

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SEPARATING; MIXING

B01 PHYSICAL OR CHEMICAL PROCESSES OR APPARATUS IN GENERAL

B01L CHEMICAL OR PHYSICAL LABORATORY APPARATUS FOR GENERAL USE (apparatus for medical or pharmaceutical purposes [A61](#); apparatus for industrial purposes or laboratory apparatus whose construction and performance are comparable to that of similar industrial apparatus, see the relevant classes for industrial apparatus, particularly subclasses of [B01](#) and [C12](#); separating or distilling apparatus [B01D](#); mixing or stirring devices [B01F](#); atomisers [B05B](#); {vibrating devices, e.g. shaking tables,} sieves [B07B](#); corks, bungs [B65D](#); handling liquids in general [B67](#); vacuum pumps [F04](#); siphons [F04F 10/00](#); taps, stop-cocks [F16K](#); tubes, tube joints [F16L](#); apparatus specially adapted for investigating or analysing materials [G01](#), particularly [G01N](#); electrical or optical apparatus, see the relevant classes in Sections [G](#) and [H](#))

NOTE

This subclass covers only laboratory apparatus which is either applicable solely to laboratory purposes or which, by reason of its simple construction and adaptability, is such as would not be suitable for industrial use.

WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
- [B01L 3/14](#) covered by [B01L 3/50](#)
- 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.

1/00 Enclosures; Chambers (fume cupboards [B08B](#); provided with manipulation devices, glove boxes [B25J](#); {industrial clean rooms [F24F 3/167](#); } cooling chambers [F25D](#))

WARNING

Group [B01L 1/00](#) is impacted by reclassification into group [B01L 1/52](#).

Groups [B01L 1/00](#) and [B01L 1/52](#) should be considered in order to perform a complete search.

- 1/02 . Air-pressure chambers; Air-locks therefor
- 1/025 . . {Environmental chambers (incubators for culturing cells [C12M 41/14](#); test chambers to test weather resistance [G01N 17/002](#))}
- 1/04 . Dust-free rooms or enclosures {(clean rooms suitable for industrial purposes [F24F 3/167](#))}
- 1/50 . {for storing hazardous materials in the laboratory, e.g. cupboards, waste containers (sample containers [B01L 3/50](#))}

1/52 . {Transportable laboratories; Field kits}

WARNING

Group [B01L 1/52](#) is incomplete pending reclassification of documents from groups [B01L 1/00](#) and [B01L 99/00](#).

Groups [B01L 1/00](#), [B01L 99/00](#), and [B01L 1/52](#) should be considered in order to perform a complete search.

3/00 Containers or dishes for laboratory use, e.g. laboratory glassware (bottles [B65D](#); apparatus for enzymology or microbiology {specially adapted for culturing} [C12M 1/00](#)); **Droppers** (receptacles for volumetric purposes [G01F](#))

- 3/02 . Burettes; Pipettes
- 3/0203 . . {Burettes, i.e. for withdrawing and redistributing liquids through different conduits}
- 3/0206 . . . {of the plunger pump type}
- 3/021 . . {Pipettes, i.e. with only one conduit for withdrawing and redistributing liquids}
- 3/0213 . . . {Accessories for glass pipettes; Gun-type pipettes, e.g. safety devices, pumps}
- 3/0217 . . . {of the plunger pump type (medical syringes [A61M](#))}

