

# 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.

|             |   |        |  |
|-------------|---|--------|--|
| <b>1/00</b> | <b>Enclosures; Chambers</b> (fume cupboards <a href="#">B08B</a> ; provided with manipulation devices, glove boxes <a href="#">B25J</a> ; {industrial clean rooms <a href="#">F24F 3/167</a> ; } cooling chambers <a href="#">F25D</a> )  | 3/0213 | . . . {Accessories for glass pipettes; Gun-type pipettes, e.g. safety devices, pumps}  |
|             |   | 3/0217 | . . . {of the plunger pump type (medical syringes <a href="#">A61M</a> )}  |
| 1/02        | . Air-pressure chambers; Air-locks therefor   | 3/022  | . . . {Capillary pipettes, i.e. having very small bore ( <a href="#">B01L 3/0224</a> - <a href="#">B01L 3/0237</a> take precedence)}   |
| 1/025       | . . {Environmental chambers (incubators for culturing cells <a href="#">C12M 41/14</a> ; test chambers to test weather resistance <a href="#">G01N 17/002</a> )}  | 3/0224 | . . . {having mechanical means to set stroke length, e.g. movable stops ( <a href="#">B01L 3/0231</a> , <a href="#">B01L 3/0234</a> take precedence)}                          |
| 1/04        | . Dust-free rooms or enclosures {(clean rooms suitable for industrial purposes <a href="#">F24F 3/167</a> )}  | 3/0227 | . . . {Details of motor drive means ( <a href="#">B01L 3/0231</a> , <a href="#">B01L 3/0234</a> take precedence)}  |
| 1/50        | . {for storing hazardous materials in the laboratory, e.g. cupboards, waste containers (sample containers <a href="#">B01L 3/50</a> )}  | 3/0231 | . . . {having several coaxial pistons}   |
| 1/52        | . {Transportable laboratories; Field kits}  | 3/0234 | . . . {Repeating pipettes, i.e. for dispensing multiple doses from a single charge}  |
| <b>3/00</b> | <b>Containers or dishes for laboratory use, e.g. laboratory glassware</b> (bottles <a href="#">B65D</a> ; apparatus for enzymology or microbiology {specially adapted for culturing} <a href="#">C12M 1/00</a> ); <b>Droppers</b> (receptacles for volumetric purposes <a href="#">G01F</a> ) | 3/0237 | . . . {Details of electronic control, e.g. relating to user interface}   |
| 3/02        | . Burettes; Pipettes  | 3/0241 | . . {Drop counters; Drop formers (making arrays for combinatorial libraries <a href="#">B01J 19/0046</a> ; automation of dispensing for analysis <a href="#">G01N 35/10</a> )} |
| 3/0203      | . . {Burettes, i.e. for withdrawing and redistributing liquids through different conduits}  | 3/0244 | . . . {using pins}   |
| 3/0206      | . . . {of the plunger pump type}  | 3/0248 | . . . {Prongs, quill pen type dispenser}   |
| 3/021       | . . {Pipettes, i.e. with only one conduit for withdrawing and redistributing liquids}   | 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 pierceable tubing, e.g. in extracorporeal blood sampling}
- 3/04 . . Crucibles
- 3/06 . . Crystallising dishes
- 3/08 . . Flasks ([specially adapted for distillation 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 33/30](#); 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}   | <b>99/00</b>   | <b>Subject matter not provided for in other groups of this subclass</b>   |
| 3/5457       | . . . {for container closures}   |                |   |
| 3/56         | . {Labware specially adapted for transferring fluids}  | <b>2200/00</b> | <b>Solutions for specific problems relating to chemical or physical laboratory apparatus</b>                                |
| 3/561        | . . {Tubes; Conduits (in general F16L)}  | 2200/02        | . Adapting objects or devices to another  |
| 3/563        | . . {Joints or fittings (in general F16L); Separable fluid transfer means to transfer fluids between at least two containers, e.g. connectors}   | 2200/021       | . . Adjust spacings in an array of wells, pipettes or holders, format transfer between arrays of different size or geometry |
| 3/5635       | . . . {connecting two containers face to face, e.g. comprising a filter}   | 2200/022       | . . . Variable spacings   |
| 3/565        | . . {Seals (in general F16L)}  | 2200/023       | . . adapted for different sizes of tubes, tips or container   |
| 3/567        | . . {Valves, taps or stop-cocks (in combination with burettes B01L 3/0203; in general F16K)}   | 2200/025       | . . Align devices or objects to ensure defined positions relative to each other   |
| 3/569        | . . {Glassware}  | 2200/026       | . . Fluid interfacing between devices or objects, e.g. connectors, inlet details  |
| <b>5/00</b>  | <b>Gas handling apparatus</b> (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)   | 2200/027       | . . . for microfluidic devices  |
