delete the entire Warning.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

C. New, Modified or Deleted Note(s)

SUBCLASS B03C - MAGNETIC OR ELECTROSTATIC SEPARATION OF SOLID MATERIALS FROM SOLID MATERIALS OR FLUIDS; SEPARATION BY HIGH-VOLTAGE ELECTRIC FIELDS (separating isotopes B01D 59/00; combinations of magnetic or electrostatic separation with separation of solids by other means B03B, B07B)

Type*	**Location**	**Old Note**	**New/Modified Note**
M	B03C5/00	In this group, the following term is used with the meaning indicated: • "separating" means dimensional modifications of particle-liquid distributions, e.g. particle immobilisation, caging, translational or rotational motion	{In this group, the following term is used with the meaning indicated: • "separating" includes separation of particles from liquids as is conventionally understood, as well as the immobilisation, caging, translation or rotational motion of particles}

*N = new note, M = modified note, D = deleted note

NOTE: The “Location” column only requires the symbol PRIOR to the location of the note. No further directions such as “before” or “after” are required.

2. A. DEFINITIONS (new)

B03C 1/035

Definition statement

This place covers:

Magnetic separators characterised by the configuration of an unobstructed or open gap employed within the magnetic field, such that the gap lacks a matrix element.

References

Informative references

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

High gradient magnetic separators	B03C 1/025

B03C 1/12

Definition statement

This place covers:

Magnetic separation with cylindrical material carriers in which either (a) the magnets are moving during operation or (b) the magnets include movable pole pieces during operation.

B03C 1/20

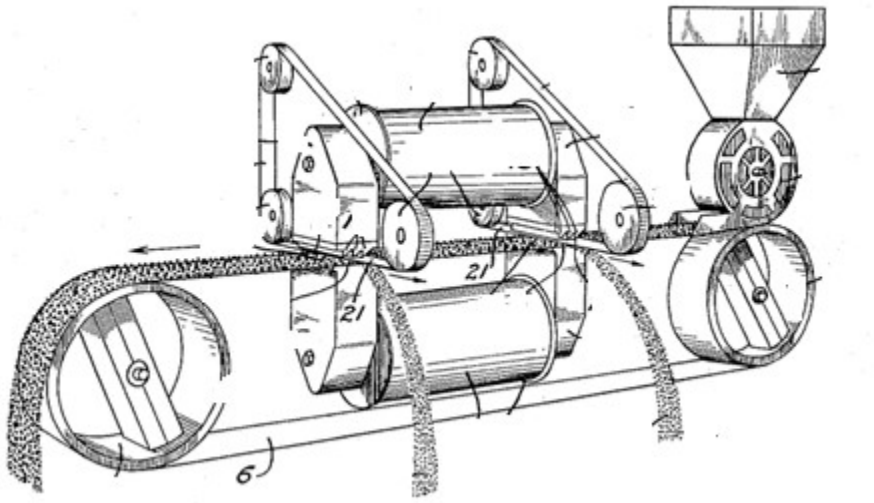
Definition statement

This place covers:

Magnetic separation with magnets moving during operation and with material carriers in the form of belts, e.g. of cross-belt type, multiple belt carriers characterised by their mutual disposition or combinations of magnetic separating belts with material carrying belts.

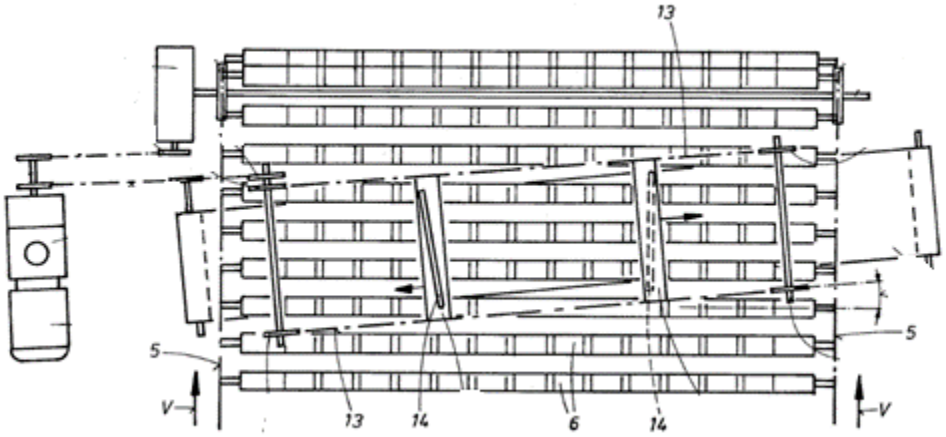
Illustrative examples of subject matter classified in this place:

