

# CPC COOPERATIVE PATENT CLASSIFICATION

## A HUMAN NECESSITIES

### HEALTH; AMUSEMENT

#### A61 MEDICAL OR VETERINARY SCIENCE; HYGIENE

**A61M DEVICES FOR INTRODUCING MEDIA INTO, OR ONTO, THE BODY** (introducing media into or onto the bodies of animals [A61D 7/00](#); means for inserting tampons [A61F 13/26](#); devices for administering food or medicines orally [A61J](#); containers for collecting, storing or administering blood or medical fluids [A61J 1/05](#)); **DEVICES FOR TRANSDUCING BODY MEDIA OR FOR TAKING MEDIA FROM THE BODY** (surgery [A61B](#); chemical aspects of surgical articles [A61L](#)); **DEVICES FOR PRODUCING OR ENDING SLEEP OR STUPOR** {(Electrotherapy, e.g. producing anaesthesia by the use of alternating or intermittent currents [A61N 1/36021](#))}

#### NOTES

1. This subclass covers suction, pumping or atomising devices for medical use (e.g. cups, breast relievers, irrigators, sprays, powder insufflators, atomisers, inhalers), apparatus for general or local anaesthetics, devices or methods for causing a change in the state of consciousness, catheters, dilators, apparatus for introducing medicines into the body other than orally
2. Void
3. When classifying in this group, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned

#### WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

<a href="#">A61M 1/18</a>	covered by	<a href="#">B01D 63/02</a> , <a href="#">B01D 63/04</a>
<a href="#">A61M 1/20</a>	covered by	<a href="#">B01D 63/06</a>
<a href="#">A61M 1/22</a>	covered by	<a href="#">B01D 63/08</a>
<a href="#">A61M 1/24</a>	covered by	<a href="#">B01D 63/10</a>
<a href="#">A61M 3/04</a>	covered by	<a href="#">A61M 3/02</a>
<a href="#">A61M 5/175</a>	covered by	<a href="#">A61M 5/168</a>
<a href="#">A61M 5/303</a>	covered by	<a href="#">A61M 5/30</a>
<a href="#">A61M 5/307</a>	covered by	<a href="#">A61M 5/30</a>
<a href="#">A61M 25/08</a>	covered by	<a href="#">A61M 25/0105</a>
<a href="#">A61M 25/082</a>	covered by	<a href="#">A61M 25/0116</a>
<a href="#">A61M 25/085</a>	covered by	<a href="#">A61M 25/0122</a>
<a href="#">A61M 25/088</a>	covered by	<a href="#">A61M 25/01</a>
<a href="#">A61M 25/092</a>	covered by	<a href="#">A61M 25/0133</a>
<a href="#">A61M 25/095</a>	covered by	<a href="#">A61M 25/01</a> , <a href="#">A61B 5/00</a> , <a href="#">A61N 1/056</a>
<a href="#">A61M 25/098</a>	covered by	<a href="#">A61M 25/0108</a>
<a href="#">A61M 25/12</a>	covered by	<a href="#">A61M 25/10</a> , <a href="#">A61M 29/02</a>
<a href="#">A61M 25/14</a>	covered by	<a href="#">A61M 25/0021</a>
<a href="#">A61M 25/16</a>	covered by	<a href="#">A61M 25/0009</a>
<a href="#">A61M 25/18</a>	covered by	<a href="#">A61M 25/0014</a>
<a href="#">A61M 29/04</a>	covered by	<a href="#">A61M 29/02</a>
<a href="#">A61M 36/00</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>
<a href="#">A61M 36/02</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>
<a href="#">A61M 36/04</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>
<a href="#">A61M 36/06</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a> , <a href="#">A61M 15/02</a>
<a href="#">A61M 36/08</a>	covered by	<a href="#">A61M 5/1785</a>
<a href="#">A61M 36/10</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>
<a href="#">A61M 36/12</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>
<a href="#">A61M 36/14</a>	covered by	<a href="#">A61M 37/0069</a> , <a href="#">A61N 5/10</a>

2. 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 Suction or pumping devices for medical purposes; Devices for carrying-off, for treatment of, or for carrying-over, body-liquids; Drainage systems** (catheters [A61M 25/00](#); tube connectors, tube couplings, valves or branch units specially adapted for medical use [A61M 39/00](#); devices for taking samples of blood [A61B 5/15](#); filters implantable into blood vessels [A61F 2/01](#))
- 1/02 . Blood transfusion apparatus (blood infusion by syringes [A61M 5/14](#))
- 1/0204 . . {Blood stirrers, e.g. for defibrination}
- 1/0209 . . {Multiple bag systems for separating or storing blood components}
- 1/0213 . . . {with isolated sections of the tube used as additive reservoirs}
- 1/0218 . . . {with filters}
- 1/0222 . . . . {and filter bypass}
- 1/0227 . . . . {and means for securing the filter against damage, e.g. during centrifugation}
- 1/0231 . . . {with gas separating means, e.g. air outlet through microporous membrane or gas bag}
- 1/0236 . . . {with sampling means, e.g. sample bag or sampling port}
- 1/024 . . {Means for controlling the quantity of transfused blood, e.g. by weighing the container and automatic stopping of the transfusion after reaching a determined amount}
- 1/0245 . . . {combined with blood container shaking means}
- 1/025 . . {Means for agitating or shaking blood containers ([A61M 1/0245](#) takes precedence; shaking in general [B01F 31/00](#))}
- 1/0254 . . . {with a support plate moving only in one plane, e.g. horizontal}
- 1/0259 . . {Apparatus for treatment of blood or blood constituents not otherwise provided for (for agitating [A61M 1/025](#); for separating blood components present in distinct layers in a container [A61M 1/029](#))}
- 1/0272 . . {Apparatus for treatment of blood or blood constituents prior to or for conservation, e.g. freezing, drying or centrifuging}
- 1/0277 . . . {Frames constraining or supporting bags, e.g. during freezing}
- 1/0281 . . {Apparatus for treatment of blood or blood constituents prior to transfusion, e.g. washing, filtering or thawing}
- 1/0286 . . {Handling a large number of blood product units, e.g. storage cabinets, blood bank administration}
- 1/029 . . {Separating blood components present in distinct layers in a container, not otherwise provided for (containers for storing blood or blood components [A61J 1/05](#); sampling or analysing blood by separating blood components [G01N 33/491](#))}
- 1/0295 . . . {whereby the blood container and a solution container are compressed simultaneously by the same means}
- 1/04 . {Artificial} pneumothorax apparatus
- 1/06 . Milking pumps
- 1/062 . . {Pump accessories}
- 1/064 . . . {Suction cups}
- 1/066 . . . . {Inserts therefor}
- 1/067 . . . {with means for hands-free operation}
- 1/068 . . . {having means for simultaneous feeding, e.g. with rubber nipple for feeding}
- 1/069 . . {Means for improving milking yield}
- 1/0693 . . . {with programmable or pre-programmed sucking patterns}
- 1/06935 . . . . {imitating the suckling of an infant}
- 1/0697 . . . {having means for massaging the breast}
- 1/08 . Cupping glasses {, i.e. for enhancing blood circulation}
- 1/14 . Dialysis systems; Artificial kidneys; Blood oxygenators (semi-permeable membranes characterised by the material, manufacturing processes therefor [B01D 71/00](#)); Reciprocating systems for treatment of body fluids, e.g. single needle systems for hemofiltration or pheresis}
- 1/15 . . {with a cassette forming partially or totally the flow circuit for the treating fluid, e.g. the dialysate fluid circuit or the treating gas circuit}
- 1/152 . . . {Details related to the interface between cassette and machine}
- 1/1522 . . . . {the interface being evacuated interfaces to enhance contact}
- 1/1524 . . . . {the interface providing means for actuating on functional elements of the cassette, e.g. plungers}
- 1/153 . . . {the cassette being adapted for heating or cooling the treating fluid, e.g. the dialysate or the treating gas}
- 1/154 . . . {with sensing means or components thereof}
- 1/155 . . . {with treatment-fluid pumping means or components thereof}
- 1/156 . . . {Constructional details of the cassette, e.g. specific details on material or shape}
- 1/1561 . . . . {at least one cassette surface or portion thereof being flexible, e.g. the cassette having a rigid base portion with preformed channels and being covered with a foil}
- 1/1562 . . . . {Details of incorporated reservoirs}
- 1/15625 . . . . . {the reservoirs acting as balance chambers}
- 1/1563 . . . . . {Details of incorporated filters}
- 1/15632 . . . . . {the filter being a dialyser}
- 1/1565 . . . . . {Details of valves}
- 1/1566 . . . . . {Means for adding solutions or substances to the treating fluid}
- 1/159 . . . {specially adapted for peritoneal dialysis}
- 1/16 . . with membranes
- 1/1601 . . . {Control or regulation}
- 1/1603 . . . . {Regulation parameters}
- 1/1605 . . . . . {Physical characteristics of the dialysate fluid}
- 1/1607 . . . . . {before use, i.e. upstream of dialyser}
- 1/1609 . . . . . {after use, i.e. downstream of dialyser}
- 1/1611 . . . . . {Weight of the patient}
- 1/1613 . . . . . {Profiling or modelling of patient or predicted treatment evolution or outcome}
- 1/1615 . . . . . {using measurements made at different flow rates}
- 1/1617 . . . . . {using measurements made during a temporary variation of a characteristic of the fresh dialysis fluid}
- 1/1619 . . . . . {Sampled collection of used dialysate, i.e. obviating the need for recovery of whole dialysate quantity for post-dialysis analysis}

- 1/1621 . . . {Constructional aspects thereof (semi-permeable membranes for separation processes characterised by their properties [B01D 69/00](#); semi permeable membranes characterised by their material [B01D 71/00](#))}
- 1/1623 . . . . {Disposition or location of membranes relative to fluids}
- 1/1625 . . . . . {Dialyser of the outside perfusion type, i.e. blood flow outside hollow membrane fibres or tubes}
- 1/1627 . . . . . {Dialyser of the inside perfusion type, i.e. blood flow inside hollow membrane fibres or tubes}
- 1/1629 . . . . {with integral heat exchanger}
- 1/1631 . . . . {having non-tubular membranes, e.g. sheets}
- 1/1633 . . . . {with more than one dialyser unit}
- 1/1635 . . . . {with volume chamber balancing devices between used and fresh dialysis fluid}
- 1/1637 . . . . . {containing the whole volume of dialysis fluid used during a treatment session}
- 1/1639 . . . . . {linked by membranes}
- 1/1641 . . . . . {linked by pistons}
- 1/1643 . . . . {with weighing of fresh and used dialysis fluid}
- 1/1645 . . . . {with mechanically linked peristaltic dialysis fluid pumps one upstream, the other one downstream of the dialyser}
- 1/1647 . . . . {with flow rate measurement of the dialysis fluid, upstream and downstream of the dialyser}
- 1/1649 . . . . {with pulsatile dialysis fluid flow}
- 1/165 . . . . {with a dialyser bypass on the dialysis fluid line}
- 1/1652 . . . . {Holding or locking systems for the membrane unit}
- 1/1654 . . . {Dialysates therefor}
- 1/1656 . . . . {Apparatus for preparing dialysates}
- 1/1657 . . . . . {with centralised supply of dialysate or constituent thereof for more than one dialysis unit}
- 1/1658 . . . . . {Degasification}
- 1/166 . . . . . {Heating (for sterilisation [A61M 1/1686](#))}
- 1/1662 . . . . . {with heat exchange between fresh and used dialysate}
- 1/1664 . . . . . {with temperature control}
- 1/1666 . . . . . {by dissolving solids}
- 1/1668 . . . . . {Details of containers}
- 1/167 . . . . . {Flexible packaging for solid concentrates}
- 1/1672 . . . . . {using membrane filters, e.g. for sterilising the dialysate}
- 1/1674 . . . . . {using UV radiation sources for sterilising the dialysate}
- 1/1676 . . . . {containing proteins, e.g. albumin}
- 1/1678 . . . {intracorporal (peritoneal dialysis [A61M 1/28](#))}
- 1/168 . . . {Sterilisation or cleaning before or after use}
- 1/1682 . . . . {both machine and membrane module, i.e. also the module blood side}
- 1/1684 . . . . . {Checking the module characteristics before reuse}
- 1/1686 . . . . {by heat}
- 1/1688 . . . . {with recirculation of the sterilising fluid}
- 1/169 . . . . {using chemical substances}
- 1/1692 . . . . {Detection of blood traces in dialysate}
- 1/1694 . . . . {with recirculating dialysing liquid}
- 1/1696 . . . . . {with dialysate regeneration}
- 1/1698 . . . . {Blood oxygenators with or without heat-exchangers (intracorporal [A61M 1/1678](#); manufacturing of membranes therefor [B01D 67/00](#); semi-permeable membranes for separation processes characterised by their properties [B01D 69/00](#); semi-permeable membranes characterised by their material [B01D 71/00](#))}
- 1/26 . . . . {and internal elements} which are moving
- 1/262 . . . . . {rotating}
- 1/265 . . . . . {inducing Taylor vortices}
- 1/267 . . . . . {used for pumping}
- 1/28 . . . Peritoneal dialysis {; Other peritoneal treatment, e.g. oxygenation}
- 1/281 . . . . {Instillation other than by gravity}
- 1/282 . . . . {Operational modes}
- 1/284 . . . . . {Continuous flow peritoneal dialysis [CFPD]}
- 1/285 . . . . {Catheters therefor}
- 1/287 . . . . {Dialysates therefor}
- 1/288 . . . . {Priming (priming in extracorporeal blood circuits [A61M 1/3643](#))}
- 1/30 . . . Single needle dialysis {; Reciprocating systems, alternately withdrawing blood from and returning it to the patient, e.g. single-lumen-needle dialysis or single needle systems for hemofiltration or pheresis}
- 1/301 . . . . {Details}
- 1/302 . . . . . {having a reservoir for withdrawn untreated blood}
- 1/303 . . . . . {having a reservoir for treated blood to be returned}
- 1/304 . . . . . {Treatment chamber used as reservoir, e.g. centrifuge bowl or filter with movable membrane}
- 1/305 . . . . . {Control of inversion point between collection and re-infusion phase}
- 1/306 . . . . . {Pressure control, e.g. using substantially rigid closed or gas buffered or elastic reservoirs}
- 1/307 . . . . . {Time control}
- 1/308 . . . . . {Volume control, e.g. with open or flexible containers, by counting the number of pump revolutions, weighing}
- 1/309 . . . . . {with trans-membrane pressure [TMP] increasing substantially continuously during arterial phase}
- 1/32 . . . Oxygenators without membranes
- 1/322 . . . . {Antifoam; Defoaming}
- 1/325 . . . . . {Surfactant coating; Improving wettability}
- 1/327 . . . . {using catalytic production of oxygen}
- 1/34 . . . Filtering material out of the blood by passing it through a membrane, i.e. hemofiltration or diafiltration
- 1/3401 . . . {Cassettes therefor}
- 1/3403 . . . {Regulation parameters}
- 1/3406 . . . . {Physical characteristics of the filtrate, e.g. urea}
- 1/341 . . . . {by measuring the filtrate rate or volume}
- 1/3413 . . . {Diafiltration}