| 5/02         | . Gas collection apparatus, e.g. by bubbling under water (for sampling G01N)   | 2200/028       | . . Modular arrangements  |
| 5/04         | . Gas washing apparatus, e.g. by bubbling  | 2200/04        | . Exchange or ejection of cartridges, containers or reservoirs  |
| <b>7/00</b>  | <b>Heating or cooling apparatus</b> (evaporators B01D 1/00; drying gases or vapours, e.g. desiccators, B01D 53/26; autoclaves B01J 3/04; drying ovens F26B; furnaces, ovens F27); <b>Heat insulating devices</b>   | 2200/06        | . Fluid handling related problems   |
| 7/02         | . Water baths; Sand baths; Air baths   | 2200/0605      | . . Metering of fluids  |
| 7/04         | . Heat insulating devices, e.g. jackets for flasks   | 2200/061       | . . Counting droplets   |
| 7/50         | . {Cryostats}  | 2200/0615      | . . Loss of fluid by dripping   |
| 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)} | 2200/0621      | . . Control of the sequence of chambers filled or emptied   |
| 7/525        | . . {with physical movement of samples between temperature zones}  | 2200/0626      | . . using levitated droplets  |
| 7/5255       | . . . {by moving sample containers}  | 2200/0631      | . . Purification arrangements, e.g. solid phase extraction [SPE]  |
| 7/54         | . {using spatial temperature gradients}  | 2200/0636      | . . Focussing flows, e.g. to laminate flows   |
| <b>9/00</b>  | <b>Supporting devices; Holding devices</b> (tweezers, tongs B25B)  | 2200/0642      | . . Filling fluids into wells by specific techniques  |
| 9/02         | . Laboratory benches or tables; Fittings therefor  | 2200/0647      | . . Handling flowable solids, e.g. microscopic beads, cells, particles  |
| 9/04         | . Retort stands; Retort clamps   | 2200/0652      | . . . Sorting or classification of particles or molecules   |
| 9/06         | . Test-tube stands; Test-tube holders  | 2200/0657      | . . . Pipetting powder  |
| 9/065        | . . {specially adapted for capillary tubes}  | 2200/0663      | . . . Stretching or orienting elongated molecules or particles  |
| 9/50         | . {Clamping means, tongs (in general F16B 2/06)}   | 2200/0668      | . . . Trapping microscopic beads  |
| 9/52         | . {Supports specially adapted for flat sample carriers, e.g. for plates, slides, chips}  | 2200/0673      | . . Handling of plugs of fluid surrounded by immiscible fluid   |
| 9/523        | . . {for multisample carriers, e.g. used for microtitration plates}  | 2200/0678      | . . Facilitating or initiating evaporation  |
| 9/527        | . . {for microfluidic devices, e.g. used for lab-on-a-chip}  | 2200/0684      | . . Venting, avoiding backpressure, avoid gas bubbles   |
| 9/54         | . {Supports specially adapted for pipettes and burettes (automated pipetting stations G01N 35/10)}   | 2200/0689      | . . Sealing   |
| 9/543        | . . {for disposable pipette tips, e.g. racks or cassettes}   | 2200/0694      | . . Creating chemical gradients in a fluid  |
| 9/547        | . . {for dispensing pins}  | 2200/08        | . Ergonomic or safety aspects of handling devices   |
| 9/56         | . {Means for indicating position of a recipient or sample in an array}   | 2200/082       | . . Handling hazardous material   |
| <b>13/00</b> | <b>{Cleaning or rinsing apparatus}</b>   | 2200/085       | . . Protection against injuring the user  |
| 13/02        | . {for receptacle or instruments}  | 2200/087       | . . Ergonomic aspects   |
|              |  | 2200/10        | . Integrating sample preparation and analysis in single entity, e.g. lab-on-a-chip concept                                  |
|              |  | 2200/12        | . Specific details about manufacturing devices  |
|              |  | 2200/14        | . Process control and prevention of errors  |
|              |  | 2200/141       | . . Preventing contamination, tampering   |
|              |  | 2200/142       | . . Preventing evaporation  |
|              |  | 2200/143       | . . Quality control, feedback systems   |
|              |  | 2200/145       | . . . Detecting door closure  |
|              |  | 2200/146       | . . . Employing pressure sensors  |
|              |  | 2200/147       | . . . Employing temperature sensors   |
|              |  | 2200/148       | . . Specific details about calibrations   |
|              |  | 2200/16        | . Reagents, handling or storing thereof   |
|              |  | 2200/18        | . Transport of container or devices   |