- 3/022 {Capillary pipettes, i.e. having very small bore ([B01L 3/0224](#) - [B01L 3/0237](#) take precedence)}
- 3/0224 {having mechanical means to set stroke length, e.g. movable stops ([B01L 3/0231](#), [B01L 3/0234](#) take precedence)}
- 3/0227 {Details of motor drive means ([B01L 3/0231](#), [B01L 3/0234](#) take precedence)}
- 3/0231 {having several coaxial pistons}
- 3/0234 {Repeating pipettes, i.e. for dispensing multiple doses from a single charge}
- 3/0237 {Details of electronic control, e.g. relating to user interface}
- 3/0241 . . {Drop counters; Drop formers (making arrays for combinatorial libraries [B01J 19/0046](#); automation of dispensing for analysis [G01N 35/10](#))}
- 3/0244 . . . {using pins}
- 3/0248 {Prongs, quill pen type dispenser}
- 3/0251 {Pin and ring type or pin in tube type dispenser}
- 3/0255 {characterized by the form or material of the pin tip}
- 3/0258 . . . {using stamps}
- 3/0262 . . . {using touch-off at substrate or container}
- 3/0265 . . . {using valves to interrupt or meter fluid flow, e.g. using solenoids or metering valves}
- 3/0268 . . . {using pulse dispensing or spraying, eg. inkjet type, piezo actuated ejection of droplets from capillaries}
- 3/0272 . . . {Dropper bottles}
- 3/0275 . . {Interchangeable or disposable dispensing tips}
- 3/0279 . . . {co-operating with positive ejection means}
- 3/0282 . . {mounted within a receptacle ([wash bottles B01L 3/10](#))}
- 3/0286 . . {Ergonomic aspects, e.g. form or arrangement of controls}
- 3/0289 . . {Apparatus for withdrawing or distributing predetermined quantities of fluid ([B01L 3/02](#) takes precedence; sample taking [G01N 1/00](#); sample taking within automatic analysers [G01N 35/00](#); volume measuring in general [G01F](#))}
- 3/0293 . . . {for liquids}
- 3/0296 {from piercable tubing, e.g. in extracorporeal blood sampling}
- 3/04 . . Crucibles
- 3/06 . . Crystallising dishes
- 3/08 . . Flasks ([specially adapted for distillation B01D B01D 3/10](#))}
- 3/10 . . Wash bottles
- 3/12 . . Gas jars or cylinders
- 3/16 . . Retorts
- 3/18 . . Spatulas
- 3/50 . . {Containers for the purpose of retaining a material to be analysed, e.g. test tubes ([devices for taking samples of blood A61B 5/15](#))}
- 3/502 . . {with fluid transport, e.g. in multi-compartment structures ([centrifugal-type cuvettes G01N 21/07](#); analysis by separation into components [G01N 30/00](#); automatic analysers [G01N 35/00](#))}
- 3/5021 . . . {Test tubes specially adapted for centrifugation purposes ([centrifuges B04B 5/04](#))}
- 3/50215 {using a float to separate phases}
- 3/5023 . . . {with a sample being transported to, and subsequently stored in an absorbent for analysis}
- 3/5025 . . . {for parallel transport of multiple samples}
- 3/50255 {Multi-well filtration}
- 3/5027 . . . {by integrated microfluidic structures, i.e. dimensions of channels and chambers are such that surface tension forces are important, e.g. lab-on-a-chip ([B01L 3/5023](#) takes precedence; micromixers [B01F 13/0059](#); microreactors for synthesis [B01J 19/0093](#); microcapillary devices in general [B81B 1/00](#))}
- 3/502707 {characterised by the manufacture of the container or its components ([manufacture of microstructural devices in general B81C](#); by shaping or joining plastic parts [B29C 59/00](#) [B29C 65/00](#), by laminating [B32B 37/00](#))}
- 3/502715 {characterised by interfacing components, e.g. fluidic, electrical, optical or mechanical interfaces}
- 3/502723 {characterised by venting arrangements}
- 3/50273 {characterised by the means or forces applied to move the fluids ([micropumps F04B 19/006](#), of the membrane type [F04B 43/043](#))}
- 3/502738 {characterised by integrated valves ([microvalves F16K 99/0001](#))}
- 3/502746 {characterised by the means for controlling flow resistance, e.g. flow controllers, baffles ([B01L 3/502738](#) takes precedence)}
- 3/502753 {characterised by bulk separation arrangements on lab-on-a-chip devices, e.g. for filtration or centrifugation ([separation in general B01D](#); microapparatus for analysis using electrophoresis [G01N 27/44791](#); sample preparation [G01N 1/28](#))}
- 3/502761 {specially adapted for handling suspended solids or molecules independently from the bulk fluid flow, e.g. for trapping or sorting beads, for physically stretching molecules ([investigating characteristics of particles G01N 15/00](#))}
- 3/502769 {characterised by multiphase flow arrangements}
- 3/502776 {specially adapted for focusing or laminating flows}
- 3/502784 {specially adapted for droplet or plug flow, e.g. digital microfluidics ([automatic analysis using a stream of discrete samples in a tube system G01N 35/08](#))}
- 3/502792 {for moving individual droplets on a plate, e.g. by locally altering surface tension}
- 3/5029 . . . {using swabs}
- 3/505 . . {flexible containers not provided for above}
- 3/5055 . . . {Hinged, e.g. opposable surfaces}
- 3/508 . . {rigid containers not provided for above}
- 3/5082 . . . {Test tubes [per se](#)}
- 3/50825 {Closing or opening means, corks, bungs ([closures for containers B65D](#); means for removing stoppers [B67B 7/02](#))}
- 3/5085 . . . {for multiple samples, e.g. microtitration plates}