- 1/3417 . . . {using distinct filters for dialysis and ultra-filtration}
- 1/342 . . {Adding solutions to the blood, e.g. substitution solutions (for preventing coagulation [A61M 1/3672](#))}
- 1/3424 . . . {Substitution fluid path}
- 1/3427 . . . . {back through the membrane, e.g. by inverted trans-membrane pressure [TMP]}
- 1/3431 . . . . {upstream of the filter}
- 1/3434 . . . . . {with pre-dilution and post-dilution}
- 1/3437 . . . . {downstream of the filter, e.g. post-dilution with filtrate}
- 1/3441 . . . {Substitution rate control as a function of the ultrafiltration rate}
- 1/3444 . . . . {in which the collected ultra-filtrate expels an equal volume of substitution fluid from a reservoir}
- 1/3448 . . . . {by mechanically linked pumps in both ultra-filtrate and substitution flow line}
- 1/3451 . . . . {the difference in weight between both ultra-filtrate and substitution reservoir being used as control signal}
- 1/3455 . . . {Substitution fluids}
- 1/3458 . . . . {having electrolytes not present in the dialysate}
- 1/3462 . . . . {Circuits for the preparation thereof}
- 1/3465 . . . . {using dialysate as substitution fluid}
- 1/3468 . . . . {using treated filtrate as substitution fluid}
- 1/3472 . . {with treatment of the filtrate}
- 1/3475 . . . {with filtrate treatment agent in the same enclosure as the membrane}
- 1/3479 . . . {by dialysing the filtrate}
- 1/3482 . . . {by filtrating the filtrate using another cross-flow filter, e.g. a membrane filter}
- 1/3486 . . . {Biological, chemical treatment, e.g. chemical precipitation; treatment by absorbents}
- 1/3489 . . . . {by biological cells, e.g. bioreactor}
- 1/3493 . . . {using treatment agents in suspension}
- 1/3496 . . {Plasmapheresis; Leucopheresis; Lymphopheresis ([A61M 1/3472](#) takes precedence)}
- 1/36 . . . Other treatment of blood in a by-pass of the natural circulatory system, e.g. temperature adaptation, irradiation {}; Extra-corporeal blood circuits}
- 1/3601 . . {Extra-corporeal circuits in which the blood fluid passes more than once through the treatment unit}
- 1/3603 . . . {in the same direction}
- 1/3604 . . . {in opposite directions}
- 1/3606 . . {Arrangements for blood-volume reduction of extra-corporeal circuits}
- 1/3607 . . {Regulation parameters}
- 1/3609 . . . {Physical characteristics of the blood, e.g. haematocrit, urea}
- 1/361 . . . . {before treatment}
- 1/3612 . . . . {after treatment}
- 1/3613 . . {Reperfusion, e.g. of the coronary vessels, e.g. retroperfusion}
- 1/3615 . . {Cleaning blood contaminated by local chemotherapy of a body part temporarily isolated from the blood circuit}
- 1/3616 . . {Batch-type treatment}
- 1/3618 . . {Magnetic separation}
- 1/362 . . {changing physical properties of target cells by binding them to added particles to facilitate their subsequent separation from other cells, e.g. immunoaffinity}
- 1/3621 . . . {Extra-corporeal blood circuits ([single-needle circuits A61M 1/30](#))}
- 1/3622 . . . {with a cassette forming partially or totally the blood circuit}
- 1/36222 . . . . {Details related to the interface between cassette and machine}
- 1/362223 . . . . . {the interface being evacuated interfaces to enhance contact}
- 1/362227 . . . . . {the interface providing means for actuating on functional elements of the cassette, e.g. plungers}
- 1/36223 . . . . {the cassette being adapted for heating or cooling the blood}
- 1/36224 . . . . {with sensing means or components thereof}
- 1/36225 . . . . {with blood pumping means or components thereof}
- 1/36226 . . . . {Constructional details of cassettes, e.g. specific details on material or shape}
- 1/362261 . . . . . {at least one cassette surface or portion thereof being flexible, e.g. the cassette having a rigid base portion with preformed channels and being covered with a foil}
- 1/362262 . . . . . {Details of incorporated reservoirs}
- 1/362263 . . . . . {Details of incorporated filters}
- 1/362264 . . . . . . {the filter being a blood filter}
- 1/362265 . . . . . {Details of valves}
- 1/362266 . . . . . {Means for adding solutions or substances to the blood}
- 1/3623 . . . {Means for actively controlling temperature of blood}
- 1/3624 . . . {Level detectors; Level control}
- 1/3626 . . . {Gas bubble detectors}
- 1/3627 . . . {Degassing devices; Buffer reservoirs; Drip chambers; Blood filters}
- 1/3629 . . . . {degassing by changing pump speed, e.g. during priming}
- 1/363 . . . . {Degassing by using vibrations}
- 1/3632 . . . . {Combined venous-cardiotomy reservoirs}
- 1/3633 . . . . {Blood component filters, e.g. leukocyte filters}
- 1/3635 . . . . . {Constructional details}
- 1/3636 . . . . . . {having a flexible housing}
- 1/3638 . . . . {with a vapour trap}
- 1/3639 . . . {Blood pressure control, pressure transducers specially adapted therefor}
- 1/3641 . . . . {Pressure isolators}
- 1/3643 . . . {Priming, rinsing before or after use}
- 1/3644 . . . . {Mode of operation}
- 1/3646 . . . . . {Expelling the residual body fluid after use, e.g. back to the body}
- 1/3647 . . . . . {with recirculation of the priming solution}
- 1/3649 . . . . . {using dialysate as priming or rinsing liquid}
- 1/365 . . . . . {through membranes, e.g. by inverted trans-membrane pressure [TMP]}
- 1/3652 . . . . . {using gas, e.g. air}
- 1/3653 . . . {Interfaces between patient blood circulation and extra-corporeal blood circuit}

- 1/3655 . . . . {Arterio-venous shunts or fistulae}
- 1/3656 . . . . {Monitoring patency or flow at connection sites; Detecting disconnections}
- 1/3658 . . . . . {Indicating the amount of purified blood recirculating in the fistula or shunt}
- 1/3659 . . . . . {Cannulae pertaining to extracorporeal circulation}
- 1/3661 . . . . . {for haemodialysis}
- 1/3663 . . . {Flow rate transducers; Flow integrators}
- 1/3664 . . . {for preparing cardioplegia solutions}
- 1/3666 . . . {Cardiac or cardiopulmonary bypass, e.g. heart-lung machines}
- 1/3667 . . . . . {with assisted venous return}
- 1/3669 . . . {Electrical impedance measurement of body fluids; transducers specially adapted therefor}
- 1/367 . . . {Circuit parts not covered by the preceding subgroups of group [A61M 1/3621](#)}
- 1/3672 . . {Means preventing coagulation}
- 1/3673 . . . {Anticoagulant coating, e.g. Heparin coating}
- 1/3675 . . . {Deactivation}
- 1/3676 . . . {by interposing a liquid layer between blood and air}
- 1/3678 . . {Separation of cells using wave pressure; Manipulation of individual corpuscles}
- 1/3679 . . {by absorption ([A61M 1/3675](#) takes precedence)}
- 1/3681 . . {by irradiation}
- 1/3683 . . . {using photoactive agents}
- 1/3686 . . . . {by removing photoactive agents after irradiation}
- 1/3687 . . {Chemical treatment ([A61M 1/3675](#) takes precedence)}
- 1/3689 . . . {by biological cells}
- 1/369 . . {Temperature treatment}
- 1/3692 . . {Washing or rinsing blood or blood constituents}
- 1/3693 . . {using separation based on different densities of components, e.g. centrifuging}
- 1/3695 . . . {with sedimentation by gravity}
- 1/3696 . . . {with means for adding or withdrawing liquid substances during the centrifugation, e.g. continuous centrifugation}
- 1/3698 . . . {Expressing processed fluid out from the turning rotor using another fluid compressing the treatment chamber; Variable volume rotors}
- 1/38 . . . Removing constituents from donor blood and {storing or} returning remainder to body {, e.g. for transfusion}
- 1/382 . . . {Optimisation of blood component yield}
- 1/385 . . . . {taking into account of the patient characteristics}
- 1/387 . . . . {taking into account of the needs or inventory}
- 1/60 . . {Containers for suction drainage, adapted to be used with an external suction source (containers not adapted for subjection to vacuum [A61M 1/69](#))}
- 1/602 . . {Mechanical means for preventing flexible containers from collapsing when vacuum is applied inside, e.g. stents}
- 1/604 . . {Bag or liner in a rigid container, with suction applied to both}
- 1/61 . . {Two- or three-bottle systems for underwater drainage, e.g. for chest cavity drainage}
- 1/62 . . {Containers comprising a bag in a rigid low-pressure chamber, with suction applied to the outside surface of the bag ([liners A61M 1/604](#))}
- 1/63 . . {with means for emptying the suction container, e.g. by interrupting suction}
- 1/631 . . . {Emptying the suction container without interrupting suction}
- 1/64 . . {Containers with integrated suction means (containers not adapted for subjection to vacuum [A61M 1/69](#))}
- 1/65 . . {the suction means being electrically actuated}
- 1/66 . . {Pre-evacuated rigid containers, e.g. Redon bottles}
- 1/67 . . {Containers incorporating a piston-type member to create suction, e.g. syringes ([cupping glasses A61M 1/08](#); with a flexible member creating suction [A61M 1/68](#))}
- 1/68 . . {Containers incorporating a flexible member creating suction}
- 1/682 . . . {bulb-type, e.g. nasal mucus aspirators}
- 1/684 . . . {bellows-type}
- 1/69 . . {Drainage containers not being adapted for subjection to vacuum, e.g. bags (devices worn by the patient for reception of urine [A61F 5/44](#))}
- 1/70 . . {Gravity drainage systems (drainage containers not being adapted for subjection to vacuum [A61M 1/69](#))}
- 1/71 . . {Suction drainage systems (containers therefor [A61M 1/60](#), [A61M 1/64](#); negative pressure wound therapy systems [A61M 1/90](#))}
- 1/72 . . {Cassettes forming partially or totally the fluid circuit}
- 1/73 . . {comprising sensors or indicators for physical values}
- 1/732 . . . {Visual indicating means for vacuum pressure}
- 1/734 . . . {Visual indicating means for flow}
- 1/74 . . {Suction control ([underwater drainage A61M 1/61](#))}
- 1/741 . . . {with means for varying suction manually}
- 1/7411 . . . . {by changing the size of a vent (in combination with changing the cross-section of the line [A61M 1/7413](#))}
- 1/7413 . . . . {by changing the cross-section of the line}
- 1/7415 . . . . . {by deformation of the fluid passage}
- 1/742 . . . {by changing the size of a vent ([A61M 1/7411](#) takes precedence)}
- 1/743 . . . {by changing the cross-section of the line, e.g. flow regulating valves ([A61M 1/7413](#) takes precedence)}
- 1/75 . . . {Intermittent or pulsating suction ([A61M 1/63](#), [A61M 1/772](#) take precedence)}
- 1/76 . . {Handpieces (specially for suction-irrigation [A61M 1/774](#), aspiration tips [A61M 1/84](#))}
- 1/77 . . {Suction-irrigation systems (aspiration tips supplying fluids [A61M 1/85](#); specific for negative pressure wound therapy [A61M 1/92](#); combined with tracheal tubes [A61M 16/0463](#))}
- 1/772 . . . {operating alternately}
- 1/774 . . . {Handpieces specially adapted for providing suction as well as irrigation, either simultaneously or independently}
- 1/777 . . . {Determination of loss or gain of body fluids due to suction-irrigation, e.g. during surgery}

- 1/78 . . {Means for preventing overflow or contamination of the pumping systems (combined with drainage containers [A61M 1/60](#))}
- 1/782 . . . {using valves with freely moving parts, e.g. float valves}
- 1/784 . . . {by filtering, sterilising or disinfecting the exhaust air, e.g. swellable filter valves}
- 1/785 . . . . {by heat}
- 1/79 . . {Filters for solid matter (specially adapted for dental use [A61C 17/065](#))}
- 1/80 . {Suction pumps ([A61M 1/64](#), [A61M 1/71](#), [A61M 60/00](#) take precedence)}
- 1/802 . . {by vacuum created above a liquid flowing from a closed container}
- 1/804 . . {using Laval or Venturi jet pumps}
- 1/81 . . {Piston pumps, e.g. syringes}
- 1/815 . . . {the barrel serving as aspiration container, e.g. in a breast pump}
- 1/82 . . {Membrane pumps, e.g. bulbs}
- 1/83 . {Tube strippers, i.e. for clearing the contents of the tubes}
- 1/84 . {Drainage tubes; Aspiration tips (for negative pressure wound therapy [A61M 1/90](#); for surgical cutting instruments [A61B 17/32](#))}
- 1/842 . . {rotating (continuously rotating surgical cutting instruments [A61B 17/32002](#))}
- 1/85 . . {with gas or fluid supply means, e.g. for supplying rinsing fluids or anticoagulants (for negative pressure wound therapy [A61M 1/92](#), [A61M 1/94](#); combined with tracheal tubes [A61M 16/0463](#); dental instruments with combined rinsing and aspirating [A61C 17/0208](#))}
- 1/86 . . {Connectors between drainage tube and handpiece, e.g. drainage tubes detachable from handpiece}
- 1/87 . . {Details of the aspiration tip, not otherwise provided for}
- 1/88 . {Draining devices having means for processing the drained fluid, e.g. an absorber (for liposuction [A61M 1/892](#))}
- 1/882 . . {Draining devices provided with means for releasing antimicrobial or gelation agents in the drained fluid}
- 1/884 . . {Draining devices provided with means for filtering out the harmless water content before discarding the drainage container}
- 1/89 . {Suction aspects of liposuction (surgical cutting instruments [A61B 17/32](#))}
- 1/892 . . {with treatment of the collected fat}
- 1/893 . . . {with extraction of specific components, e.g. of stem cells}
- 1/895 . . {with means for reinjection of collected fat}
- 1/90 . {Negative pressure wound therapy devices, i.e. devices for applying suction to a wound to promote healing, e.g. including a vacuum dressing}
- 1/91 . . {Suction aspects of the dressing}
- 1/912 . . . {Connectors between dressing and drainage tube}
- 1/913 . . . . {having a bridging element for transferring the reduced pressure from the connector to the dressing}
- 1/915 . . . {Constructional details of the pressure distribution manifold}
- 1/916 . . . {specially adapted for deep wounds}
- 1/917 . . . {specially adapted for covering whole body parts}
- 1/918 . . . {for multiple suction locations}
- 1/92 . . {with liquid supply means}
- 1/94 . . {with gas supply means}
- 1/95 . . {with sensors for exudate composition}
- 1/96 . . {Suction control thereof}
- 1/962 . . . {having pumping means on the suction site, e.g. miniature pump on dressing or dressing capable of exerting suction}
- 1/964 . . . {having venting means on or near the dressing}
- 1/966 . . . {having a pressure sensor on or near the dressing}
- 1/98 . . {Containers specifically adapted for negative pressure wound therapy}
- 1/982 . . . {with means for detecting level of collected exudate}
- 1/984 . . . {portable on the body}
- 1/985 . . . . {the dressing itself forming the collection container}
- Syringes; Irrigators; Baths for subaquatic intestinal cleaning**  
(other apparatus for introducing medicines into the body  
[A61M 29/00](#) - [A61M 37/00](#))
- 3/00 Medical syringes, e.g. enemata; Irrigators**  
([A61M 5/00](#) takes precedence; pistons [A61M 5/315](#))
- 3/005 . {comprising means for injection of two or more media, e.g. by mixing}
- 3/02 . Enemata; Irrigators
- 3/0201 . . {Cassettes therefor}
- 3/0202 . . {with electronic control means or interfaces}
- 3/0204 . . {Physical characteristics of the irrigation fluid, e.g. conductivity or turbidity}
- 3/0208 . . . {before use}
- 3/0212 . . . {after use}
- 3/0216 . . . {Pressure}
- 3/022 . . . {Volume; Flow rate}
- 3/0225 . . {Devices on which the patient can sit, e.g. mounted on a toilet bowl (combined with bidets [A61M 3/06](#)); Devices containing liquid pumped by the patient's weight}
- 3/0229 . . {Devices operating in a closed circuit, i.e. recycling the irrigating fluid}
- 3/0233 . . {characterised by liquid supply means, e.g. from pressurised reservoirs}
- 3/0237 . . . {the pressure being generated in the reservoir, e.g. by gas generating tablets}
- 3/0241 . . . {the liquid being supplied by gravity}
- 3/0245 . . . {Containers therefor, e.g. with heating means or with storage means for cannula}
- 3/025 . . . {supplied directly from the pressurised water source, e.g. with medicament supply (combined with bidets [A61M 3/06](#))}
- 3/0254 . . . {the liquid being pumped (by the patient's weight [A61M 3/0225](#))}
- 3/0258 . . . . {by means of electric pumps}
- 3/0262 . . . . {manually, e.g. by squeezing a bulb}
- 3/0266 . . {Stands, holders or storage means for irrigation devices (containers with storage means for cannula [A61M 3/0245](#))}
- 3/027 . . {Devices for holding the cannula in position, e.g. belts (cannula details [A61M 3/0279](#))}
- 3/0275 . . {Pulsating jets; Vibrating nozzles}