|                |  |                |   |
|----------------|--|----------------|---|
| 2200/185       | . . Long distance transport, e.g. mailing  | 2300/0867      | . . . Multiple inlets and one sample wells, e.g. mixing, dilution   |
| <b>2300/00</b> | <b>Additional constructional details</b>   | 2300/087       | . . . Multiple sequential chambers  |
| 2300/02        | . Identification, exchange or storage of information   | 2300/0874      | . . . Three dimensional network   |
| 2300/021       | . . Identification, e.g. bar codes   | 2300/0877      | . . . Flow chambers   |
| 2300/022       | . . . Transponder chips  | 2300/088       | . . . Channel loops   |
| 2300/023       | . . Sending and receiving of information, e.g. using bluetooth                               | 2300/0883      | . . . Serpentine channels   |
| 2300/024       | . . Storing results with means integrated into the container                                 | 2300/0887      | . . Laminated structure   |
| 2300/025       | . . Displaying results or values with integrated means                                       | 2300/089       | . . Virtual walls for guiding liquids   |
| 2300/026       | . . . Drum counters  | 2300/0893      | . . having a very large number of wells, microfabricated wells  |
| 2300/027       | . . . Digital display, e.g. LCD, LED   | 2300/0896      | . . Nanoscaled  |
| 2300/028       | . . . Graduation   | 2300/10        | . Means to control humidity and/or other gases  |
| 2300/04        | . Closures and closing means   | 2300/105       | . . using desiccants  |
| 2300/041       | . . Connecting closures to device or container   | 2300/12        | . Specific details about materials  |
| 2300/042       | . . . Caps; Plugs  | 2300/123       | . . Flexible; Elastomeric   |
| 2300/043       | . . . Hinged closures  | 2300/126       | . . Paper   |
| 2300/044       | . . . pierceable, e.g. films, membranes  | 2300/14        | . Means for pressure control  |
| 2300/045       | . . . whereby the whole cover is slidable  | 2300/16        | . Surface properties and coatings   |
| 2300/046       | . . Function or devices integrated in the closure  | 2300/161       | . . Control and use of surface tension forces, e.g. hydrophobic, hydrophilic                                    |
| 2300/047       | . . . Additional chamber, reservoir  | 2300/163       | . . . Biocompatibility  |
| 2300/048       | . . . enabling gas exchange, e.g. vents  | 2300/165       | . . . Specific details about hydrophobic, oleophobic surfaces   |
| 2300/049       | . . . Valves integrated in closure   | 2300/166       | . . . . Suprahydrophobic; Ultraphobic; Lotus-effect   |
| 2300/06        | . Auxiliary integrated devices, integrated components  | 2300/168       | . . Specific optical properties, e.g. reflective coatings   |
| 2300/0609      | . . Holders integrated in container to position an object                                    | 2300/18        | . Means for temperature control   |
| 2300/0618      | . . . for removable separation walls   | 2300/1805      | . . Conductive heating, heat from thermostatted solids is conducted to receptacles, e.g. heating plates, blocks |
| 2300/0627      | . . Sensor or part of a sensor is integrated   | 2300/1811      | . . . using electromagnetic induction heating   |
| 2300/0636      | . . . Integrated biosensor, microarrays  | 2300/1816      | . . . using induction heating   |
| 2300/0645      | . . . Electrodes   | 2300/1822      | . . . using Peltier elements  |
| 2300/0654      | . . . Lenses; Optical fibres   | 2300/1827      | . . . using resistive heater  |
| 2300/0663      | . . . Whole sensors  | 2300/1833      | . . using electrical currents in the sample itself  |
| 2300/0672      | . . Integrated piercing tool   | 2300/1838      | . . using fluid heat transfer medium  |
| 2300/0681      | . . Filter   | 2300/1844      | . . . using fans  |
| 2300/069       | . . Absorbents; Gels to retain a fluid   | 2300/185       | . . . using a liquid as fluid   |
| 2300/08        | . Geometry, shape and general structure  | 2300/1855      | . . using phase changes in a medium   |
| 2300/0803      | . . Disc shape   | 2300/1861      | . . using radiation   |
| 2300/0806      | . . . Standardised forms, e.g. compact disc [CD] format                                      | 2300/1866      | . . . Microwaves  |
| 2300/0809      | . . rectangular shaped   | 2300/1872      | . . . Infrared light  |
| 2300/0812      | . . . Bands; Tapes   | 2300/1877      | . . using chemical reactions  |