- 3/50851 {specially adapted for heating or cooling samples (laboratory heating apparatus [B01L 7/00](#); incubators [C12M](#))}
- 3/50853 {with covers or lids}
- 3/50855 {using modular assemblies of strips or of individual wells}
- 3/50857 {using arrays or bundles of open capillaries for holding samples}
- 3/5088 . . . {confining liquids at a location by surface tension, e.g. virtual wells on plates, wires ([B01L 3/50857](#) takes precedence)}
- 3/52 . {Containers specially adapted for storing or dispensing a reagent ([B01L 3/02](#) takes precedence; containers for medical or pharmaceutical purposes [A61J 1/00](#); containers in general [B65D](#); storing or dispensing test elements [G01N 33/4875](#); automated reagent dispensing [G01N 35/1002](#))}
- 3/523 . . {with means for closing or opening}
- 3/527 . . {for a plurality of reagents}
- 3/54 . {Labware with identification means (identification of carriers, materials or components in automatic analysers [G01N 35/00732](#))}
- 3/545 . . {for laboratory containers}
- 3/5453 . . . {for test tubes}
- 3/5457 . . . {for container closures}
- 3/56 . {Labware specially adapted for transferring fluids}
- 3/561 . . {Tubes; Conduits (in general [F16L](#))}
- 3/563 . . {Joints or fittings (in general [F16L](#)); Separable fluid transfer means to transfer fluids between at least two containers, e.g. connectors}
- 3/5635 . . . {connecting two containers face to face, e.g. comprising a filter}
- 3/565 . . {Seals (in general [F16L](#))}
- 3/567 . . {Valves, taps or stop-cocks (in combination with burettes [B01L 3/0203](#); in general [F16K](#))}
- 3/569 . . {Glassware}
- 5/00 Gas handling apparatus** (gas jars or cylinders [B01L 3/12](#); cold traps, cold baffles [B01D 8/00](#); separation of gases or vapours [B01D 53/00](#); gas generators [B01J 7/00](#); steam traps [F16T](#))
- 5/02 . Gas collection apparatus, e.g. by bubbling under water (for sampling [G01N](#))
- 5/04 . Gas washing apparatus, e.g. by bubbling
- 7/00 Heating or cooling apparatus** (evaporators [B01D 1/00](#); drying gases or vapours, e.g. desiccators, [B01D 53/26](#); autoclaves [B01J 3/04](#); drying ovens [F26B](#); furnaces, ovens [F27](#)); **Heat insulating devices**
- 7/02 . Water baths; Sand baths; Air baths
- 7/04 . Heat insulating devices, e.g. jackets for flasks
- 7/50 . {Cryostats}
- 7/52 . {with provision for submitting samples to a predetermined sequence of different temperatures, e.g. for treating nucleic acid samples (amplification or hybridisation processes *per se* [C12Q 1/68](#); controlling sequential reactions for synthesis [B01J 19/0046](#))}
- 7/525 . . {with physical movement of samples between temperature zones}
- 7/5255 . . . {by moving sample containers}
- 7/54 . {using spatial temperature gradients}

9/00 Supporting devices; Holding devices (tweezers, tongs [B25B](#))

WARNING

Group [B01L 9/00](#) is impacted by reclassification into group [B01L 9/56](#).

Groups [B01L 9/00](#) and [B01L 9/56](#) should be considered in order to perform a complete search.

- 9/02 . Laboratory benches or tables; Fittings therefor
- 9/04 . Retort stands; Retort clamps
- 9/06 . Test-tube stands; Test-tube holders
- 9/065 . . {specially adapted for capillary tubes}
- 9/50 . {Clamping means, tongs (in general [F16B 2/06](#))}
- 9/52 . {Supports specially adapted for flat sample carriers, e.g. for plates, slides, chips}
- 9/523 . . {for multisample carriers, e.g. used for microtitration plates}
- 9/527 . . {for microfluidic devices, e.g. used for lab-on-a-chip}
- 9/54 . {Supports specially adapted for pipettes and burettes (automated pipetting stations [G01N 35/10](#))}
- 9/543 . . {for disposable pipette tips, e.g. racks or cassettes}
- 9/547 . . {for dispensing pins}
- 9/56 . {Means for indicating position of a recipient or sample in an array}

WARNING

Group [B01L 9/56](#) is incomplete pending reclassification of documents from groups [B01L 9/00](#) and [B01L 99/00](#).