3/0279	. . {Cannula; Nozzles; Tips; their connection means}	5/1413	. . {Modular systems comprising interconnecting elements}
3/0283	. . . {with at least two inner passageways, a first one for irrigating and a second for evacuating (suction-irrigation systems <a href="#">A61M 1/77</a> ; aspiration tips with fluid supply means <a href="#">A61M 1/85</a> ; for negative pressure wound therapy <a href="#">A61M 1/92</a> )}	5/1414	. . {Hanging-up devices}
3/0287	. . . {with an external liquid collector}	5/1415	. . . {Stands, brackets or the like for supporting infusion accessories}
3/0291	. . . {with dilating fingers}	2005/1416	. . . . {placed on the body of the patient}
3/0295	. . . {with inflatable balloon}	5/1417	. . . {Holders or handles for hanging up infusion containers}
3/06	. . combined with bidets	5/1418	. . . {Clips, separators or the like for supporting tubes or leads}
<b>5/00</b>	<b>Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests</b> ({vaccination appliances for veterinary use <a href="#">A61D 1/025</a> }; tube connectors, tube couplings, valves or branch units specially adapted for medical use <a href="#">A61M 39/00</a> ; containers specially adapted for medical or pharmaceutical purposes <a href="#">A61J 1/00</a> ; {combinations of vial and syringe for mixing or transferring their contents <a href="#">A61J 1/20</a> ; holders for containers for collecting, storing or administering blood or medical fluids <a href="#">A61J 1/16</a> })	5/142	. . Pressure infusion, e.g. using pumps
5/001	. {Apparatus specially adapted for cleaning or sterilising syringes or needles}	<b>NOTE</b>	
5/002	. {Packages specially adapted therefor, e.g. for syringes or needles, kits for diabetics (needle protection, e.g. caps, <a href="#">A61M 5/3202</a> ; for sharps <a href="#">A61B 50/3001</a> )}		In this group, the following expression is used with the meaning indicated:
5/003	. . {Kits for diabetics}		• "pressure infusion" includes powered injection working at a controlled rate
2005/004	. . {Magazines with multiple needles directly inserted into an injection or infusion device, e.g. revolver-like magazines}	2005/14204	. . . {with gas-producing electrochemical cell}
2005/005	. . {Magazines with multiple ampoules directly inserted into an injection or infusion device, e.g. revolver-like magazines containing ampoules with or without needles}	2005/14208	. . . {with a programmable infusion control system, characterised by the infusion program}
2005/006	. {for gases, e.g. CO <sub>2</sub> }	5/14212	. . . {Pumping with an aspiration and an expulsion action}
5/007	. {for contrast media}	5/14216	. . . . {Reciprocating piston type}
5/008	. {Racks for supporting syringes or needles ( <a href="#">A61M 5/001</a> takes precedence)}	5/1422	. . . . {with double acting or multiple pistons}
5/14	. Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor	5/14224	. . . . {Diaphragm type}
2005/1401	. . {Functional features}	5/14228	. . . . {with linear peristaltic action, i.e. comprising at least three pressurising members or a helical member}
2005/1402	. . . {Priming}	<b>NOTE</b>	
2005/1403	. . . {Flushing or purging}		Pumps having tubular flexible working members <a href="#">F04B 43/08</a>
2005/1404	. . . {Keep vein-open rate [KVO], i.e. low flow rate}	5/14232	. . . . {Roller pumps}
2005/1405	. . . {Patient controlled analgesia [PCA]}	<b>NOTE</b>	
2005/1406	. . . {Minimizing backflow along the delivery catheter track}		Pumps having rollers for peristaltic action <a href="#">F04B 43/12</a>
5/1407	. . {Infusion of two or more substances}	5/14236	. . . . {Screw, impeller or centrifugal type pumps}
5/1408	. . . {in parallel, e.g. manifolds, sequencing valves (access sites <a href="#">A61M 39/02</a> ; tube connectors <a href="#">A61M 39/10</a> )}	5/1424	. . . . {Manually operated pumps}
5/1409	. . . {in series, e.g. first substance passing through container holding second substance, e.g. reconstitution systems (needle sets <a href="#">A61M 5/162</a> )}	5/14244	. . . {adapted to be carried by the patient, e.g. portable on the body}
5/141	. . {with capillaries for restricting fluid flow}	5/14248	. . . . {of the skin patch type}
5/1411	. . {Drip chambers ( <a href="#">A61M 5/162</a> , <a href="#">A61M 5/1689</a> , <a href="#">A61M 5/40</a> take precedence)}	2005/14252	. . . . . {with needle insertion means}
5/1412	. . {Burettes, measuring cylinders (for laboratory use <a href="#">B01L 3/02</a> )}	2005/14256	. . . . . {with means for preventing access to the needle after use}
		2005/1426	. . . . . {with means for preventing access to the needle after use}
		2005/14264	. . . . . {with means for compensating influence from the environment}
		2005/14268	. . . . . {with a reusable and a disposable component}
		2005/14272	. . . . . {for emergency, field or home use, e.g. self-contained kits to be carried by the doctor}
		5/14276	. . . . . {specially adapted for implantation}
		5/1428	. . . . . {with manual pumping action}
		2005/14284	. . . . . {with needle insertion means}
		2005/14288	. . . {Infusion or injection simulation}
		2005/14292	. . . . . {Computer-based infusion planning or simulation of spatio-temporal infusate distribution}
		2005/14296	. . . . . {Pharmacokinetic models}

- 5/145 . . . using pressurised reservoirs, e.g. pressurised by means of pistons
- 2005/14506 . . . . {mechanically driven, e.g. spring or clockwork}
- 2005/14513 . . . . {with secondary fluid driving or regulating the infusion}
- 5/1452 . . . . {pressurised by means of pistons}
- 5/14526 . . . . . {the piston being actuated by fluid pressure}
- 2005/14533 . . . . . {cam actuated}
- 5/1454 . . . . . {spring-actuated, e.g. by a clockwork}
- 5/14546 . . . . . {Front-loading type injectors}
- 2005/14553 . . . . . {comprising a pressure jacket}
- 5/1456 . . . . . {with a replaceable reservoir comprising a piston rod to be moved into the reservoir, e.g. the piston rod is part of the removable reservoir}
- 5/14566 . . . . . {with a replaceable reservoir for receiving a piston rod of the pump}
- 2005/14573 . . . . . {with a replaceable reservoir for quick connection/disconnection with a driving system}
- 5/1458 . . . . . {Means for capture of the plunger flange}
- 5/14586 . . . . . {pressurised by means of a flexible diaphragm}
- 5/14593 . . . . . {the diaphragm being actuated by fluid pressure}
- 5/148 . . . . . flexible, {e.g. independent bags} (A61M 5/155 takes precedence)
- 5/1483 . . . . . {using flexible bags externally pressurised by fluid pressure}
- 5/1486 . . . . . . {the bags being substantially completely surrounded by fluid}
- 5/152 . . . . . pressurised by contraction of elastic reservoirs {(containers for dispensing contents by contraction of an elastic bag provided therein, in general B65D 83/0061)}
- 5/155 . . . . . pressurised by gas {introduced into the reservoir}
- 5/158 . . . . . Needles {for infusions; Accessories therefor, e.g. for inserting infusion needles, or for holding them on the body}
- 2005/1581 . . . . . {Right-angle needle-type devices}
- 5/1582 . . . . . {Double lumen needles}
- 2005/1583 . . . . . {Needle extractors}
- 2005/1585 . . . . . {Needle inserters}
- 2005/1586 . . . . . {Holding accessories for holding infusion needles on the body}
- 2005/1587 . . . . . {suitable for being connected to an infusion line after insertion into a patient}
- 2005/1588 . . . . . {having means for monitoring, controlling or visual inspection, e.g. for patency check, avoiding extravasation}
- 5/162 . . . . . Needle sets, i.e. connections by puncture between reservoir and tube {; Connections between reservoir and tube (in jet-action syringes A61M 5/30; connectors for tubes having sealed ends and a needle for piercing them A61M 39/14)}
- 2005/1623 . . . . . {Details of air intake}
- 5/1626 . . . . . {Needle protectors therefor (in combination with syringes A61M 5/3202; protectors for sharps A61B 50/3001)}
- 5/165 . . . . . Filtering accessories, e.g. blood filters, filters for infusion liquids ((A61M 1/14) , A61M 1/34, {A61M 1/3627, A61M 1/3679, A61M 1/3687} take precedence; {needle sets with incorporated air inlet filters A61M 5/162})
- 2005/1652 . . . . . {Filter with duct, e.g. filtering element incorporated in a flow line, tube, duct}
- 2005/1655 . . . . . {Filter with fibers, e.g. filtering element in form of hollow fibers}
- 2005/1657 . . . . . {Filter with membrane, e.g. membrane, flat sheet type infusion filter}
- 5/168 . . . . . Means for controlling media flow to the body or for metering media to the body, e.g. drip meters, counters {; Monitoring media flow to the body (flow control in general G05D 7/00)}
- 5/16804 . . . . . {Flow controllers}
- 5/16809 . . . . . {by repeated filling and emptying of an intermediate volume (pressure infusion using positive displacement pumps A61M 5/142)}
- 5/16813 . . . . . {by controlling the degree of opening of the flow line}
- 5/16818 . . . . . {by changing the height of the reservoir}
- 5/16822 . . . . . {by controlling air intake into infusion reservoir (needle sets with air inlet A61M 5/162)}
- 5/16827 . . . . . {controlling delivery of multiple fluids, e.g. sequencing, mixing or via separate flow-paths (infusion of multiple fluids without using a controller A61M 5/1407)}
- 5/16831 . . . . . {Monitoring, detecting, signalling or eliminating infusion flow anomalies (low-level float-valves causing cut-off A61M 5/40; indicating or recording presence, absence or direction of flow in general G01P 13/0066)}
- 5/16836 . . . . . {by sensing tissue properties at the infusion site, e.g. for detecting infiltration (detecting tissue temperature for diagnostic purposes A61M 39/0247)}
- 5/1684 . . . . . {by detecting the amount of infusate remaining, e.g. signalling end of infusion}
- 5/16845 . . . . . {by weight}
- 5/1685 . . . . . {by detection of position of a floating member}
- 5/16854 . . . . . {by monitoring line pressure}
- 5/16859 . . . . . {Evaluation of pressure response, e.g. to an applied pulse}
- 2005/16863 . . . . . {Occlusion detection}
- 2005/16868 . . . . . {Downstream occlusion sensors}
- 2005/16872 . . . . . {Upstream occlusion sensors}
- 5/16877 . . . . . {Adjusting flow; Devices for setting a flow rate}
- 5/16881 . . . . . {Regulating valves (on-off valves, e.g. clamps A61M 39/28)}
- 5/16886 . . . . . {for measuring fluid flow rate, i.e. flowmeters}
- 5/1689 . . . . . {Drip counters}
- 5/16895 . . . . . {by monitoring weight change, e.g. of infusion container}
- 5/172 . . . . . electrical or electronic {(A61M 5/16804, A61M 5/16831 take precedence)}
- 5/1723 . . . . . {using feedback of body parameters, e.g. blood-sugar, pressure (measurement of body parameters A61B 5/00)}
- 2005/1726 . . . . . {the body parameters being measured at, or proximate to, the infusion site}

- 5/178 . Syringes
- 5/1782 . . {Devices aiding filling of syringes [in situ](#) (combination of a vial and a syringe for transferring or mixing their contents [A61J 1/2096](#), [B65B 3/003](#))}
- 5/1785 . . {comprising radioactive shield means (syringe shields or holders for storage of radioactive sources [G21F 5/018](#))}
- 2005/1787 . . {Syringes for sequential delivery of fluids, e.g. first medicament and then flushing liquid}
- 5/19 . . having more than one chamber {, e.g. including a manifold coupling two parallelly aligned syringes through separate channels to a common discharge assembly (surgical glue applicators [A61B 17/00491](#))}
- 5/20 . . Automatic syringes, e.g. with automatically actuated piston rod, with automatic needle injection, filling automatically ([A61M 5/142](#) {, [A61M 5/46](#)} take precedence; {hypodermic projectiles [F42B 12/54](#)})
- 2005/2006 . . . {Having specific accessories}
- 2005/2013 . . . . {triggering of discharging means by contact of injector with patient body}
- 2005/202 . . . . {cocking means, e.g. to bias the main drive spring of an injector}
- 2005/2026 . . . {Semi-automatic, e.g. user activated piston is assisted by additional source of energy}
- 5/2033 . . . {Spring-loaded one-shot injectors with or without automatic needle insertion (multishot dosing syringes [A61M 5/31525](#), [needle insertion only A61M 5/3287](#))}
- 5/204 . . . {connected to external reservoirs for multiple refilling}
- 5/2046 . . . {Media being expelled from injector by gas generation, e.g. explosive charge}
- 5/2053 . . . {Media being expelled from injector by pressurised fluid or vacuum (for infusion [A61M 5/145](#), [A61M 5/155](#))}
- 2005/206 . . . {With automatic needle insertion}
- 5/2066 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 2005/2073 . . . {preventing premature release, e.g. by making use of a safety lock}
- 2005/208 . . . . {Release is possible only when device is pushed against the skin, e.g. using a trigger which is blocked or inactive when the device is not pushed against the skin}
- 2005/2086 . . . {having piston damping means, e.g. axially or rotationally acting retarders}
- 2005/2093 . . . {including concentration setting means}
- 5/24 . . Ampoule syringes, i.e. syringes with needle for use in combination with replaceable ampoules or carpules, e.g. automatic {(ampoules or carpules [A61J 1/06](#))}
- 2005/2403 . . . {Ampoule inserted into the ampoule holder}
- 2005/2407 . . . . {from the rear}
- 2005/2411 . . . . {from the front}
- 2005/2414 . . . . {from the side}
- 2005/2418 . . . {comprising means for damping shocks on ampoule}
- 5/2422 . . . {using emptying means to expel or eject media, e.g. pistons, deformation of the ampoule, or telescoping of the ampoule}
- 5/2425 . . . . {by compression of deformable ampoule or carpule wall}
- 5/2429 . . . . {by telescoping of ampoules or carpules with the syringe body}
- 2005/2433 . . . {Ampoule fixed to ampoule holder}
- 2005/2437 . . . . {by clamping means}
- 2005/244 . . . . . {by flexible clip}
- 2005/2444 . . . . {by thread}
- 5/2448 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 2005/2451 . . . . {preventing delivery before mixing is completed, e.g. by locking mechanisms}
- 5/2455 . . . {with sealing means to be broken or opened}
- 5/2459 . . . . {upon internal pressure increase, e.g. pierced or burst ([A61M 5/2429](#) takes precedence)}
- 2005/2462 . . . . . {by displacing occluding plugs}
- 5/2466 . . . . {by piercing without internal pressure increase ([A61M 5/2429](#) takes precedence)}
- 2005/247 . . . . . {with fixed or steady piercing means, e.g. piercing under movement of ampoule}
- 2005/2474 . . . . . {with movable piercing means, e.g. ampoule remains fixed or steady}
- 2005/2477 . . . {comprising means to reduce play of ampoule within ampoule holder, e.g. springs}
- 2005/2481 . . . {comprising means for biasing the ampoule out of the ampoule holder}
- 2005/2485 . . . {Ampoule holder connected to rest of syringe}
- 2005/2488 . . . . {via rotation, e.g. threads or bayonet}
- 2005/2492 . . . . {via snap connection}
- 2005/2496 . . . . {via pivot}
- 5/28 . . Syringe ampoules or carpules, i.e. ampoules or carpules provided with a needle
- 5/281 . . . {using emptying means to expel or eject media, e.g. pistons, deformation of the ampoule, or telescoping of the ampoule}
- 5/282 . . . . {by compression of deformable ampoule or carpule wall}
- 5/283 . . . . {by telescoping of ampoules or carpules with the syringe body}
- 5/284 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 5/285 . . . {with sealing means to be broken or opened}
- 5/286 . . . . {upon internal pressure increase, e.g. pierced or burst ([A61M 5/283](#) takes precedence)}
- 2005/287 . . . . . {by displacing occluding plugs}
- 5/288 . . . . {by piercing without internal pressure increase ([A61M 5/283](#) takes precedence)}
- 5/30 . . Syringes for injection by jet action, without needle, e.g. for use with replaceable ampoules or carpules
- 5/3007 . . . {with specially designed jet passages at the injector's distal end}
- 5/3015 . . . {for injecting a dose of particles in form of powdered drug, e.g. mounted on a rupturable membrane and accelerated by a gaseous shock wave or supersonic gas flow ([cell injection devices C12M 3/006](#))}
- 2005/3022 . . . {Worn on the body, e.g. as patches (pressure infusion of the skin patch type [A61M 5/14248](#))}
- 5/31 . . Details
- 2005/3101 . . . {Leak prevention means for proximal end of syringes, i.e. syringe end opposite to needle mounting end}