1. Cross belt magnetic separator



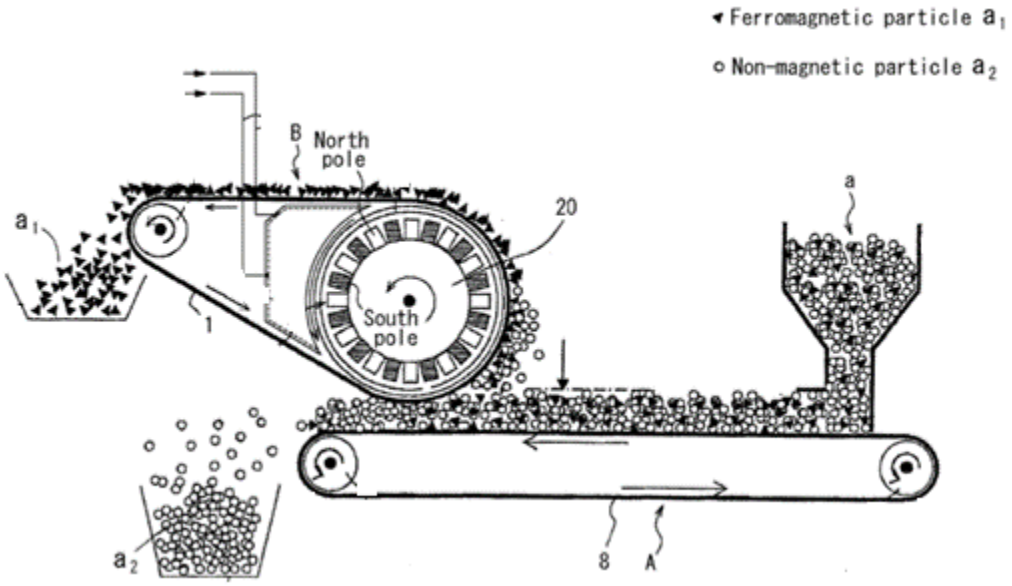
This example shows a cross belt magnetic separator having a main conveyor belt (6) and cross belts (21).

2. Multiple belt carriers



This example shows multiple belt carriers characterised by their mutual disposition in which magnetic bars (6) are moved by endless conveyor chains (5) and a set of conveyor chains (13) having drive scrapers (14) at an oblique angle with respect to the magnetic bars (6).

3. Combination of magnetic separating belts with material carrying belts



This example shows a combination of magnetic separating belts with material carrying belts in which a material carrying belt (8) is working in conjunction with another belt (1) that is magnetized by a magnetic roll (20).

B03C 3/12

Special rules of classification

The mere mentioning of separation between the ionizing and collecting stations does not justify classification in this place. The separation between the ionizing and collecting stations should be clearly illustrated or described.

B03C 3/51

Definition statement

This place covers:

Constructional details of a collecting-electrode where the collecting-electrode is a catch-space electrode used in separating dispersed particles from gases or vapor by electrostatic effect.

B03C 3/885

References

Informative references

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

Electrostatic non-mechanical conveyors	B65G 54/02

B03C 5/026

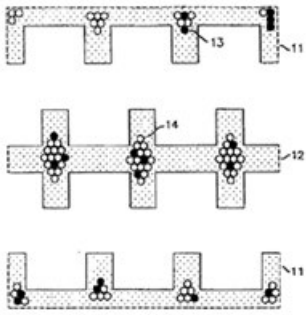
Definition statement

This place covers:

Devices for separating particles from fluids with electrodes arranged, such that an open-gradient electrostatic field is created.