Groups [B01L 9/00](#), [B01L 99/00](#), and [B01L 9/56](#) should be considered in order to perform a complete search.

13/00 {Cleaning or rinsing apparatus}

WARNING

Group [B01L 13/00](#) is incomplete pending reclassification of documents from group [B01L 99/00](#).

Groups [B01L 99/00](#) and [B01L 13/00](#) should be considered in order to perform a complete search.

- 13/02 . {for receptacle or instruments}

WARNING

Group [B01L 13/02](#) is incomplete pending reclassification of documents from group [B01L 99/00](#).

Groups [B01L 99/00](#) and [B01L 13/02](#) should be considered in order to perform a complete search.

99/00 Subject matter not provided for in other groups of this subclass

WARNING

Group [B01L 99/00](#) is impacted by reclassification into groups [B01L 1/52](#), [B01L 9/56](#), [B01L 13/00](#), and [B01L 13/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

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|----------------|---|----------------|--|
| 2200/00 | Solutions for specific problems relating to chemical or physical laboratory apparatus | 2300/02 | . Identification, exchange or storage of information |
| 2200/02 | . Adapting objects or devices to another | 2300/021 | . . Identification, e.g. bar codes |
| 2200/021 | . . Adjust spacings in an array of wells, pipettes or holders, format transfer between arrays of different size or geometry | 2300/022 | . . . Transponder chips |
| 2200/022 | . . . Variable spacings | 2300/023 | . . Sending and receiving of information, e.g. using bluetooth |
| 2200/023 | . . adapted for different sizes of tubes, tips or container | 2300/024 | . . Storing results with means integrated into the container |
| 2200/025 | . . Align devices or objects to ensure defined positions relative to each other | 2300/025 | . . Displaying results or values with integrated means |
| 2200/026 | . . Fluid interfacing between devices or objects, e.g. connectors, inlet details | 2300/026 | . . . Drum counters |
| 2200/027 | . . . for microfluidic devices | 2300/027 | . . . Digital display, e.g. LCD, LED |
| 2200/028 | . . Modular arrangements | 2300/028 | . . . Graduation |
| 2200/04 | . Exchange or ejection of cartridges, containers or reservoirs | 2300/04 | . Closures and closing means |
| 2200/06 | . Fluid handling related problems | 2300/041 | . . Connecting closures to device or container |
| 2200/0605 | . . Metering of fluids | 2300/042 | . . . Caps; Plugs |
| 2200/061 | . . Counting droplets | 2300/043 | . . . Hinged closures |
| 2200/0615 | . . Loss of fluid by dripping | 2300/044 | . . . pierceable, e.g. films, membranes |
| 2200/0621 | . . Control of the sequence of chambers filled or emptied | 2300/045 | . . . whereby the whole cover is slidable |
| 2200/0626 | . . using levitated droplets | 2300/046 | . . Function or devices integrated in the closure |
| 2200/0631 | . . Purification arrangements, e.g. solid phase extraction [SPE] | 2300/047 | . . . Additional chamber, reservoir |
| 2200/0636 | . . Focussing flows, e.g. to laminate flows | 2300/048 | . . . enabling gas exchange, e.g. vents |
| 2200/0642 | . . Filling fluids into wells by specific techniques | 2300/049 | . . . Valves integrated in closure |