2005/3103	. . . .	{Leak prevention means for distal end of syringes, i.e. syringe end for mounting a needle}	5/315	. . . .	Pistons; Piston-rods; Guiding, blocking or restricting the movement of the rod {or piston}; Appliances on the rod for facilitating dosing {; Dosing mechanisms}
2005/3104	. . . .	{Caps for syringes without needle}	5/31501	. . . .	{Means for blocking or restricting the movement of the rod or piston ( <a href="#">A61M 5/5013</a> takes precedence)}
2005/3106	. . . .	{Plugs for syringes without needle}	5/31505	. . . .	{Integral with the syringe barrel, i.e. connected to the barrel so as to make up a single complete piece or unit}
2005/3107	. . . .	{for needles}	2005/31506	. . . .	{formed as a single piece, e.g. moulded}
2005/3109	. . . .	{Caps sealing the needle bore by use of, e.g. air-hardening adhesive, elastomer or epoxy resin}	2005/31508	. . . .	{provided on the piston-rod}
2005/311	. . . .	{Plugs, i.e. sealing rods or stylets closing the bore of needles}	2005/3151	. . . .	{by friction}
2005/3112	. . . .	{Incorporating self-aspirating means, e.g. to provide flashback}	5/31511	. . . .	{Piston or piston-rod constructions, e.g. connection of piston with piston-rod ( <a href="#">A61M 5/5066</a> takes precedence)}
2005/3114	. . . .	{Filling or refilling}	5/31513	. . . .	{Piston constructions to improve sealing or sliding}
2005/3115	. . . .	{spring-assisted}	5/31515	. . . .	{Connection of piston with piston rod}
2005/3117	. . . .	{Means preventing contamination of the medicament compartment of a syringe}	2005/31516	. . . .	{reducing dead-space in the syringe barrel after delivery}
2005/3118	. . . .	{via the distal end of a syringe, i.e. syringe end for mounting a needle cannula}	2005/31518	. . . .	{designed to reduce the overall size of an injection device, e.g. using flexible or pivotally connected chain-like rod members}
2005/312	. . . .	{comprising sealing means, e.g. severable caps, to be removed prior to injection by, e.g. tearing or twisting}	2005/3152	. . . .	{including gearings to multiply or attenuate the piston displacing force}
2005/3121	. . . .	{via the proximal end of a syringe, i.e. syringe end opposite to needle cannula mounting end}	2005/31521	. . . .	{Pistons with a forward extending skirt at their front end}
2005/3123	. . . .	{having air entrapping or venting means, e.g. purging channels in pistons}	2005/31523	. . . .	{for reducing reflux}
2005/3125	. . . .	{specific display means, e.g. to indicate dose setting}	5/31525	. . . .	{Dosing ( <a href="#">burettes</a> , <a href="#">pipettes</a> <a href="#">B01L 3/02</a> )}
2005/3126	. . . .	{Specific display means related to dosing}	5/31526	. . . .	{by means of stepwise axial movements, e.g. ratchet mechanisms or detents}
2005/3128	. . . .	{Incorporating one-way valves, e.g. pressure-relief or non-return valves}	5/31528	. . . .	{by means of rotational movements, e.g. screw-thread mechanisms}
5/3129	. . . .	{Syringe barrels ( <a href="#">A61M 5/3205</a> and <a href="#">A61M 5/50</a> take precedence)}	5/3153	. . . .	{by single stroke limiting means}
2005/3131	. . . .	{specially adapted for improving sealing or sliding}	5/31531	. . . .	{Microsyringes, e.g. having piston bore diameter close or equal to needle shaft diameter}
2005/3132	. . . .	{having flow passages for injection agents at the distal end of the barrel to bypass a sealing stopper after its displacement to this end due to internal pressure increase}	5/31533	. . . .	{Dosing mechanisms, i.e. setting a dose ( <a href="#">administrating mechanisms</a> <a href="#">A61M 5/31565</a> )}
5/3134	. . . .	{characterised by constructional features of the distal end, i.e. end closest to the tip of the needle cannula}	5/31535	. . . .	{Means improving security or handling thereof, e.g. blocking means, means preventing insufficient dosing, means allowing correction of overset dose}
5/3135	. . . .	{characterised by constructional features of the proximal end}	5/31536	. . . .	{Blocking means to immobilize a selected dose, e.g. to administer equal doses}
5/3137	. . . .	{Specially designed finger grip means, e.g. for easy manipulation of the syringe rod}	5/31538	. . . .	{Permanent blocking, e.g. by medical personnel}
2005/3139	. . . .	{Finger grips not integrally formed with the syringe barrel, e.g. using adapter with finger grips}	2005/3154	. . . .	{limiting maximum permissible dose}
2005/314	. . . .	{Flat shaped barrel forms, e.g. credit card shaped}	5/31541	. . . .	{Means preventing setting of a dose beyond the amount remaining in the cartridge}
2005/3142	. . . .	{Modular constructions, e.g. supplied in separate pieces to be assembled by end-user}	5/31543	. . . .	{piston rod reset means, i.e. means for causing or facilitating retraction of piston rod to its starting position during cartridge change}
2005/3143	. . . .	{Damping means for syringe components executing relative movements, e.g. retarders or attenuators slowing down or timing syringe mechanisms}	5/31545	. . . .	{Setting modes for dosing}
5/3145	. . . .	{Filters incorporated in syringes}	5/31546	. . . .	{Electrically operated dose setting, e.g. input via touch screen or plus/minus buttons}
5/3146	. . . .	{Priming, e.g. purging, reducing backlash or clearance}			
5/3148	. . . .	{Means for causing or aiding aspiration or plunger retraction}			

5/31548 . . . . .	{Mechanically operated dose setting member}	5/31591 . . . . .	{Single dose, i.e. individually set dose administered only once from the same medicament reservoir, e.g. including single stroke limiting means}
5/3155 . . . . .	{by rotational movement of dose setting member, e.g. during setting or filling of a syringe}	5/31593 . . . . .	{Multi-dose, i.e. individually set dose repeatedly administered from the same medicament reservoir}
5/31551 . . . . .	{including axial movement of dose setting member}	5/31595 . . . . .	{Pre-defined multi-dose administration by repeated overcoming of means blocking the free advancing movement of piston rod, e.g. by tearing or de-blocking}
5/31553 . . . . .	{without axial movement of dose setting member}	5/31596 . . . . .	{comprising means for injection of two or more media, e.g. by mixing}
5/31555 . . . . .	{by purely axial movement of dose setting member, e.g. during setting or filling of a syringe}	2005/31598 . . . . .	{having multiple telescopically sliding coaxial pistons encompassing volumes for components to be mixed}
5/31556 . . . . .	{Accuracy improving means}	5/32 . . . . .	Needles; Details of needles pertaining to their connection with syringe or hub ( <a href="#">infusion needles A61M 5/158</a> ); Accessories for bringing the needle into, or holding the needle on, the body ( <a href="#">A61M 5/42</a> , <a href="#">A61M 5/46 take precedence</a> ; guide needles for catheters <a href="#">A61M 25/065</a> ); Devices for protection of needles ( <a href="#">apparatus specially adapted for cleaning or sterilising needles A61M 5/001</a> )
5/31558 . . . . .	{using scaling up or down transmissions, e.g. gearbox}	2005/3201 . . . . .	{Coaxially assembled needle cannulas placed on top of another, e.g. needles having different diameters}
5/3156 . . . . .	{using volume steps only adjustable in discrete intervals, i.e. individually distinct intervals}	5/3202 . . . . .	{Devices for protection of the needle before use, e.g. caps ( <a href="#">A61M 5/50 takes precedence</a> ; for infusion spikes <a href="#">A61M 5/1626</a> ; protectors for sharps <a href="#">A61B 50/3001</a> )}
5/31561 . . . . .	{using freely adjustable volume steps}	5/3204 . . . . .	{Needle cap remover, i.e. devices to dislodge protection cover from needle or needle hub, e.g. deshielding devices}
5/31563 . . . . .	{interacting with a displaceable stop member}	5/3205 . . . . .	{Apparatus for removing or disposing of used needles or syringes, e.g. containers; Means for protection against accidental injuries from used needles ( <a href="#">for sharps A61B 50/362</a> ; disintegrating apparatus in general <a href="#">B02C</a> , e.g. <a href="#">B02C 19/0075</a> , <a href="#">B23H 9/001</a> ; disposal of medical waste in general <a href="#">B09B 3/00</a> ; receptacles for refuse disposal in general <a href="#">B65F 1/00</a> )}
5/31565 . . . . .	{Administration mechanisms, i.e. constructional features, modes of administering a dose ( <a href="#">dosing mechanisms for setting a dose A61M 5/31533</a> )}	2005/3206 . . . . .	{Needle or needle hub disconnecting devices forming part of or being attached to the hub or syringe body}
5/31566 . . . . .	{Means improving security or handling thereof}	2005/3208 . . . . .	{by application of rotational movement to the needle hub, e.g. by use of electrically driven toothed wheels}
5/31568 . . . . .	{Means keeping track of the total dose administered, e.g. since the cartridge was inserted}	2005/3209 . . . . .	{comprising heat generating means, e.g. melt chamber}
5/3157 . . . . .	{Means providing feedback signals when administration is completed ( <a href="#">A61M 5/20 takes precedence</a> )}	5/321 . . . . .	{Means for protection against accidental injuries by used needles}
5/31571 . . . . .	{Means preventing accidental administration ( <a href="#">for automatic syringes A61M 5/20</a> )}	2005/3212 . . . . .	{Blunting means for the sharp end of the needle}
5/31573 . . . . .	{Accuracy improving means}	5/3213 . . . . .	{Caps placed axially onto the needle, e.g. equipped with finger protection guards ( <a href="#">axially-extensible protective sleeves A61M 5/3243</a> )}
5/31575 . . . . .	{using scaling up or down transmissions, e.g. gearbox}	2005/3215 . . . . .	{Tools enabling the cap placement}
5/31576 . . . . .	{Constructional features or modes of drive mechanisms for piston rods}	5/3216 . . . . .	{Caps placed transversally onto the needle, e.g. pivotally attached to the needle base}
5/31578 . . . . .	{based on axial translation, i.e. components directly operatively associated and axially moved with plunger rod}		
5/3158 . . . . .	{performed by axially moving actuator operated by user, e.g. an injection button}		
5/31581 . . . . .	{performed by rotationally moving or pivoting actuator operated by user, e.g. an injection lever or handle}		
5/31583 . . . . .	{based on rotational translation, i.e. movement of piston rod is caused by relative rotation between the user activated actuator and the piston rod}		
5/31585 . . . . .	{performed by axially moving actuator, e.g. an injection button}		
5/31586 . . . . .	{performed by rotationally moving or pivoted actuator, e.g. an injection lever or handle}		
2005/31588 . . . . .	{electrically driven}		
5/3159 . . . . .	{Dose expelling manners}		

2005/3217	. . . . .	{Means to impede repositioning of protection cap from needle covering to needle uncovering position, e.g. catch mechanisms}	2005/3238	. . . . .	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}
5/3219	. . . . .	{Semi-automatic repositioning of the cap, i.e. in which the repositioning of the cap to the needle covering position requires a deliberate action by the user to trigger the repositioning of the cap, e.g. manual release of spring-biased cap repositioning means}	2005/3239	. . . . .	{triggered by dislodgement of outer part anchoring the needle portion to the inside of the syringe barrel wall, e.g. a ring-shaped portion}
5/322	. . . . .	{Retractable needles, i.e. disconnected from and withdrawn into the syringe barrel by the piston (devices for protecting guide needles in combination with catheters <a href="#">A61M 25/0612</a> )}	2005/3241	. . . . .	{Needle retraction energy is accumulated inside of a hollow plunger rod}
5/3221	. . . . .	{Constructional features thereof, e.g. to improve manipulation or functioning}	2005/3242	. . . . .	{Needle retraction by vacuum}
2005/3223	. . . . .	{Means impeding or disabling repositioning of used needles at the syringe nozzle}	5/3243	. . . . .	{being axially-extensible, e.g. protective sleeves coaxially slidable on the syringe barrel (devices for protecting guide needles in combination with catheters <a href="#">A61M 25/0612</a> )}
2005/3224	. . . . .	{Means to disalign the needle tip and syringe nozzle}	5/3245	. . . . .	{Constructional features thereof, e.g. to improve manipulation or functioning}
2005/3226	. . . . .	{with means obstructing or blocking the needle mounting opening}	2005/3246	. . . . .	{being squeezably deformable for locking or unlocking purposes, e.g. with elliptical cross-section}
2005/3227	. . . . .	{the needle being retracted laterally outside the syringe barrel, e.g. with separate guideway}	2005/3247	. . . . .	{Means to impede repositioning of protection sleeve from needle covering to needle uncovering position}
2005/3228	. . . . .	{the needle being retracted by a member protruding laterally through a slot in the barrel, e.g. double-ended needles}	2005/3249	. . . . .	{Means to disalign the needle tip and the distal needle passage of a needle protection sleeve}
2005/323	. . . . .	{Connection between plunger distal end and needle hub proximal end, e.g. stud protruding from the plunger}	2005/325	. . . . .	{Means obstructing the needle passage at distal end of a needle protection sleeve}
2005/3231	. . . . .	{Proximal end of needle captured or embedded inside piston head, e.g. by friction or hooks}	2005/3252	. . . . .	{being extended by a member protruding laterally through a slot in the syringe barrel}
5/3232	. . . . .	{Semi-automatic needle retraction, i.e. in which triggering of the needle retraction requires a deliberate action by the user, e.g. manual release of spring-biased retraction means}	2005/3253	. . . . .	{disconnecting the needle hub from the syringe barrel during removal of the sleeve from the syringe barrel}
5/3234	. . . . .	{Fully automatic needle retraction, i.e. in which triggering of the needle does not require a deliberate action by the user}	2005/3254	. . . . .	{Shielding of proximal needles, e.g. for pen needles}
2005/3235	. . . . .	{triggered by radial deflection of the anchoring parts between needle mount and syringe barrel or needle housing, e.g. spreading of needle mount retaining hooks having slanted surfaces by engagement with correspondingly shaped surfaces on the piston at the end of an injection stroke}	2005/3256	. . . . .	{having folding ring sections}
2005/3236	. . . . .	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}	5/3257	. . . . .	{Semi-automatic sleeve extension, i.e. in which triggering of the sleeve extension requires a deliberate action by the user, e.g. manual release of spring-biased extension means}
			2005/3258	. . . . .	{being compressible or compressed along the needle}
			5/326	. . . . .	{Fully automatic sleeve extension, i.e. in which triggering of the sleeve does not require a deliberate action by the user}
			2005/3261	. . . . .	{triggered by radial deflection of the anchoring parts between sleeve and syringe barrel, e.g. spreading of sleeve retaining hooks having slanted surfaces by engagement with conically shaped collet of the piston rod during the last portion of the injection stroke of the plunger}
			2005/3263	. . . . .	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}