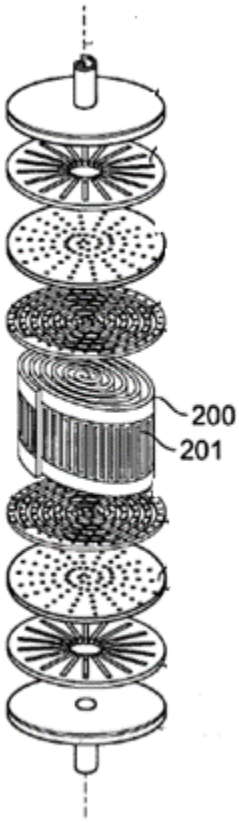
Illustrative examples of subject matter classified in this place:

1. Electrode arrangement having an open-gradient electrostatic field



This example shows an electrode arrangement comprising interdigitated electrodes (11) and (12) that create an open-gradient electrostatic field.

2. Fluid filter having a dielectrophoretically active electrode element



This example shows a fluid filter that includes a dielectrophoretically active electrode element comprising a coiled substrate (200) upon which a pair of electrode arrays (201) are disposed.

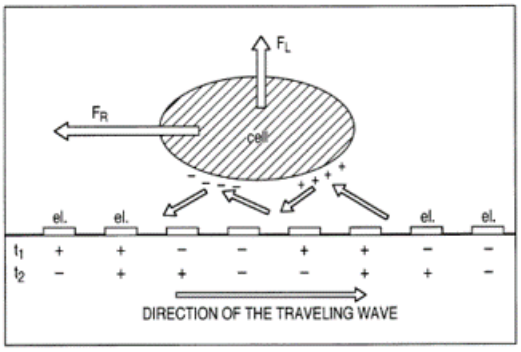
B03C 5/028

Definition statement

This place covers:

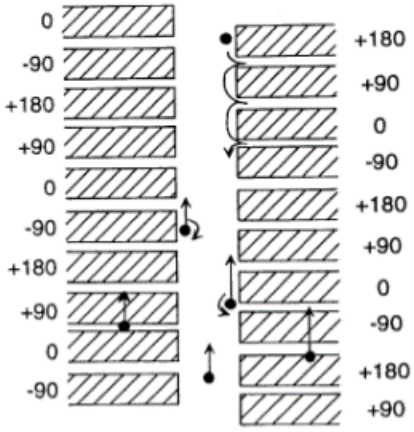
Illustrative examples of subject matter classified in this place:

1. Electrode arrangement having a time-varying electric field for movement of a biological cell



This example shows an electrode arrangement to which a time-varying electric field is applied for movement of a biological cell when polarised by the electric field.

2. Response of particles exposed to a travelling wave



This example shows the response of particles exposed to a travelling wave field with a phase shift in between neighbouring electrodes.

B03C 7/00

Definition statement

This place covers:

Separating solids from solids by electrostatic effect, e.g. separating particles.

Relationship with other classification places

Documents involving a carrier liquid are typically excluded from this place (B03C 7/00) for separating particles from a carrier liquid that belong in B03C 5/00.

2. A. DEFINITIONS (modified)

B03C

Relationships with other classification places

Delete: The last sentence of the Relationships section text so that the revised text appears as follows:

B01D is the general subclass for separation. This subclass, B03C, covers magnetic or electrostatic separation of solid materials from solid materials or fluids, as well as separation by high-voltage electric fields.

References

Limiting references

Replace: The Limiting references table with the following revised table:

Separating isotopes	B01D 59/00
Separating solid materials using liquids or using pneumatic tables or jigs	B03B
Separating solids from solids by sieving, screening, sifting or by using gas currents; Separating by other dry methods applicable to bulk material, e.g. loose articles fit to be handled like bulk material	B07B

Insert: The following new Glossary of terms section:

Glossary of terms

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

high-voltage	voltage of 1000V (RMS) or more for alternating current and 1500V or more for direct current

B03C 1/00

Informative references

Delete: The second symbol in the second row of the Informative references table so that the revised table appears as follows:

Separation, e.g. filters in general	B01D
Processes for separating dispersed particles from gases or vapours by gravity, inertia or centrifugal forces	B01D 45/00
Combinations of cyclones with filters, for separating particles from gases or vapours	B01D 50/00
Processes for separation of gases or vapours or for recovering vapours of volatile solvents from gases by centrifugal force	B01D 53/24
Flotation; Differential sedimentation	B03D
Devices for separating or removing fatty or oily substances or similar floating material from water, waste water or sewage	C02F 1/40
Device in sewers for separating liquid or solid substances from sewage	E03F 5/14
Chemical analysis of biological material	G01N 33/50
Measuring, investigating or testing electric or magnetic properties of materials	G01R
Materials for magnets or magnetic bodies	H01F 1/00

Special rules of classification

Replace: The Special rules text with the following revised text:

The following indexing codes are used:

- Magnetic separation of gases from gases, e.g. oxygen from air, is classified with indexing symbol B03C2201/16.
- Magnetic separation of particles suspended in a liquid is classified with indexing symbol B03C2201/18.
- Magnetic separation of bulk or dry particles in mixtures is classified with indexing symbol B03C2201/20.
- Magnetic separation characterised by magnetic field, special shape or generation is classified with indexing symbol B03C2201/22.
- Magnetic separation characterised by parts being designed to be removable for cleaning purposes is classified with indexing symbol B03C2201/28.
- Magnetic separation used in or with vehicles is classified with indexing symbol B03C2201/30.

B03C 1/002

Definition statement

Replace: The Definition statement text with the following revised text:

Magnetic separation methods that use high gradient magnetic fields.

B03C 1/01

Definition statement

Replace: The Definition statement text with the following revised text:

Pretreatment specially adapted for magnetic separation by addition of magnetic adjuvants that do not cause an advanced chemical reaction with the particles to be separated.

Insert: The following new References/Informative references section:

References

Informative references

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

Pretreatment specially adapted for magnetic separation by chemical treatment imparting magnetic properties to the material to be separated	B03C 1/015

B03C 1/015

Delete: The entire Definition.

B03C 1/025

Definition statement

Replace: The Definition statement text with the following revised text:

Magnetic separation devices that use high gradient magnetic fields, wherein matrix elements, e.g. of steel wool, are disposed within the magnetic fields.

B03C 1/0337

Delete: Only the Definition statement. The rest of the Definition should remain.

B03C 1/034

Definition statement

Replace: The Definition statement text with the following revised text:

Component parts or auxiliary operations of high gradient magnetic separators characterised by the matrix elements, e.g. details about the construction of the magnetic matrix elements.

References

Informative references

Replace: The text of the Informative references table so that it appears as follows:

High gradient separators having circulating matrix or matrix elements	B03C 1/029

B03C 1/10

Definition statement

Replace: The Definition statement text with the following revised text:

Magnetic separation in which either (a) the material to be separated or (b) the separated material is moved with cylindrical means, e.g. drums or discs.

References

Limiting references

Replace: The text of the Limiting references table so that it appears as follows:

Magnetic separation with material carried by travelling fields obtained by a rotating magnetic drum	B03C 1/247

Insert: The following new Informative references section:

Informative references

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

Cylindrical magnetic plugs and dipsticks	B03C 1/28

B03C 1/28

Definition statement

Replace: The Definition statement text with the following revised text:

Devices or methods for separating particles contained in a liquid by using magnetic plugs or dipsticks.

Insert: The following new References/Informative references section:

References

Informative references

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

Lubricating systems characterised by the provision therein of lubricant venting or purifying means, e.g. of filters	F01M 1/10
Arrangements for purifying liquid fuel specially adapted for, or arranged on, internal-combustion engines, e.g. arrangements in the feeding system	F02M 37/22

Special rules of classification

Replace: The second bullet point so that the Special rules section appears as follows:

The following indexing codes are used:

- Magnetic separation for particles suspended in a liquid is classified with indexing symbol B03C2201/18.
- Magnetic separation for use in medical or biological applications is classified with indexing symbol B03C2201/26.

B03C 1/30

Delete: The Definition statement section.

Insert: The following new Special rules section:

Special rules of classification

This place is used when the magnetic separation is part of a bigger process. However, documents disclosing the mere presence of a magnetic separation without details of the magnetic separator or of the magnetic separation process should not be classified in this place.

B03C 3/00

Special rules of classification

Replace: The third and fourth bullet points of the Special rules section text so that the entire text appears as follows:

When the electrostatic effect is not used for separating, it should not be classified here.