| 2200/0647 | . . Handling flowable solids, e.g. microscopic beads, cells, particles | 2300/06 | . Auxiliary integrated devices, integrated components |
| 2200/0652 | . . . Sorting or classification of particles or molecules | 2300/0609 | . . Holders integrated in container to position an object |
| 2200/0657 | . . . Pipetting powder | 2300/0618 | . . . for removable separation walls |
| 2200/0663 | . . . Stretching or orienting elongated molecules or particles | 2300/0627 | . . Sensor or part of a sensor is integrated |
| 2200/0668 | . . . Trapping microscopic beads | 2300/0636 | . . . Integrated biosensor, microarrays |
| 2200/0673 | . . Handling of plugs of fluid surrounded by immiscible fluid | 2300/0645 | . . . Electrodes |
| 2200/0678 | . . Facilitating or initiating evaporation | 2300/0654 | . . . Lenses; Optical fibres |
| 2200/0684 | . . Venting, avoiding backpressure, avoid gas bubbles | 2300/0663 | . . . Whole sensors |
| 2200/0689 | . . Sealing | 2300/0672 | . . Integrated piercing tool |
| 2200/0694 | . . Creating chemical gradients in a fluid | 2300/0681 | . . Filter |
| 2200/08 | . Ergonomic or safety aspects of handling devices | 2300/069 | . . Absorbents; Gels to retain a fluid |
| 2200/082 | . . Handling hazardous material | 2300/08 | . Geometry, shape and general structure |
| 2200/085 | . . Protection against injuring the user | 2300/0803 | . . Disc shape |
| 2200/087 | . . Ergonomic aspects | 2300/0806 | . . . Standardised forms, e.g. compact disc [CD] format |
| 2200/10 | . Integrating sample preparation and analysis in single entity, e.g. lab-on-a-chip concept | 2300/0809 | . . rectangular shaped |
| 2200/12 | . Specific details about manufacturing devices | 2300/0812 | . . . Bands; Tapes |
| 2200/14 | . Process control and prevention of errors | 2300/0816 | . . . Cards, e.g. flat sample carriers usually with flow in two horizontal directions |
| 2200/141 | . . Preventing contamination, tampering | 2300/0819 | . . . Microarrays; Biochips |
| 2200/142 | . . Preventing evaporation | 2300/0822 | . . . Slides |
| 2200/143 | . . Quality control, feedback systems | 2300/0825 | . . . Test strips |
| 2200/145 | . . . Detecting door closure | 2300/0829 | . . . Multi-well plates; Microtitration plates |
| 2200/146 | . . . Employing pressure sensors | 2300/0832 | . . cylindrical, tube shaped |
| 2200/147 | . . . Employing temperature sensors | 2300/0835 | . . . Ampoules |
| 2200/148 | . . Specific details about calibrations | 2300/0838 | . . . Capillaries |
| 2200/16 | . Reagents, handling or storing thereof | 2300/0841 | . . . Drums |
| 2200/18 | . Transport of container or devices | 2300/0845 | . . . Filaments, strings, fibres, i.e. not hollow |
| 2200/185 | . . Long distance transport, e.g. mailing | 2300/0848 | . . Specific forms of parts of containers |
| 2300/00 | Additional constructional details | 2300/0851 | . . . Bottom walls |
| | | 2300/0854 | . . . Double walls |
| | | 2300/0858 | . . . Side walls |
| | | 2300/0861 | . . Configuration of multiple channels and/or chambers in a single devices |
| | | 2300/0864 | . . . comprising only one inlet and multiple receiving wells, e.g. for separation, splitting |
| | | 2300/0867 | . . . Multiple inlets and one sample wells, e.g. mixing, dilution |
| | | 2300/087 | . . . Multiple sequential chambers |