2005/3264	. . . . .	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}	5/3295	. . . . .	{Multiple needle devices, e.g. a plurality of needles arranged coaxially or in parallel}
2005/3265	. . . . .	{Degree of extension of sleeve to its needle covering position is progressively established by the degree of piston insertion into the syringe barrel}	5/3297	. . . . .	{Needles arranged coaxially}
2005/3267	. . . . .	{Biased sleeves where the needle is uncovered by insertion of the needle into a patient's body}	5/3298	. . . . .	{Needles arranged in parallel}
2005/3268	. . . . .	{having cantilever elastically spreadable arms, e.g. to accumulate energy during needle uncovering movement for urging protection sleeve to return to needle covering position}	5/34	. . . . .	Constructions for connecting the needle {, e.g. to syringe nozzle or needle hub ( <a href="#">connecting catheter tubes to hubs A61M 25/0014</a> )}
5/3269	. . . . .	{guided by means not coaxially aligned with syringe barrel, e.g. channel-like member formed on exterior surface of syringe barrel for guiding a pushing rod connected to and displacing needle safety sheath}	2005/341	. . . . .	{angularly adjustable or angled away from the axis of the injector}
5/3271	. . . . .	{with guiding tracks for controlled sliding of needle protective sleeve from needle exposing to needle covering position}	2005/342	. . . . .	{Off-center needles, i.e. needle connections not being coaxial with the longitudinal symmetry axis of syringe barrel}
5/3272	. . . . .	{having projections following labyrinth paths}	5/343	. . . . .	{Connection of needle cannula to needle hub, or directly to syringe nozzle without a needle hub ( <a href="#">A61M 5/322 takes precedence</a> )}
5/3273	. . . . .	{freely sliding on needle shaft without connection to syringe or needle}	5/344	. . . . .	{using additional parts, e.g. clamping rings or collets}
5/3275	. . . . .	{being connected to the needle hub or syringe by radially deflectable members, e.g. longitudinal slats, cords or bands}	5/345	. . . . .	{Adaptors positioned between needle hub and syringe nozzle}
5/3276	. . . . .	{Means imparting rotational movement to the needle or needle hub in order to assist in its disconnection from syringe nozzle}	5/346	. . . . .	{friction fit ( <a href="#">A61M 5/344 takes precedence</a> )}
5/3278	. . . . .	{Apparatus for destroying used needles or syringes ( <a href="#">needle resheathing means destroying the needle A61M 5/321</a> )}	5/347	. . . . .	{rotatable, e.g. bayonet or screw ( <a href="#">A61M 5/344 takes precedence</a> )}
2005/3279	. . . . .	{Breaking syringe nozzles or needle hubs}	5/348	. . . . .	{snap lock, i.e. upon axial displacement of needle assembly ( <a href="#">A61M 5/344 takes precedence</a> )}
2005/328	. . . . .	{having needle tip encapsulating means, e.g. two-component hardenable compound or molten plastic}	5/349	. . . . .	{using adhesive bond or glues}
2005/3282	. . . . .	{using mechanical means, e.g. mills}	5/36	. . . . .	with means for eliminating or preventing injection or infusion of air into body ( <a href="#">dialysis systems, blood oxygenators A61M 1/14; haemofiltration equipment A61M 1/34; {automatic tube cut-off A61M 39/281}</a> )
2005/3283	. . . . .	{using electric current between electrodes}	5/365	. . . . .	{Air detectors ( <a href="#">A61M 5/1684 takes precedence; in extracorporeal blood circuits A61M 1/3626</a> )}
2005/3284	. . . . .	{Deformation of needle by deflection or bending}	5/38	. . . . .	using hydrophilic or hydrophobic filters
5/3286	. . . . .	{Needle tip design, e.g. for improved penetration}	5/385	. . . . .	{using hydrophobic filters}
5/3287	. . . . .	{Accessories for bringing the needle into the body; Automatic needle insertion ( <a href="#">A61M 5/20, A61M 5/31525 take precedence</a> )}	5/40	. . . . .	using low-level float-valve to cut off media flow from reservoir ( <a href="#">position detection of a floating member A61M 5/1685</a> )}
2005/3289	. . . . .	{with rotation of the needle, e.g. to ease penetration}	5/42	. . . . .	having means for desensitising skin, for protruding skin to facilitate piercing, or for locating point where body is to be pierced
5/329	. . . . .	{characterised by features of the needle shaft}	5/422	. . . . .	{Desensitising skin}
5/3291	. . . . .	{Shafts with additional lateral openings}	5/425	. . . . .	{Protruding skin to facilitate piercing, e.g. vacuum cylinders, vein immobilising means}
5/3293	. . . . .	{characterised by features of the needle hub}	5/427	. . . . .	{Locating point where body is to be pierced, e.g. vein location means using ultrasonic waves, injection site templates}
5/3294	. . . . .	{comprising means for injection of two or more media, e.g. by mixing}	5/44	. . . . .	having means for cooling or heating the devices or media
			5/445	. . . . .	{the media being heated in the reservoir, e.g. warming bloodbags}
			5/46	. . . . .	having means for controlling depth of insertion
			5/48	. . . . .	having means for varying, regulating, indicating or limiting injection pressure ( <a href="#">A61M 5/142 takes precedence ; monitoring pressure in infusion systems A61M 5/16854</a> )
			5/482	. . . . .	{Varying injection pressure, e.g. by varying speed of injection}
			5/484	. . . . .	{Regulating injection pressure}
			5/486	. . . . .	{Indicating injection pressure}

- 5/488 . . {Limiting injection pressure}
- 5/50 . having means for preventing re-use, or for indicating if defective, used, tampered with or unsterile {(retractable needles or needle protectors with means for preventing re-use [A61M 5/321](#))}
- 2005/5006 . . {Having means for destroying the syringe barrel, e.g. by cutting or piercing}
- 5/5013 . . {Means for blocking the piston or the fluid passageway to prevent illegal refilling of a syringe}
- 5/502 . . . {for blocking the piston}
- 2005/5026 . . . . {allowing single filling of syringe}
- 2005/5033 . . . . {by use of an intermediate blocking member positioned between the syringe barrel and the piston rod to prevent retraction of the latter, e.g. toothed clip placed on the piston rod}
- 5/504 . . . {for blocking the fluid passageway}
- 2005/5046 . . . . {automatically, e.g. plug actuated by the piston head, one-way valve}
- 2005/5053 . . . . . {Valve or plug actuated by fluid flow or fluid pressure allowing initial filling of the syringe}
- 2005/506 . . . . . {Plug actuated by contact with fluid, e.g. hydrophilic expansion plug}
- 5/5066 . . {Means for preventing re-use by disconnection of piston and piston-rod}
- 2005/5073 . . . {by breaking or rupturing the connection parts}
- 5/508 . . {Means for preventing re-use by disrupting the piston seal, e.g. by puncturing}
- 5/5086 . . {for indicating if defective, used, tampered with or unsterile}
- 2005/5093 . . {including soluble mechanical parts}
- 5/52 . Arm-rests

### 9/00 Baths for subaquatic intestinal cleaning

### Sprayers; Atomisers; Insufflators

- 11/00 Sprayers or atomisers specially adapted for therapeutic purposes (in general [B05B](#); {aerosol containers [B65D 83/14](#)})**
- 11/001 . {Particle size control}
- 11/002 . . {by flow deviation causing inertial separation of transported particles}
- 11/003 . . {by passing the aerosol through sieves or filters}
- 11/005 . . {using ultrasonics (spraying or atomising liquids using ultrasonic vibrations in general [B05B 17/06](#))}
- 11/006 . . {operated by applying mechanical pressure to the liquid to be sprayed or atomised}
- 11/007 . . {Syringe-type or piston-type sprayers or atomisers}
- 11/008 . . {by squeezing, e.g. using a flexible bottle or a bulb}
- 11/02 . . operated by air {or other gas} pressure applied to the liquid {or other product} to be sprayed or atomised {(sprayers for horticulture [A01G](#), [A01H](#); killing insects [A01M](#); air humidifying by nozzles [F24F 6/14](#), [F24F 6/18](#); cooling by spraying [F28B](#), [F28C](#))}
- 11/04 . . operated by the vapour pressure of the liquid to be sprayed or atomised {(air-humidification, e.g. "room humidifiers" [F24F 6/00](#))}
- 11/041 . . {using heaters}
- 11/042 . . . {electrical}
- 11/044 . . . . {with electrodes immersed in the liquid}

- 11/045 . . . . {using another liquid as heat exchanger, e.g. bain-marie}
- 11/047 . . . . {by exothermic chemical reaction}
- 11/048 . . . . {with a flame, e.g. using a burner}
- 11/06 . . of the injector type
- 11/065 . . {using steam as driving gas}
- 11/08 . . Pocket atomisers of the injector type {(aerosol cans [A61M 15/009](#))}

### 13/00 Insufflators for therapeutic or disinfectant purposes {, i.e. devices for blowing a gas, powder or vapour into the body (hand-held units in which gas flow is produced by muscular energy at the moment of use [B05B 11/062](#))}

- 13/003 . . {Blowing gases other than for carrying powders, e.g. for inflating, dilating or rinsing}
- 13/006 . . {with gas recirculation}

### Inhaling devices

- 15/00 Inhalators {(drug delivery in endotracheal tubes [A61M 16/04](#))}**
- 15/0001 . . {Details of inhalators; Constructional features thereof}
- 15/0003 . . {with means for dispensing more than one drug}
- 15/0005 . . {with means for agitating the medicament}
- 15/0006 . . . . {using rotating means}
- 15/0008 . . . . . {rotating by airflow}
- 15/001 . . . . {using ultrasonic means}
- 15/0011 . . . . {with microcapsules, e.g. several in one dose}
- 15/0013 . . . . {with inhalation check valves}
- 15/0015 . . . . . {located upstream of the dispenser, i.e. not traversed by the product}
- 15/0016 . . . . . {located downstream of the dispenser, i.e. traversed by the product}
- 15/0018 . . . . {with exhalation check valves}
- 15/002 . . . . {with air flow regulating means}
- 15/0021 . . . . {Mouthpieces therefor}
- 15/0023 . . . . . {retractable}
- 15/0025 . . . . . {with caps}
- 15/0026 . . . . . . {Hinged caps}
- 15/0028 . . . . . {using prepacked dosages, one for each application, e.g. capsules to be perforated or broken-up}
- 15/003 . . . . . {using capsules, e.g. to be perforated or broken-up}
- 15/0031 . . . . . . {by bursting or breaking the package, i.e. without cutting or piercing}
- 15/0033 . . . . . . . {Details of the piercing or cutting means}
- 15/0035 . . . . . . . . {Piercing means}
- 15/0036 . . . . . . . . . {hollow piercing means}
- 15/0038 . . . . . . . . . . {Cutting means}
- 15/004 . . . . . . . . . . {with fixed piercing or cutting means}
- 15/0041 . . . . . . . . . . . {with movable piercing or cutting means}
- 15/0043 . . . . . . . . . . . . {Non-destructive separation of the package, e.g. peeling}
- 15/0045 . . . . . . . . . . . . . {using multiple prepacked dosages on a same carrier, e.g. blisters}
- 15/0046 . . . . . . . . . . . . . . {characterized by the type of carrier}
- 15/0048 . . . . . . . . . . . . . . . {the dosages being arranged in a plane, e.g. on diskettes}
- 15/005 . . . . . . . . . . . . . . . . {the dosages being arranged on a cylindrical surface}
- 15/0051 . . . . . . . . . . . . . . . . . {the dosages being arranged on a tape, e.g. strips}

- 15/0053 . . . {characterized by the type or way of disposal}
- 15/0055 . . . . {the used dosages being coiled}
- 15/0056 . . . . {the used dosages being crushed}
- 15/0058 . . . . {the used dosages being cut from the carrier}
- 15/006 . . . . {the used dosages being discarded out of the inhaler's housing}
- 15/0061 . . {using pre-packed dosages having an insert inside}
- 15/0063 . . {Storages for pre-packed dosages}
- 15/0065 . {Inhalators with dosage or measuring devices ([A61M 15/0028](#) takes precedence; dosage devices incorporated in aerosol cans [B65D 83/52](#))}
- 15/0066 . . {with means for varying the dose size}
- 15/0068 . . {Indicating or counting the number of dispensed doses or of remaining doses}
- 15/007 . . . {Mechanical counters}
- 15/0071 . . . . {having a display or indicator}
- 15/0073 . . . . . {on a ring}
- 15/0075 . . . . . {on a disc}
- 15/0076 . . . . . {on a drum}
- 15/0078 . . . . . {on a strip}
- 15/008 . . . {Electronic counters}
- 15/0081 . . . {Locking means}
- 15/0083 . . . {Timers}
- 15/0085 . {using ultrasonics ([spraying or atomising liquids using ultrasonic vibrations in general B05B 17/06](#))}
- 15/0086 . {Inhalation chambers}
- 15/0088 . . {with variable volume}
- 15/009 . {using medicine packages with incorporated spraying means, e.g. aerosol cans ([pocket atomiser of the injector type A61M 11/08](#))}
- 15/0091 . {mechanically breath-triggered}
- 15/0093 . . {without arming or cocking, e.g. acting directly on the delivery valve}
- 15/0095 . . {Preventing manual activation in absence of inhalation}
- 15/0096 . . {Hindering inhalation before activation of the dispenser}
- 15/0098 . . {Activated by exhalation}
- 15/02 . . with activated or ionised {fluids, e.g. electrohydrodynamic [EHD] or electrostatic devices}; Ozone-inhalators {with radioactive tagged particles}
- 15/025 . . {Bubble jet droplet ejection devices}
- 15/06 . . Inhaling appliances shaped like cigars, cigarettes or pipes
- 15/08 . . Inhaling devices inserted into the nose
- 15/085 . . {Fixing means therefor}
- 16/00** **Devices for influencing the respiratory system of patients by gas treatment, e.g. mouth-to-mouth respiration; Tracheal tubes (stimulating the respiratory movement by mechanical, pneumatic or electrical means, iron lungs combined with gas breathing means [A61H 31/00](#))**
- 16/0003 . {Accessories therefor, e.g. sensors, vibrators, negative pressure}
- 16/0006 . . {with means for creating vibrations in patients' airways}
- 16/0009 . . {with sub-atmospheric pressure, e.g. during expiration}
- 16/0012 . . . {by Venturi means}
- 2016/0015 . . {inhalation detectors}
- 2016/0018 . . . {electrical}
- 2016/0021 . . . . {with a proportional output signal, e.g. from a thermistor}
- 2016/0024 . . . . {with an on-off output signal, e.g. from a switch}
- 2016/0027 . . {pressure meter}
- 2016/003 . . {with a flowmeter}
- 2016/0033 . . . {electrical}
- 2016/0036 . . . . {in the breathing tube and used in both inspiratory and expiratory phase}
- 2016/0039 . . . . {in the inspiratory circuit}
- 2016/0042 . . . . {in the expiratory circuit}
- 16/0045 . {Means for re-breathing exhaled gases, e.g. for hyperventilation treatment}
- 16/0048 . {Mouth-to-mouth respiration ([teaching or training models G09B 23/288](#))}
- 16/0051 . {with alarm devices}
- 16/0054 . {Liquid ventilation}
- 16/0057 . {Pumps therefor}
- 16/006 . . {Tidal volume membrane pumps}
- 16/0063 . . {Compressors}
- 16/0066 . . {Blowers or centrifugal pumps}
- 16/0069 . . . {the speed thereof being controlled by respiratory parameters, e.g. by inhalation}
- 16/0072 . . {Tidal volume piston pumps}
- 16/0075 . . {Bellows-type}
- 16/0078 . . {Breathing bags}
- 16/0081 . . {Bag or bellow in a bottle}
- 16/0084 . . {self-reinflatable by elasticity, e.g. resuscitation squeeze bags}
- 16/0087 . {Environmental safety or protection means, e.g. preventing explosion}
- 16/009 . . {Removing used or expired gases or anaesthetic vapours ([filtering, sterilising or disinfecting the exhaust air in drainage systems A61M 1/784; bacterial filters in the expiratory path A61M 16/1065](#))}
- 16/0093 . . . {by adsorption, absorption or filtration}
- 16/0096 . {High frequency jet ventilation}
- 16/01 . . specially adapted for anaesthetising ([A61M 16/104, A61M 16/18](#) take precedence)}
- 16/021 . {operated by electrical means ([A61M 16/202 – A61M 16/205](#) take precedence)}
- 16/022 . . {Control means therefor}
- 16/024 . . . {including calculation means, e.g. using a processor}
- 16/026 . . . . {specially adapted for predicting, e.g. for determining an information representative of a flow limitation during a ventilation cycle by using a root square technique or a regression analysis}
- 16/04 . . Tracheal tubes ([catheters in general A61M 25/00](#))
- 16/0402 . . {Special features for tracheal tubes not otherwise provided for}
- 16/0404 . . . {with means for selective or partial lung respiration}
- 16/0406 . . . . {implanted flow modifiers}
- 16/0409 . . . {with mean for closing the oesophagus}
- 16/0411 . . . {with means for differentiating between oesophageal and tracheal intubation}
- 2016/0413 . . . . {with detectors of CO<sub>2</sub> in exhaled gases}
- 16/0415 . . . {with access means to the stomach}
- 16/0418 . . . {with integrated means for changing the degree of curvature, e.g. for easy intubation}