The following indexing codes are used:

- Electrostatic separation including cleaning of the device by burning trapped particles is classified with indexing symbol B03C2201/12.
- Electrostatic separation for gas that is moved electro-kinetically is classified with indexing symbol B03C2201/14.
- Electrostatic separation including measuring or calculating of parameters, e.g. efficiency, is classified with indexing symbol B03C2201/24.
- Electrostatic separation for use in medical or biological applications is classified with indexing symbol B03C2201/26.
- Electrostatic separation for use in or with vehicles is classified with indexing symbol B03C2201/30.
- Electrostatic separation including checking the quality of the result or the well-functioning of the device is classified with indexing symbol B03C2201/32.

Delete: The Glossary of terms section.

B03C 3/017

Delete: The Definition statement section.

Insert: The following new Special rules section:

Special rules of classification

This place is used when the electrostatic separation is part of a bigger, specified process, e.g. part of a medical apparatus. However, documents should not be classified in this place when no (sufficient) details of the electrostatic separation are disclosed.

B03C 3/06

Definition statement

Replace: The Definition statement text with the following revised text:

Devices wherein stationary tube electrodes are used, such as in a bundle of stationary tube electrodes.

B03C 3/09

Definition statement

Replace: The Definition statement text with the following revised text:

Dry type plants or installations having external electricity supply for separating of dispersed particles from gases or vapour by electrostatic effect, characterised by the presence of stationary flat electrodes arranged with their flat surfaces at right angles to the gas stream, e.g. where the gas stream is forced to change direction to flow between flat electrodes or where the gas stream passes through porous electrodes.

B03C 3/41

Special rules of classification

Replace: The Special rules text with the following revised text:

Indexing symbols B03C2201/04 – B03C2201/10 are used to describe the type of ionising electrode.

The following indexing codes are used:

- Ionising electrode wires are classified with indexing symbol B03C2201/04.
- Ionising electrode needles are classified with indexing symbol B03C2201/06.
- Ionising electrode rods are classified with indexing symbol B03C2201/08.
- Ionising electrodes including two or more serrated ends or sides are classified with indexing symbol B03C2201/10.

B03C 3/49

Delete: The Definition statement.

References

Delete: The Limiting references section.

Informative references

Replace: The Informative references table with the following revised table:

Devices wherein stationary tube electrodes are used, such as in a bundle of stationary tube electrodes	B03C 3/06
Collecting electrodes specially adapted for heat exchange with the gas stream	B03C 3/455

B03C 3/74

Special rules of classification

Replace: The Special rules text with the following revised text:

This subgroup covers the cleaning of the electrodes, and also includes all details about cleaning the interior of the ESP.

The following indexing codes are used:

- Cleaning the device by burning of trapped particles is classified with indexing symbol B03C2201/12.
- Parts designed to be removable for cleaning purposes is classified with indexing symbol B03C2201/28.
- Measuring or calculating of parameters, e.g. efficiency, is classified with indexing symbol B03C2201/24.
- Checking the quality of the result or the well-functioning of the device is classified with indexing symbol B03C2201/32.

B03C 3/746

References

Delete: The Limiting references section.

Insert: The following new Informative references section:

Informative references

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

Control systems for applications of electricity supply techniques, e.g. electricity supply or control systems of the ESP	B03C 3/68

B03C 3/763

References

Delete: The Limiting references section.

Insert: The following new Informative references section:

Informative references

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

Control systems for applications of electricity supply techniques, e.g. electricity supply or control systems of the ESP	B03C 3/68

B03C 3/78

Definition statement

Replace: The Definition statement text with the following revised text:

Devices or methods using a liquid where the purpose of the liquid is to clean the electrodes.

B03C 3/88

Definition statement

Replace: The Definition statement text with the following revised text:

Cleaning out collected particles that have already been removed from the electrodes or walls.