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|-----------|---|-----------|---|
| 2300/0874 | . . . Three dimensional network | 2400/0418 | electro-osmotic flow [EOF] |
| 2300/0877 | . . . Flow chambers | 2400/0421 | electrophoretic flow |
| 2300/088 | . . . Channel loops | 2400/0424 | Dielectrophoretic forces |
| 2300/0883 | . . . Serpentine channels | 2400/0427 | Electrowetting |
| 2300/0887 | . . Laminated structure | 2400/043 | . . . magnetic forces |
| 2300/089 | . . Virtual walls for guiding liquids | 2400/0433 | . . . vibrational forces |
| 2300/0893 | . . having a very large number of wells, microfabricated wells | 2400/0436 | acoustic forces, e.g. surface acoustic waves [SAW] |
| 2300/0896 | . . Nanoscaled | 2400/0439 | ultrasonic vibrations, vibrating piezo elements |
| 2300/10 | . Means to control humidity and/or other gases | 2400/0442 | . . . thermal energy, e.g. vaporisation, bubble jet |
| 2300/105 | . . using desiccants | 2400/0445 | Natural or forced convection |
| 2300/12 | . Specific details about materials | 2400/0448 | Marangoni flow; Thermocapillary effect |
| 2300/123 | . . Flexible; Elastomeric | 2400/0451 | Thermophoresis; Thermodiffusion; Soret-effect |
| 2300/126 | . . Paper | 2400/0454 | . . . radiation pressure, optical tweezers |
| 2300/14 | . Means for pressure control | 2400/0457 | . . . passive flow or gravitation |
| 2300/16 | . Surface properties and coatings | 2400/046 | . . . Chemical or electrochemical formation of bubbles |
| 2300/161 | . . Control and use of surface tension forces, e.g. hydrophobic, hydrophilic | 2400/0463 | . . . Hydrodynamic forces, venturi nozzles |
| 2300/163 | . . . Biocompatibility | 2400/0466 | . . . Evaporation to induce underpressure |
| 2300/165 | . . . Specific details about hydrophobic, oleophobic surfaces | 2400/0469 | . . . Buoyancy |
| 2300/166 | Suprahydrophobic; Ultraphobic; Lotus-effect | 2400/0472 | . . . Diffusion |
| 2300/168 | . . Specific optical properties, e.g. reflective coatings | 2400/0475 | . . specific mechanical means and fluid pressure |
| 2300/18 | . Means for temperature control | 2400/0478 | . . . pistons |
| 2300/1805 | . . Conductive heating, heat from thermostatted solids is conducted to receptacles, e.g. heating plates, blocks | 2400/0481 | . . . squeezing of channels or chambers |
| 2300/1811 | . . . using electromagnetic induction heating | 2400/0484 | . . . Cantilevers |
| 2300/1816 | . . . using induction heating | 2400/0487 | . . . fluid pressure, pneumatics |
| 2300/1822 | . . . using Peltier elements | 2400/049 | vacuum |
| 2300/1827 | . . . using resistive heater | 2400/0493 | . . Specific techniques used |
| 2300/1833 | . . using electrical currents in the sample itself | 2400/0496 | . . . Travelling waves, e.g. in combination with electrical or acoustic forces |
| 2300/1838 | . . using fluid heat transfer medium | 2400/06 | . Valves, specific forms thereof |
| 2300/1844 | . . . using fans | 2400/0605 | . . check valves |
| 2300/185 | . . . using a liquid as fluid | 2400/0611 | . . . duck bill valves |
| 2300/1855 | . . using phase changes in a medium | 2400/0616 | . . . Ball valves |
| 2300/1861 | . . using radiation | 2400/0622 | . . distribution valves, valves having multiple inlets and/or outlets, e.g. metering valves, multi-way valves |
| 2300/1866 | . . . Microwaves | 2400/0627 | . . Molecular gates forcing or inhibiting diffusion |
| 2300/1872 | . . . Infrared light | 2400/0633 | . . with moving parts |
| 2300/1877 | . . using chemical reactions | 2400/0638 | . . . membrane valves, flap valves |
| 2300/1883 | . . using thermal insulation | 2400/0644 | . . . rotary valves |
| 2300/1888 | . . Pipettes or dispensers with temperature control | 2400/065 | . . . sliding valves |
| 2300/1894 | . . Cooling means; Cryo cooling | 2400/0655 | . . . pinch valves |
| 2400/00 | Moving or stopping fluids | 2400/0661 | . . . shape memory polymer valves |
| 2400/02 | . Drop detachment mechanisms of single droplets from nozzles or pins | 2400/0666 | . . . Solenoid valves |
| 2400/021 | . . non contact spotting by inertia, i.e. abrupt deceleration of the nozzle or pin | 2400/0672 | . . . Swellable plugs |
| 2400/022 | . . droplet contacts the surface of the receptacle | 2400/0677 | . . phase change valves; Meltable, freezing, dissolvable plugs; Destructible barriers |
| 2400/024 | . . . touch-off at the side wall of the receptacle | 2400/0683 | . . . mechanically breaking a wall or membrane within a channel or chamber |
| 2400/025 | . . . tapping tip on substrate | 2400/0688 | . . surface tension valves, capillary stop, capillary break |
| 2400/027 | . . electrostatic forces between substrate and tip | 2400/0694 | . . vents used to stop and induce flow, backpressure valves |
| 2400/028 | . . Pin is moved through a ring which is filled with a fluid | 2400/08 | . Regulating or influencing the flow resistance |
| 2400/04 | . Moving fluids with specific forces or mechanical means | 2400/082 | . . Active control of flow resistance, e.g. flow controllers |
| 2400/0403 | . . specific forces | 2400/084 | . . Passive control of flow resistance |
| 2400/0406 | . . . capillary forces | 2400/086 | . . . using baffles or other fixed flow obstructions |
| 2400/0409 | . . . centrifugal forces | 2400/088 | . . . by specific surface properties |
| 2400/0412 | using additionally coriolis forces | | |
| 2400/0415 | . . . electrical forces, e.g. electrokinetic | | |