- 16/042 . . . {with separate conduits for in-and expiration gas, e.g. for limited dead volume}
- 16/0422 . . . {Laser-resistant}
- 16/0425 . . . {Metal tubes}
- 16/0427 . . . {with removable and re-insertable liner tubes, e.g. for cleaning}
- 16/0429 . . . {with non-integrated distal obturators}
- 16/0431 . . . {with a cross-sectional shape other than circular}
- 16/0434 . . {Cuffs}
- 16/0436 . . . {Special fillings therefor}
- 16/0438 . . . . {Liquid-filled}
- 16/044 . . . {External cuff pressure control or supply, e.g. synchronisation with respiration}
- 16/0443 . . . {Special cuff-wall materials ([A61M 16/0481](#), [A61M 16/0422](#) take precedence)}
- 16/0445 . . . {Special cuff forms, e.g. undulated}
- 16/0447 . . . . {Bell, canopy or umbrella shaped}
- 16/045 . . . {with cuffs partially or completely inflated by the respiratory gas}
- 16/0452 . . . . {following the inspiration and expiration pressure}
- 16/0454 . . . {Redundant cuffs}
- 16/0456 . . . . {one cuff within another}
- 16/0459 . . . . {one cuff behind another}
- 16/0461 . . {Nasoendotracheal tubes}
- 16/0463 . . {combined with suction tubes, catheters or the like; Outside connections}
- 16/0465 . . {Tracheostomy tubes; Devices for performing a tracheostomy; Accessories therefor, e.g. masks, filters}
- 16/0468 . . . {with valves at the proximal end limiting exhalation, e.g. during speaking or coughing ([air passages from trachea to oesophagus or to pharynx, artificial epiglottis A61F 2/203](#))}
- 16/047 . . . {Masks, filters, surgical pads, devices for absorbing secretions, specially adapted therefor}
- 16/0472 . . . {Devices for performing a tracheostomy}
- 16/0475 . . {having openings in the tube}
- 16/0477 . . . {with incorporated means for delivering or removing fluids}
- 16/0479 . . . . {above the cuff, e.g. giving access to the upper trachea}
- 16/0481 . . . . {through the cuff wall}
- 16/0484 . . . . {at the distal end}
- 16/0486 . . {Multi-lumen tracheal tubes}
- 16/0488 . . {Mouthpieces; Means for guiding, securing or introducing the tubes ([guiding or introducing with laryngoscopes A61B 1/267](#); [holding devices on the body A61M 25/02](#))}
- 16/049 . . . {Mouthpieces}
- 16/0493 . . . . {with means for protecting the tube from damage caused by the patient's teeth, e.g. bite block}
- 16/0495 . . . . {with tongue depressors}
- 16/0497 . . . {Tube stabilizer}
- 16/06 . . Respiratory or anaesthetic masks
- 16/0605 . . {Means for improving the adaptation of the mask to the patient}
- 16/0611 . . . {with a gusset portion}
- 16/0616 . . . . {with face sealing means comprising a flap or membrane projecting inwards, such that sealing increases with increasing inhalation gas pressure}
- 16/0622 . . . . {having an underlying cushion}
- 16/0627 . . . . {with sealing means on a part of the body other than the face, e.g. helmets, hoods or domes}
- 16/0633 . . . . {with forehead support}
- 16/0638 . . . . . {in the form of a pivot}
- 16/0644 . . . . . {having the means for adjusting its position}
- 16/065 . . . . . {in the form of a pivot}
- 16/0655 . . . . . {in the form of a linear or curvilinear slide}
- 2016/0661 . . . {with customised shape}
- 16/0666 . . . {Nasal cannulas or tubing ([devices for improving normal breathing through the nose A61F 5/08](#); [nose filters A62B 23/06](#); [outside holding devices A61M 25/02](#))}
- 16/0672 . . . . {Nasal cannula assemblies for oxygen therapy}
- 16/0677 . . . . . {Gas-saving devices therefor}
- 16/0683 . . . {Holding devices therefor}
- 16/0688 . . . . {by means of an adhesive}
- 16/0694 . . . . {Chin straps}
- 16/08 . . Bellows; Connecting tubes ([having means for taking samples G01N 1/22](#)); Water traps; Patient circuits}
- 16/0808 . . . {Condensation traps}
- 16/0816 . . . {Joints or connectors}
- 16/0825 . . . . {with ball-sockets}
- 16/0833 . . . . {T- or Y-type connectors, e.g. Y-piece}
- 16/0841 . . . . {for sampling}
- 16/085 . . . . . {Gas sampling}
- 16/0858 . . . . . {Pressure sampling ports}
- 16/0866 . . . {Passive resistors therefor}
- 16/0875 . . . {Connecting tubes}
- 16/0883 . . . {Circuit type}
- 16/0891 . . . . {Closed circuit, e.g. for anaesthesia}
- 16/10 . . Preparation of respiratory gases or vapours
- 16/1005 . . . {with O<sub>2</sub> features or with parameter measurement}
- 16/101 . . . . {using an oxygen concentrator}
- 16/1015 . . . . {using a gas flush valve, e.g. oxygen flush valve}
- 2016/102 . . . . {Measuring a parameter of the content of the delivered gas}
- 2016/1025 . . . . . {the O<sub>2</sub> concentration}
- 2016/103 . . . . . {the CO<sub>2</sub> concentration}
- 2016/1035 . . . . . {the anaesthetic agent concentration}
- 16/104 . . . {specially adapted for anaesthetics ([A61M 16/18](#) takes precedence)}
- 16/1045 . . . {Devices for humidifying or heating the inspired gas by using recovered moisture or heat from the expired gas}
- 16/105 . . . {Filters ([A61M 16/047](#), [A61M 16/22](#) take precedence; [water traps A61M 16/08](#))}
- 16/1055 . . . . {bacterial}
- 16/106 . . . . {in a path}
- 16/1065 . . . . . {in the expiratory path}
- 16/107 . . . . . {in the inspiratory path}
- 16/1075 . . . . {by influencing the temperature ([A61M 16/1045](#) takes precedence)}
- 16/108 . . . . {before being humidified or mixed with a beneficial agent}

- 16/1085 . . . {after being humidified or mixed with a beneficial agent}
- 16/109 . . . {the humidifying liquid or the beneficial agent}
- 16/1095 . . . {in the connecting tubes}
- 16/12 . . by mixing different gases
- 16/122 . . . {with dilution}
- 16/125 . . . . {Diluting primary gas with ambient air}
- 16/127 . . . . {by Venturi effect, i.e. entrainment mixers}
- 16/14 . . by mixing different fluids, one of them being in a liquid phase
- 16/142 . . . {with semi-permeable walls separating the liquid from the respiratory gas}
- 16/145 . . . . {using hollow fibres}
- 16/147 . . . {the respiratory gas not passing through the liquid container}
- 16/16 . . . Devices to humidify the respiration air {(A61M 16/1045 takes precedence)}
- 16/161 . . . . {with means for measuring the humidity}
- 16/162 . . . . {Water-reservoir filling system, e.g. automatic}
- 16/164 . . . . . {including a liquid inlet valve system}
- 16/165 . . . . . {with a float actuator}
- 16/167 . . . . . {acting vertically on the valve}
- 16/168 . . . . . {having a dual float}
- 16/18 . . . Vaporising devices for anaesthetic preparations
- 16/183 . . . . {Filling systems}
- 16/186 . . . . {Locking systems}
- 16/20 . . Valves specially adapted to medical respiratory devices
- 16/201 . . {Controlled valves}
- 16/202 . . . {electrically actuated}
- 16/203 . . . . {Proportional}
- 16/204 . . . . . {used for inhalation control}
- 16/205 . . . . . {used for exhalation control}
- 16/206 . . . {Capsule valves, e.g. mushroom, membrane valves}
- 16/207 . . . {Membrane valves with pneumatic amplification stage, i.e. having master and slave membranes}
- 16/208 . . {Non-controlled one-way valves, e.g. exhalation, check, pop-off non-rebreathing valves}
- 16/209 . . . {Relief valves}
- 16/22 . . Carbon dioxide-absorbing devices {; Other means for removing carbon dioxide}{cartridges with absorbing substances for respiratory apparatus A62B 19/00}

#### **Other devices for producing sleep or stupor; Devices for ending sleep or stupor**

- 19/00** Local anaesthesia (syringes therefor A61M 5/00); Hypothermia (A61M 5/42 takes precedence; cooling blood in a bypass of the arterial system A61M 1/36)
- 21/00** Other devices or methods to cause a change in the state of consciousness; Devices for producing or ending sleep by mechanical, optical, or acoustical means, e.g. for hypnosis

- 2021/0005 . . {by the use of a particular sense, or stimulus}
- 2021/0011 . . {in a subliminal way, i.e. below the threshold of sensation}
- 2021/0016 . . {by the smell sense}
- 2021/0022 . . {by the tactile sense, e.g. vibrations}

- 2021/0027 . . {by the hearing sense}
- 2021/0033 . . . {subsonic}
- 2021/0038 . . . {ultrasonic}
- 2021/0044 . . {by the sight sense}
- 2021/005 . . . {images, e.g. video}
- 2021/0055 . . . {with electric or electro-magnetic fields}
- 2021/0061 . . . {Simulated heartbeat pulsed or modulated}
- 2021/0066 . . . {with heating or cooling}
- 2021/0072 . . . {with application of electrical currents}
- 2021/0077 . . . {with application of chemical or pharmacological stimulus}
- 2021/0083 . . . {especially for waking up}
- 2021/0088 . . . {modulated by a simulated respiratory frequency}
- 21/0094 . . {Isolation chambers used therewith, i.e. for isolating individuals from external stimuli (other treatment rooms or enclosures A61G 10/00)}
- 21/02 . . for inducing sleep or relaxation, e.g. by direct nerve stimulation, hypnosis, analgesia (for massage A61H; electrotherapy A61N, e.g. applying alternating or intermittent electric currents for producing anaesthesia A61N 1/36021)

#### **Probes; Catheters; Dilators; Drainage appliances for wounds**

- 25/00** Catheters; Hollow probes (dilators A61M 29/00; {peritoneal catheters A61M 1/285; tracheal tubes A61M 16/04; for drainage A61M 27/00; for uterus, vagina or rectum A61M 31/00} ; for measuring or testing A61B; {materials for catheters A61L 29/00})
- 2025/0001 . . {for pressure measurement}
- 2025/0002 . . . {with a pressure sensor at the distal end}
- 2025/0003 . . . {having an additional lumen transmitting fluid pressure to the outside for measurement}
- 2025/0004 . . {having two or more concentrically arranged tubes for forming a concentric catheter system}
- 2025/0006 . . . {which can be secured against axial movement, e.g. by using a locking cuff}
- 2025/0007 . . {Epidural catheters}
- 2025/0008 . . {having visible markings on its surface, i.e. visible to the naked eye, for any purpose, e.g. insertion depth markers, rotational markers or identification of type}
- 25/0009 . . {Making of catheters or other medical or surgical tubes}
- 25/001 . . . {Forming the tip of a catheter, e.g. bevelling process, join or taper}
- 25/0012 . . . {with embedded structures, e.g. coils, braids, meshes, strands or radiopaque coils}
- 25/0013 . . . {Weakening parts of a catheter tubing, e.g. by making cuts in the tube or reducing thickness of a layer at one point to adjust the flexibility}
- 25/0014 . . . {Connecting a tube to a hub}
- 25/0015 . . . {Making lateral openings in a catheter tube, e.g. holes, slits, ports, piercings of guidewire ports; Methods for processing the holes, e.g. smoothing the edges}
- 25/0017 . . {specially adapted for long-term hygiene care, e.g. urethral or indwelling catheters to prevent infections}
- 2025/0018 . . {having a plug, e.g. an inflatable plug for closing catheter lumens}
- 2025/0019 . . {Cleaning catheters or the like, e.g. for reuse of the device, for avoiding replacement}

- 25/002 . . . {Packages specially adapted therefor (combined with means for introducing catheters, e.g. dispensers, [A61M 25/0113](#)); catheter kit packages (for surgical articles [A61B 50/30](#))}
- 25/0021 . . . {characterised by the form of the tubing ([A61M 25/0054](#) takes precedence)}
- 25/0023 . . . {by the form of the lumen, e.g. cross-section, variable diameter}
- 2025/0024 . . . . {Expandable catheters or sheaths}
- 2025/0025 . . . . {having a collapsible lumen}
- 25/0026 . . . . {Multi-lumen catheters with stationary elements (catheter assemblies comprising a catheter in combination with a guide tube, sheath or sleeve [A61M 2025/0681](#); catheters comprising telescoping coaxial elements [A61M 2025/0175](#))}
- 25/0028 . . . . {characterized by features relating to at least one lumen located at the proximal part of the catheter, e.g. alterations in lumen shape or valves (catheter hubs [A61M 25/0097](#))}
- 25/0029 . . . . {characterized by features relating to least one lumen located at the middle part of the catheter, e.g. slots, flaps, valves, cuffs, apertures, notches, grooves or rapid exchange ports (catheter shaft surface irregularities [A61M 2025/006](#))}
- 25/003 . . . . {characterized by features relating to least one lumen located at the distal part of the catheter, e.g. filters, plugs or valves (catheter tips [A61M 25/0067](#))}
- 2025/0031 . . . . . {characterized by lumina for withdrawing or delivering, i.e. used for extracorporeal circuit treatment}
- 25/0032 . . . . . {characterized by at least one unconventionally shaped lumen, e.g. polygons, ellipsoids, wedges or shapes comprising concave and convex parts}
- 2025/0034 . . . . . {characterized by elements which are assembled, connected or fused, e.g. splittable tubes, outer sheaths creating lumina or separate cores}
- 2025/0035 . . . . . {characterized by a variable lumen cross-section by means of a resilient flexible septum or outer wall}
- 2025/0036 . . . . . {with more than four lumina}
- 2025/0037 . . . . . {characterized by lumina being arranged side-by-side}
- 2025/0039 . . . . . {characterized by lumina being arranged coaxially}
- 2025/004 . . . . . {characterized by lumina being arranged circumferentially}
- 25/0041 . . . {pre-formed, e.g. specially adapted to fit with the anatomy of body channels (urethral catheters [A61F 2/04](#))}
- 2025/0042 . . . {Microcatheters, cannula or the like having outside diameters around 1 mm or less}
- 25/0043 . . . {characterised by structural features}
- 25/0045 . . . {multi-layered, e.g. coated (coating materials [A61L 29/08](#))}
- 2025/0046 . . . . {Coatings for improving slidability}
- 2025/0047 . . . . . {the inner layer having a higher lubricity}
- 2025/0048 . . . . . {with an outer layer made from silicon}
- 25/005 . . . {with embedded materials for reinforcement, e.g. wires, coils, braids}
- 25/0051 . . . . {made from fenestrated or weakened tubing layer}
- 25/0052 . . . . {Localized reinforcement, e.g. where only a specific part of the catheter is reinforced, for rapid exchange guidewire port}
- 25/0053 . . . . {having a variable stiffness along the longitudinal axis, e.g. by varying the pitch of the coil or braid}
- 25/0054 . . . . {with regions for increasing flexibility}
- 2025/0056 . . . . {provided with an antibacterial agent, e.g. by coating, residing in the polymer matrix or releasing an agent out of a reservoir}
- 2025/0057 . . . . {Catheters delivering medicament other than through a conventional lumen, e.g. porous walls or hydrogel coatings}
- 2025/0058 . . . . {having an electroactive polymer material, e.g. for steering purposes, for control of flexibility, for locking, for opening or closing}
- 2025/0059 . . . . {having means for preventing the catheter, sheath or lumens from collapsing due to outer forces, e.g. compressing forces, or caused by twisting or kinking}
- 2025/006 . . . . {having a special surface topography or special surface properties, e.g. roughened or knurled surface}
- 2025/0062 . . . . {having features to improve the sliding of one part within another by using lubricants or surfaces with low friction}
- 2025/0063 . . . . {having means, e.g. stylets, mandrils, rods or wires to reinforce or adjust temporarily the stiffness, column strength or pushability of catheters which are already inserted into the human body}
- 2025/0064 . . . . . {which become stiffer or softer when heated}
- 2025/0065 . . . . . {which become stiffer or softer when becoming wet or humid, e.g. immersed within a liquid}
- 25/0067 . . . {characterised by the distal end, e.g. tips ([A61M 25/0054](#), [A61M 25/04](#) take precedence; balloon catheters [A61M 25/10](#))}
- 25/0068 . . . . {Static characteristics of the catheter tip, e.g. shape, atraumatic tip, curved tip or tip structure}
- 25/0069 . . . . . {Tip not integral with tube}
- 25/007 . . . . . {Side holes, e.g. their profiles or arrangements; Provisions to keep side holes unblocked}
- 25/0071 . . . . . {Multiple separate lumens (multiple separate lumens throughout the catheter [A61M 25/0026](#))}
- 2025/0073 . . . . . {Tip designed for influencing the flow or the flow velocity of the fluid, e.g. inserts for twisted or vortex flow}
- 25/0074 . . . . {Dynamic characteristics of the catheter tip, e.g. openable, closable, expandable or deformable}
- 25/0075 . . . . . {Valve means}
- 2025/0076 . . . . . {Unidirectional valves}
- 2025/0078 . . . . . {for fluid inflow from the body into the catheter lumen}
- 2025/0079 . . . . . {Separate user-activated means, e.g. guidewires, guide tubes, balloon catheters or sheaths, for sealing off an orifice, e.g. a lumen or side holes, of a catheter}
- 25/008 . . . . {Strength or flexibility characteristics of the catheter tip}
- 2025/0081 . . . . . {Soft tip}
- 25/0082 . . . . {Catheter tip comprising a tool}