B03C 5/00

References

Limiting references

Replace: The Limiting references table with the following new table:

Centrifuges combined with other apparatus, e.g. electrostatic separators	B04B 5/10

Informative references

Replace: The Informative references table with the following new table:

Settling tanks making use of electricity or magnetism, e.g. for flocculation or agglomeration of electric particles	B01D 21/0009
Separation by electrophoresis, other than separation of solids, not fully covered by a single other group or subclass	B01D 57/02
Microreactors	B01J 19/0093
Apparatus for the treatment of microorganisms or enzymes with electrical or wave energy, e.g. magnetism, sonic waves	C12M 1/42
Treatment of microorganisms or enzymes with electrical or wave energy, e.g. magnetism, sonic waves	C12N 13/00
Measuring or testing processes involving enzymes, nucleic acids or microorganisms, for methods of sampling, or inoculating or spreading a sample, and for methods of physically isolating intact microorganisms	C12Q 1/24

Investigating or analysing materials by the use of electric, electro-chemical or magnetic means using electrophoresis	G01N 27/447
Analysis of biomaterial by electrical means	G01N 33/48707

Special rules of classification

Replace: The Special rules text with the following revised text:

The following indexing codes are used:

- Electrostatic separation, including measuring or calculating of parameters, e.g. efficiency, is classified with indexing symbol B03C2201/24.
- Electrostatic separation for use in medical or biological applications is classified with indexing symbol B03C2201/26.
- Electrostatic separation, including checking of the quality of the result or the well-functioning of the device, is classified with indexing symbol B03C2201/32.

Insert: The following new Glossary of terms section:

Glossary of terms

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

electrostatic field or electrostatic effect	caused by electric charges that are either stationary or move very slowly (no induced magnetic forces)
electrodynamic field or electrodynamic effect	caused by electric charges that are moving with high frequency, e.g. for creation of electromagnetic radiation from aerial or antenna
separating	includes separation of particles from liquids as is conventionally understood, as well as the immobilisation, caging, translation or rotational motion of particles

B03C 5/005

Definition statement

Replace: The Definition statement text with the following revised text:

Separating dispersed particles from liquids by electrostatic effect by using di-electrophoresis, or the motion of polarizable particles under the influence of an applied non-uniform electric field, with the force arising from the interaction of the field and the dipole moment induced in the particle.

References

Delete: The Limiting references section.

Informative references

Replace: The Informative references table with the following revised table:

Separator devices using di-electrophoresis in non-uniform electrostatic fields for separating dispersed particles from liquids	B03C 5/022
Separation by high-voltage electrical fields, not provided for in other groups of this subclass, such as separation of fluids from fluids by high-voltage electrical fields	B03C 11/00
Separation by electrophoresis, not fully covered by a single other group or subclass	B01D 57/02

B03C 9/00

References

References out of a residual place

Replace: The text of the second table row so that the entire table appears as follows:

Magnetic separation	B03C 1/00
Separating dispersed particles from gases or vapour, e.g. air, by electrostatic effect	B03C 3/00
Separating dispersed particles from liquids by electrostatic effect	B03C 5/00
Separating solids from solids by electrostatic effect	B03C 7/00

B03C 11/00

Special rules of classification

Replace: The Special rules text with the following revised text:

The following indexing code is used:

Electrostatically separating liquids from liquids, is classified with indexing symbol B03C2201/02.

Insert: The following new Glossary of terms section:

Glossary of terms

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

high-voltage	voltage of 1000V (RMS) or more for alternating current and 1500V or more for direct current

5. CROSS-REFERENCE LIST (CRL)

Definitions references impacted by this revision project

Location of reference to be changed	**Referenced subclass or group to be changed**	**Section of definition**	**Action; New reference symbol; New text**
B01D 35/00	B03C 5/00	Informative references	Replace the existing text and reference with the following: Separating dispersed particles from liquids by electrostatic effect B03C5/00
G01N 27/447	B03C 5/00	Informative references	Replace the existing text and reference with the following: Separating dispersed particles from liquids by electrostatic effect using dielectrophoresis B03C5/005

NOTES:

- The CRL table above is used for changes to locations **outside** of the project scope. Changes to references in scheme titles or definitions inside the project scope will be reflected in the "scheme change" template or one of the "definition" templates.
- In addition to other changes proposed in the tables above, in the column titled "Referenced subclass or group to be changed," **referenced** D symbols should indicate an action of "delete" or should indicate a replacement symbol and **referenced** F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.