| 2300/0816      | . . . Cards, e.g. flat sample carriers usually with flow in two horizontal directions        | 2300/1883      | . . using thermal insulation  |
| 2300/0819      | . . . Microarrays; Biochips  | 2300/1888      | . . Pipettes or dispensers with temperature control   |
| 2300/0822      | . . . Slides   | 2300/1894      | . . Cooling means; Cryo cooling   |
| 2300/0825      | . . . Test strips  | <b>2400/00</b> | <b>Moving or stopping fluids</b>  |
| 2300/0829      | . . . Multi-well plates; Microtitration plates   | 2400/02        | . Drop detachment mechanisms of single droplets from nozzles or pins  |
| 2300/0832      | . . cylindrical, tube shaped   | 2400/021       | . . non contact spotting by inertia, i.e. abrupt deceleration of the nozzle or pin                              |
| 2300/0835      | . . . Ampoules   | 2400/022       | . . droplet contacts the surface of the receptacle  |
| 2300/0838      | . . . Capillaries  | 2400/024       | . . . touch-off at the side wall of the receptacle  |
| 2300/0841      | . . . Drums  | 2400/025       | . . . tapping tip on substrate  |
| 2300/0845      | . . . Filaments, strings, fibres, i.e. not hollow  | 2400/027       | . . electrostatic forces between substrate and tip  |
| 2300/0848      | . . Specific forms of parts of containers  | 2400/028       | . . Pin is moved through a ring which is filled with a fluid  |
| 2300/0851      | . . . Bottom walls   | 2400/04        | . Moving fluids with specific forces or mechanical means  |
| 2300/0854      | . . . Double walls   | 2400/0403      | . . specific forces   |
| 2300/0858      | . . . Side walls   | 2400/0406      | . . . capillary forces  |
| 2300/0861      | . . Configuration of multiple channels and/or chambers in a single devices                   | 2400/0409      | . . . centrifugal forces  |
| 2300/0864      | . . . comprising only one inlet and multiple receiving wells, e.g. for separation, splitting |                |   |

- 2400/0412 . . . . using additionally coriolis forces
- 2400/0415 . . . electrical forces, e.g. electrokinetic
- 2400/0418 . . . . electro-osmotic flow [EOF]
- 2400/0421 . . . . electrophoretic flow
- 2400/0424 . . . . Dielectrophoretic forces
- 2400/0427 . . . . Electrowetting
- 2400/043 . . . magnetic forces
- 2400/0433 . . . vibrational forces
- 2400/0436 . . . . acoustic forces, e.g. surface acoustic waves [SAW]
- 2400/0439 . . . . ultrasonic vibrations, vibrating piezo elements
- 2400/0442 . . . thermal energy, e.g. vaporisation, bubble jet
- 2400/0445 . . . . Natural or forced convection
- 2400/0448 . . . . Marangoni flow; Thermocapillary effect
- 2400/0451 . . . . Thermophoresis; Thermodiffusion; Soret-effect
- 2400/0454 . . . radiation pressure, optical tweezers
- 2400/0457 . . . passive flow or gravitation
- 2400/046 . . . Chemical or electrochemical formation of bubbles
- 2400/0463 . . . Hydrodynamic forces, venturi nozzles
- 2400/0466 . . . Evaporation to induce underpressure
- 2400/0469 . . . Buoyancy
- 2400/0472 . . . Diffusion
- 2400/0475 . . specific mechanical means and fluid pressure
- 2400/0478 . . . pistons
- 2400/0481 . . . squeezing of channels or chambers
- 2400/0484 . . . Cantilevers
- 2400/0487 . . . fluid pressure, pneumatics
- 2400/049 . . . . vacuum
- 2400/0493 . . Specific techniques used
- 2400/0496 . . . Travelling waves, e.g. in combination with electrical or acoustic forces
- 2400/06 . . Valves, specific forms thereof
- 2400/0605 . . check valves
- 2400/0611 . . . duck bill valves
- 2400/0616 . . . Ball valves
- 2400/0622 . . distribution valves, valves having multiple inlets and/or outlets, e.g. metering valves, multi-way valves
- 2400/0627 . . Molecular gates forcing or inhibiting diffusion
- 2400/0633 . . with moving parts
- 2400/0638 . . . membrane valves, flap valves
- 2400/0644 . . . rotary valves
- 2400/065 . . . sliding valves
- 2400/0655 . . . pinch valves
- 2400/0661 . . . shape memory polymer valves
- 2400/0666 . . . Solenoid valves
- 2400/0672 . . . Swellable plugs
- 2400/0677 . . phase change valves; Meltable, freezing, dissolvable plugs; Destructible barriers
- 2400/0683 . . . mechanically breaking a wall or membrane within a channel or chamber
- 2400/0688 . . surface tension valves, capillary stop, capillary break
- 2400/0694 . . vents used to stop and induce flow, backpressure valves
- 2400/08 . . Regulating or influencing the flow resistance
- 2400/082 . . Active control of flow resistance, e.g. flow controllers
- 2400/084 . . Passive control of flow resistance
- 2400/086 . . . using baffles or other fixed flow obstructions
- 2400/088 . . . by specific surface properties