- 25/0084 . . . {being one or more injection needles}
- 2025/0085 . . . . {Multiple injection needles protruding axially, i.e. along the longitudinal axis of the catheter, from the distal tip}
- 2025/0086 . . . . . {the needles having bent tips, i.e. the needle distal tips are angled in relation to the longitudinal axis of the catheter}
- 2025/0087 . . . . {Multiple injection needles protruding laterally from the distal tip}
- 2025/0089 . . . . {Single injection needle protruding axially, i.e. along the longitudinal axis of the catheter, from the distal tip}
- 2025/009 . . . . . {the needle having a bent tip, i.e. the needle distal tip is angled in relation to the longitudinal axis of the catheter}
- 2025/0091 . . . . . {the single injection needle being fixed}
- 2025/0092 . . . . {Single injection needle protruding laterally from the distal tip}
- 2025/0093 . . . . {wherein at least one needle is a microneedle}
- 2025/0095 . . . {being one or more needles protruding from the distal tip and which are not used for injection nor for electro-stimulation, e.g. for fixation purposes}
- 2025/0096 . . . {being laterally outward extensions or tools, e.g. hooks or fibres}
- 25/0097 . {characterised by the hub ([connectors A61M 39/10](#))}
- 2025/0098 . {having a strain relief at the proximal end, e.g. sleeve}
- 25/01 . Introducing, guiding, advancing, emplacing or holding catheters ([A61M 25/10 takes precedence](#))
- 25/0102 . . {Insertion or introduction using an inner stiffening member, e.g. stylet or push-rod}
- 25/0105 . . {Steering means as part of the catheter or advancing means; Markers for positioning ([systems for detection of markers A61B](#))}
- 25/0108 . . . {using radio-opaque or ultrasound markers}
- 25/0111 . . . {Aseptic insertion devices}
- 25/0113 . . . {Mechanical advancing means, e.g. catheter dispensers}
- 25/0116 . . . {self-propelled, e.g. autonomous robots ([A61M 25/0122 takes precedence](#))}
- 25/0119 . . . {Eversible catheters}
- 25/0122 . . . {with fluid drive by external fluid in an open fluid circuit}
- 25/0125 . . . {Catheters carried by the bloodstream, e.g. with parachutes; Balloon catheters specially designed for this purpose}
- 25/0127 . . . {Magnetic means; Magnetic markers}
- 25/013 . . . {One-way gripping collars}
- 25/0133 . . . {Tip steering devices}
- 25/0136 . . . . {Handles therefor}
- 25/0138 . . . . {having flexible regions as a result of weakened outer material, e.g. slots, slits, cuts, joints or coils}
- 25/0141 . . . . {having flexible regions as a result of using materials with different mechanical properties}
- 25/0144 . . . . {having flexible regions as a result of inner reinforcement means, e.g. struts or rods}
- 25/0147 . . . . {with movable mechanical means, e.g. pull wires}
- 2025/015 . . . . . {Details of the distal fixation of the movable mechanical means}
- 25/0152 . . . . {with pre-shaped mechanisms, e.g. pre-shaped stylets or pre-shaped outer tubes}
- 25/0155 . . . . {with hydraulic or pneumatic means, e.g. balloons or inflatable compartments}
- 25/0158 . . . . {with magnetic or electrical means, e.g. by using piezo materials, electroactive polymers, magnetic materials or by heating of shape memory materials}
- 2025/0161 . . . . {wherein the distal tips have two or more deflection regions}
- 2025/0163 . . . . {Looped catheters}
- 2025/0166 . . . {Sensors, electrodes or the like for guiding the catheter to a target zone, e.g. image guided or magnetically guided}
- 25/0169 . . {Exchanging a catheter while keeping the guidewire in place}
- 25/0172 . . {Exchanging a guidewire while keeping the catheter in place}
- 2025/0175 . . {having telescopic features, interengaging nestable members movable in relations to one another}
- 2025/0177 . . {having external means for receiving guide wires, wires or stiffening members, e.g. loops, clamps or lateral tubes}
- 2025/018 . . {Catheters having a lateral opening for guiding elongated means lateral to the catheter}
- 2025/0183 . . {Rapid exchange or monorail catheters}
- 2025/0186 . . {Catheters with fixed wires, i.e. so called "non-over-the-wire catheters"}
- 2025/0188 . . {having slitted or breakaway lumens}
- 2025/0191 . . {Suprapubic catheters}
- 25/0194 . . {Tunnelling catheters}
- 2025/0197 . . . {for creating an artificial passage within the body, e.g. in order to go around occlusions}
- 25/02 . . Holding devices, e.g. on the body
- 2025/0206 . . . {where the catheter is secured by using devices worn by the patient, e.g. belts or harnesses}
- 2025/0213 . . . {where the catheter is attached by means specifically adapted to a part of the human body}
- 2025/022 . . . . {specifically adapted for the mouth}
- 2025/0226 . . . . {specifically adapted for the nose}
- 2025/0233 . . . . {specifically adapted for attaching to a body wall by means which are on both sides of the wall, e.g. for attaching to an abdominal wall}
- 2025/024 . . . {having a clip or clamp system}
- 2025/0246 . . . {fixed on the skin having a cover for covering the holding means}
- 2025/0253 . . . {where the catheter is attached by straps, bands or the like secured by adhesives}
- 2025/026 . . . . {where the straps are releasably secured, e.g. by hook and loop-type fastening devices}
- 2025/0266 . . . {using pads, patches, tapes or the like}
- 2025/0273 . . . . {having slits to place the pad around a catheter puncturing site}
- 2025/028 . . . {having a mainly rigid support structure}
- 2025/0286 . . . {anchored in the skin by suture or other skin penetrating devices}
- 2025/0293 . . . {Catheter, guide wire or the like with means for holding, centering, anchoring or frictionally engaging the device within an artificial lumen, e.g. tube}

- 25/04 . . . in the body, e.g. expansible ([A61M 25/10](#), [A61M 16/0488](#) take precedence)
- 25/06 . . . Body-piercing guide needles or the like
- 25/0606 . . . {"Over-the-needle" catheter assemblies, e.g. I.V. catheters}
- 25/0612 . . . {Devices for protecting the needle; Devices to help insertion of the needle, e.g. wings or holders}
- 25/0618 . . . . {having means for protecting only the distal tip of the needle, e.g. a needle guard}
- 25/0625 . . . . . {with a permanent connection to the needle hub, e.g. a guiding rail, a locking mechanism or a guard advancement mechanism}
- 25/0631 . . . . {having means for fully covering the needle after its withdrawal, e.g. needle being withdrawn inside the handle or a cover being advanced over the needle}
- 25/0637 . . . . {Butterfly or winged devices, e.g. for facilitating handling or for attachment to the skin}
- 25/0643 . . . . {Devices having a blunt needle tip, e.g. due to an additional inner component}
- 25/065 . . . {Guide needles}
- 2025/0656 . . . . {having a tip larger than the rest of the body}
- 25/0662 . . . {Guide tubes}
- 25/0668 . . . . {splittable, tear apart}
- 2025/0675 . . . . . {Introducing-sheath slitters}
- 2025/0681 . . . . {Systems with catheter and outer tubing, e.g. sheath, sleeve or guide tube}
- 2025/0687 . . . . {having means for atraumatic insertion in the body or protection of the tip of the sheath during insertion, e.g. special designs of dilators, needles or sheaths}
- 25/0693 . . . {Flashback chambers}
- 25/09 . . . Guide wires
- 2025/09008 . . . {having a balloon}
- 25/09016 . . . {with mandrils}
- 25/09025 . . . . {with sliding mandrils}
- 25/09033 . . . . {with fixed mandrils, e.g. mandrils fixed to tip; Tensionable wires}
- 25/09041 . . . {Mechanisms for insertion of guide wires}
- 25/0905 . . . {extendable, e.g. mechanisms for extension}
- 2025/09058 . . . {Basic structures of guide wires}
- 2025/09066 . . . . {having a coil without a core possibly combined with a sheath}
- 2025/09075 . . . . {having a core without a coil possibly combined with a sheath}
- 2025/09083 . . . . {having a coil around a core}
- 2025/09091 . . . . . {where a sheath surrounds the coil at the distal part}
- 2025/091 . . . {having a lumen for drug delivery or suction}
- 2025/09108 . . . {Methods for making a guide wire}
- 2025/09116 . . . {Design of handles or shafts or gripping surfaces thereof for manipulating guide wires}
- 2025/09125 . . . {Device for locking a guide wire in a fixed position with respect to the catheter or the human body}
- 2025/09133 . . . {having specific material compositions or coatings; Materials with specific mechanical behaviours, e.g. stiffness, strength to transmit torque}
- 2025/09141 . . . . {made of shape memory alloys which take a particular shape at a certain temperature}
- 2025/0915 . . . . {having features for changing the stiffness}
- 2025/09158 . . . . . {when heated}
- 2025/09166 . . . . {having radio-opaque features}
- 2025/09175 . . . . {having specific characteristics at the distal tip}
- 2025/09183 . . . . . {having tools at the distal tip}
- 2025/09191 . . . . {made of twisted wires}
- 25/10 . . . Balloon catheters ([A61M 25/0125](#) takes precedence; [embolectomy A61B 17/22032](#); [retractors A61B 17/02](#);) inflatable balloons for placing stents or stent-grafts [A61F 2/958](#) (; [stomach balloons for treatment of obesity A61F 5/0003](#); [oesophageal tubes A61J 15/00](#))
- 25/1002 . . . {characterised by balloon shape ([A61M 25/1006](#), [A61M 25/1009](#) take precedence)}
- 2025/1004 . . . . {Balloons with folds, e.g. folded or multifolded}
- 25/1006 . . . {Balloons formed between concentric tubes}
- 25/1009 . . . {Balloons anchored to a disc or plate}
- 25/1011 . . . {Multiple balloon catheters}
- 2025/1013 . . . . {with concentrically mounted balloons, e.g. being independently inflatable}
- 2025/1015 . . . . {having two or more independently movable balloons where the distance between the balloons can be adjusted, e.g. two balloon catheters concentric to each other forming an adjustable multiple balloon catheter system}
- 25/1018 . . . {Balloon inflating or inflation-control devices}
- 25/10181 . . . . {Means for forcing inflation fluid into the balloon}
- 25/10182 . . . . . {Injector syringes}
- 25/10183 . . . . . {Compressible bulbs}
- 25/10184 . . . . {Means for controlling or monitoring inflation or deflation}
- 25/10185 . . . . . {Valves}
- 25/10186 . . . . . . {One-way valves}
- 25/10187 . . . . . {Indicators for the level of inflation or deflation}
- 25/10188 . . . . . . {Inflation or deflation data displays}
- 2025/102 . . . . {driven by a solenoid-activated pump}
- 2025/1022 . . . . {driven by a rotary motor-activated pump}
- 25/1025 . . . . {Connections between catheter tubes and inflation tubes}
- 25/1027 . . . . {Making of balloon catheters}
- 25/1029 . . . . {Production methods of the balloon members, e.g. blow-moulding, extruding, deposition or by wrapping a plurality of layers of balloon material around a mandril}
- 2025/1031 . . . . . {Surface processing of balloon members, e.g. coating or deposition; Mounting additional parts onto the balloon member's surface}
- 25/1034 . . . . {Joining of shaft and balloon}
- 25/1036 . . . . {Making parts for balloon catheter systems, e.g. shafts or distal ends ([A61M 25/1029](#) takes precedence)}
- 25/1038 . . . . {Wrapping or folding devices for use with balloon catheters}
- 25/104 . . . . {used for angioplasty}
- 2025/1043 . . . . {with special features or adapted for special applications}
- 2025/1045 . . . . {for treating bifurcations, e.g. balloons in y-configuration, separate balloons or special features of the catheter for treating bifurcations}

2025/1047	. . . {having centering means, e.g. balloons having an appropriate shape}		
	<b>NOTE</b>		
	This group also covers balloon catheters with centering means other than centering means using balloons		
2025/105	. . . {having a balloon suitable for drug delivery, e.g. by using holes for delivery, drug coating or membranes}		
2025/1052	. . . {for temporarily occluding a vessel for isolating a sector}		
2025/1054	. . . {having detachable or disposable balloons}		
2025/1056	. . . {having guide wire lumens outside the main shaft, i.e. the guide wire lumen is within or on the surface of the balloon}		
2025/1059	. . . {having different inflatable sections mainly depending on the response to the inflation pressure, e.g. due to different material properties}		
2025/1061	. . . {having separate inflations tubes, e.g. coaxial tubes or tubes otherwise arranged apart from the catheter tube}		
2025/1063	. . . {having only one lumen used for guide wire and inflation, e.g. to minimise the diameter}		
2025/1065	. . . {having a balloon which is inversely attached to the shaft at the distal or proximal end}		
2025/1068	. . . {having means for varying the length or diameter of the deployed balloon, this variations could be caused by excess pressure}		
2025/107	. . . {having a longitudinal slit in the balloon}		
2025/1072	. . . {having balloons with two or more compartments}		
2025/1075	. . . {having a balloon composed of several layers, e.g. by coating or embedding}		
2025/1077	. . . {having a system for expelling the air out of the balloon before inflation and use}		
2025/1079	. . . {having radio-opaque markers in the region of the balloon}		
2025/1081	. . . {having sheaths or the like for covering the balloon but not forming a permanent part of the balloon, e.g. retractable, dissolvable or tearable sheaths}		
2025/1084	. . . {having features for increasing the shape stability, the reproducibility or for limiting expansion, e.g. containments, wrapped around fibres, yarns or strands}		
2025/1086	. . . {having a special balloon surface topography, e.g. pores, protuberances, spikes or grooves}		
2025/1088	. . . {having special surface characteristics depending on material properties or added substances, e.g. for reducing friction}		
2025/109	. . . {having balloons for removing solid matters, e.g. by grasping or scraping plaque, thrombus or other matters that obstruct the flow}		
2025/1093	. . . {having particular tip characteristics}		
2025/1095	. . . {with perfusion means for enabling blood circulation while the balloon is in an inflated state or in a deflated state, e.g. permanent by-pass within catheter shaft}		
2025/1097	. . . {with perfusion means for enabling blood circulation only while the balloon is in an inflated state, e.g. temporary by-pass within balloon}		
		27/00	<b>Drainage appliance for wounds or the like {, i.e. wound drains, implanted drains} ({negative pressure wound therapy devices <a href="#">A61M 1/90</a>}; implements for holding wound open <a href="#">A61B 17/02</a> {; middle ear drainage <a href="#">A61F 11/202</a>)}</b>
		27/002	. {Implant devices for drainage of body fluids from one part of the body to another (intraocular <a href="#">A61F 9/00781</a> ; middle ear <a href="#">A61F 11/202</a> )}
		2027/004	. . {with at least a part of the circuit outside the body}
		27/006	. . {Cerebrospinal drainage; Accessories therefor, e.g. valves}
		27/008	. . {pre-shaped, for use in the urethral or ureteral tract}
		29/00	<b>Dilators with or without means for introducing media, e.g. remedies (instruments for performing visual medical inspections of cavities or tubes of the body <a href="#">A61B 1/00</a>)</b>
		29/02	. Dilators made of swellable material {(balloon catheters for angioplasty <a href="#">A61M 25/104</a> )}
		2029/025	. . {characterised by the guiding element}
		31/00	<b>Devices for introducing or retaining media, e.g. remedies, in cavities of the body (<a href="#">A61M 25/00</a> takes precedence {; introducing or retaining ophthalmic products into the ocular cavities <a href="#">A61F 9/0008</a>)}</b>
		31/002	. {Devices for releasing a drug at a continuous and controlled rate for a prolonged period of time (artificial gland structures or devices <a href="#">A61F 2/022</a> ; intra-uterine contraceptive devices <a href="#">A61F 6/14</a> ; tampons for introducing into the vagina <a href="#">A61F 13/20</a> , <a href="#">A61L 15/00</a> ; suppositories or bougies for intra-vaginal or intra-uterine application <a href="#">A61K 9/02</a> ; physical forms of medicinal preparations for sustained or differential drug release <a href="#">A61K 9/20</a> , <a href="#">A61K 9/50</a> )}
		31/005	. {for contrast media}
		31/007	. {Injectors for solid bodies, e.g. suppositories}
		35/00	<b>Devices for applying media, e.g. remedies, on the human body (devices for handling toiletry or cosmetic substances <a href="#">A45D</a>; absorbent pads, e.g. swabs, <a href="#">A61F 13/15</a>)</b>
		35/003	. {Portable hand-held applicators having means for dispensing or spreading integral media (hand-held massage devices with liquid delivery <a href="#">A61H 7/003</a> )}
		35/006	. . {using sponges, foams, absorbent pads or swabs as spreading means}
		35/10	. {Wearable devices, e.g. garments, glasses or masks}
		35/20	. {Non-portable devices, e.g. spraying booths}
		35/25	. . {specially adapted for the application of sunscreen, tanning or self-tanning lotions}
		35/30	. {Gas therapy for therapeutic treatment of the skin}
		37/00	<b>Other apparatus for introducing media into the body (for reproduction or fertilisation <a href="#">A61B 17/425</a>; apparatus for iontophoresis or cataphoresis <a href="#">A61N 1/30</a>); Percutany, i.e. introducing medicines into the body by diffusion through the skin (salt baths <a href="#">A61H 33/04</a>)</b>
		2037/0007	. {having means for enhancing the permeation of substances through the epidermis, e.g. using suction or depression, electric or magnetic fields, sound waves or chemical agents}
		37/0015	. {by using microneedles}

- 2037/0023 . . {Drug applicators using microneedles}
- 2037/003 . . {having a lumen}
- 2037/0038 . . {having a channel at the side surface}
- 2037/0046 . . {Solid microneedles}
- 2037/0053 . . {Methods for producing microneedles}
- 2037/0061 . . {Methods for using microneedles}
- 37/0069 . {Devices for implanting pellets, e.g. markers or solid medicaments (for introducing of radioactive sources for interstitial radiation therapy, i.e. brachytherapy [A61N 5/1027](#))}
- 37/0076 . {Tattooing apparatus (apparatus for marking animals [A01K 11/00](#); vaccine applicators having needles or other puncturing means [A61B 17/205](#))}
- 37/0084 . . {Tattooing apparatus with incorporated liquid feeding device}
- 37/0092 . {using ultrasonic, sonic or infrasonic vibrations, e.g. phonophoresis}
- 
- 39/00 Tubes, tube connectors, tube couplings, valves, access sites or the like, specially adapted for medical use (for respiratory devices, e.g. tracheal tubes [A61M 16/00](#); artificial heart valves [A61F 2/24](#))**
- WARNING**
- Not complete, see [A61J 1/14](#)
- 2039/0009 . {Assemblies therefor designed for particular applications, e.g. contrast or saline injection, suction or irrigation}
- 2039/0018 . . {designed for flushing a line, e.g. by a by-pass}
- 2039/0027 . . {for mixing several substances from different containers}
- 2039/0036 . {characterised by a septum having particular features, e.g. having venting channels or being made from antimicrobial or self-lubricating elastomer}
- 2039/0045 . . {Radiopaque indicia}
- 2039/0054 . . {Multiple layers}
- 2039/0063 . . {Means for alignment of the septum, e.g. septum rim with alignment holes}
- 2039/0072 . . {Means for increasing tightness of the septum, e.g. compression rings, special materials, special constructions}
- 2039/0081 . . {Means for facilitating introduction of a needle in the septum, e.g. guides, special construction of septum}
- 2039/009 . . {Means for limiting access to the septum, e.g. shields, grids}
- 39/02 . Access sites
- 2039/0202 . . {for taking samples}
- 2039/0205 . . {for injecting media}
- 39/0208 . . {Subcutaneous access sites for injecting or removing fluids (transcutaneous access sites [A61M 39/0247](#); implantable infusion devices [A61M 5/14276](#))}
- 2039/0211 . . . {with multiple chambers in a single site}
- 2039/0214 . . . . {some or all chambers sharing a single septum}
- 2039/0217 . . . . . {at least some chambers being stacked separated by another septum}
- 2039/022 . . . {being accessible from all sides, e.g. due to a cylindrically-shaped septum}
- 2039/0223 . . . {having means for anchoring the subcutaneous access site}
- 2039/0226 . . . . {having means for protecting the interior of the access site from damage due to the insertion of a needle}
- 2039/0229 . . . . {having means for facilitating assembling, e.g. snap-fit housing or modular design}
- 2039/0232 . . . . {having means for facilitating the insertion into the body}
- 2039/0235 . . . . {having an additional inlet, e.g. for a guidewire or a catheter tube}
- 2039/0238 . . . . {having means for locating the implanted device to insure proper injection, e.g. radio-emitter, protuberances, radio-opaque markers}
- 2039/0241 . . . . {having means for filtering}
- 2039/0244 . . . . {having means for detecting an inserted needle}
- 39/0247 . . {Semi-permanent or permanent transcutaneous or percutaneous access sites to the inside of the body (peritoneal dialysis catheters [A61M 1/285](#); tracheostomy devices [A61M 16/0465](#); measuring pressure within the body [A61B 5/03](#); colostomy devices [A61F 5/445](#); gastrostomy feeding tubes [A61J 15/0015](#); means for fixing a feeding tube outside of the body [A61J 15/0053](#))}
- 2039/025 . . . . {through bones or teeth, e.g. through the skull}
- 2039/0252 . . . . {for access to the lungs}
- 2039/0255 . . . . {for access to the gastric or digestive system}
- 2039/0258 . . . . {for vascular access, e.g. blood stream access}
- 2039/0261 . . . . {Means for anchoring port to the body, or ports having a special shape or being made of a specific material to allow easy implantation/integration in the body}
- 2039/0264 . . . . {with multiple inlets or multiple outlets}
- 2039/0267 . . . . {comprising sensors or electrical contacts}
- 2039/027 . . . . {having a particular valve, seal or septum}
- 2039/0273 . . . . {for introducing catheters into the body}
- 2039/0276 . . . . {for introducing or removing fluids into or out of the body}
- 2039/0279 . . . . {for introducing medical instruments into the body, e.g. endoscope, surgical tools}
- 2039/0282 . . . . {with implanted tubes connected to the port}
- 2039/0285 . . . . {with sterilisation means, e.g. antibacterial coatings, disinfecting pads, UV radiation LEDs or heating means in the port}
- 2039/0288 . . . . {protectors, caps or covers therefor}
- 2039/0291 . . . . {method or device for implanting it in the body}
- 2039/0294 . . . . {having a specific shape matching the shape of a tool to be inserted therein, e.g. for easy introduction, for sealing purposes, guide}
- 2039/0297 . . . . {at least part of it being inflatable, e.g. for anchoring, sealing or removing}
- 39/04 . . having pierceable self-sealing members
- 2039/042 . . . . {Shrouds encircling the access needle preventing accidental needle-stick}
- 39/045 . . . . {pre-slit to be pierced by blunt instrument}
- 2039/047 . . . . {the self-sealing member being a viscous fluid}
- 39/06 . . Haemostasis valves, i.e. gaskets sealing around a needle, catheter or the like, closing on removal thereof
- 39/0606 . . . . {without means for adjusting the seal opening or pressure ([A61M 39/0693](#) takes precedence)}
- 39/0613 . . . . {with means for adjusting the seal opening or pressure ([A61M 39/0693](#) takes precedence)}
- 2039/062 . . . . {used with a catheter}

## A61M

- 2039/0626 . . . {used with other surgical instruments, e.g. endoscope, trocar}
- 2039/0633 . . . {the seal being a passive seal made of a resilient material with or without an opening}
- 2039/064 . . . . {Slit-valve}
- 2039/0646 . . . . {Duckbill-valve}
- 2039/0653 . . . . {Perforated disc}
- 2039/066 . . . . {Septum-like element}
- 2039/0666 . . . . {Flap-valve}
- 2039/0673 . . . {comprising means actively pressing on the device passing through the seal, e.g. inflatable seals, diaphragms, clamps}
- 2039/068 . . . {having a seal being made of or coated with a special material}
- 2039/0686 . . . {comprising more than one seal}
- 39/0693 . . . {including means for seal penetration}
- 39/08 . Tubes; Storage means specially adapted therefor
- 2039/082 . . {Multi-lumen tubes}
- 2039/085 . . {external enteral feeding tubes}
- 2039/087 . . {Tools for handling tubes, e.g. crimping tool for connecting tubes to a connector}
- 39/10 . Tube connectors; Tube couplings {(A61M 39/02 takes precedence; connecting needles to syringes or hubs A61M 5/34; connecting catheter tubes to hubs A61M 25/0014)}
- 2039/1005 . . {Detection of disconnection}
- 39/1011 . . {Locking means for securing connection; Additional tamper safeties (A61M 39/16 takes precedence)}
- 2039/1016 . . {Unlocking means providing a secure or comfortable disconnection}
- 2039/1022 . . {additionally providing electrical connection}
- 2039/1027 . . {Quick-acting type connectors}
- 2039/1033 . . {Swivel nut connectors, e.g. threaded connectors, bayonet-connectors}
- 2039/1038 . . {Union screw connectors, e.g. hollow screw or sleeve having external threads}
- 2039/1044 . . {Verifying the connection, e.g. audible feedback, tactile feedback, visual feedback, using external light sources}
- 39/105 . . {Multi-channel connectors or couplings, e.g. for connecting multi-lumen tubes (multi-channel connectors in general F16L 37/56)}
- 39/1055 . . {Rotating or swivel joints (in general F16L 27/00)}
- 2039/1061 . . {Break-apart tubing connectors or couplings}
- 2039/1066 . . {having protection means, e.g. sliding sleeve to protect connector itself, shrouds to protect a needle present in the connector, protective housing, isolating sheath}
- 2039/1072 . . {with a septum present in the connector}
- 2039/1077 . . {Adapters, e.g. couplings adapting a connector to one or several other connectors}
- 2039/1083 . . {having a plurality of female connectors, e.g. Luer connectors}
- 2039/1088 . . {having a plurality of male connectors, e.g. Luer connectors}
- 2039/1094 . . {at least partly incompatible with standard connectors, e.g. to prevent fatal mistakes in connection}
- 39/12 . . for joining a flexible tube to a rigid attachment
- 39/14 . . for connecting tubes having sealed ends {(needle sets A61M 5/162; having valves closing automatically on disconnection of line A61M 39/26)}
- 39/143 . . . {both tube ends being sealed by melttable membranes pierced after connection by use of heat, e.g. using radiant energy}
- 39/146 . . . {by cutting and welding}
- 39/16 . . having provision for disinfection or sterilisation {(A61M 39/143 takes precedence; methods or apparatus for disinfection or sterilisation A61L 2/00)}
- 39/162 . . . {with antiseptic agent incorporated within the connector}
- 39/165 . . . {Shrouds or protectors for aseptically enclosing the connector}
- 2039/167 . . . {with energizing means, e.g. light, vibration, electricity}
- 39/18 . . . Methods or apparatus for making the connection under sterile conditions, i.e. sterile docking
- 39/20 . Closure caps or plugs for connectors or open ends of tubes
- 2039/205 . . {comprising air venting means}
- 39/22 . Valves or arrangement of valves {(A61M 39/02, A61M 39/0247, A61M 39/16 take precedence; regulating valves in infusion systems A61M 5/16881; in devices worn by the patient for the reception of urine, faeces, catamenial or other discharge, or in colostomy devices A61F 5/4405)}
- 39/221 . . {Frangible or pierceable closures within tubing (A61M 39/14 takes precedence; frangible closures for containers A61J 1/14)}
- 2039/222 . . . {frangible within tubing or bags}
- 39/223 . . {Multiway valves}
- 2039/224 . . . {of the slide-valve type}
- 39/225 . . {Flush valves, i.e. bypass valves for flushing line}
- 2039/226 . . {Spindles or actuating means}
- 39/227 . . {Valves actuated by a secondary fluid, e.g. hydraulically or pneumatically actuated valves}
- 39/228 . . . {with a tubular diaphragm constrictable by radial fluid force}
- 2039/229 . . {Stopcocks}
- 39/24 . . Check- or non-return valves
- 2039/2406 . . . {designed to quickly shut upon the presence of back-pressure}
- 2039/2413 . . . {designed to reduce and or shut-off the flow when a certain maximum flow limit is exceeded}
- 2039/242 . . . {designed to open when a predetermined pressure or flow rate has been reached, e.g. check valve actuated by fluid}
- 2039/2426 . . . {Slit valve}
- 2039/2433 . . . {Valve comprising a resilient or deformable element, e.g. flap valve, deformable disc}
- 2039/244 . . . . {Hinged closure member, e.g. flap valve}
- 2039/2446 . . . . {Flexible disc}
- 2039/2453 . . . . {not being fixed to the valve body}
- 2039/246 . . . . {being fixed along all or a part of its periphery}
- 2039/2466 . . . . {being fixed in its center}

2039/2473	. . . {Valve comprising a non-deformable, movable element, e.g. ball-valve, valve with movable stopper or reciprocating element}	60/109	. . . incorporated within extracorporeal blood circuits or systems
2039/248	. . . . {Ball-valve}	60/113	. . . . in other functional devices, e.g. dialysers or heart-lung machines
2039/2486	. . . . {Guided stem, e.g. reciprocating stopper}	60/117	. . . for assisting the heart, e.g. transcutaneous or external ventricular assist devices
2039/2493	. . . {Check valve with complex design, e.g. several inlets and outlets and several check valves in one body}	60/122	. . Implantable pumps or pumping devices, i.e. the blood being pumped inside the patient's body
39/26	. . Valves closing automatically on disconnecting the line and opening on reconnection thereof {(check valves <a href="#">A61M 39/24</a> )}	60/126	. . . implantable via, into, inside, in line, branching on, or around a blood vessel
2039/261	. . . {where the fluid space within the valve is increasing upon disconnection}	60/13	. . . . by means of a catheter allowing explantation, e.g. catheter pumps temporarily introduced via the vascular system
2039/262	. . . {having a fluid space within the valve remaining the same upon connection and disconnection, i.e. neutral-drawback valve}	60/135	. . . . inside a blood vessel, e.g. using grafting
2039/263	. . . {where the fluid space within the valve is decreasing upon disconnection}	60/139	. . . . . inside the aorta, e.g. intra-aortic balloon pumps
2039/265	. . . {electrically operated, e.g. a male connector closing an electrical circuit upon connection to a female valve portion}	60/143	. . . . . inside the coronary sinus, e.g. for pressure-controlled intermittent coronary sinus occlusion
2039/266	. . . {where the valve comprises venting channels, e.g. to insure better connection, to help decreasing the fluid space upon disconnection, or to help the fluid space to remain the same during disconnection}	60/148	. . . . . in line with a blood vessel using resection or like techniques, e.g. permanent endovascular heart assist devices
2039/267	. . . {having a sealing sleeve around a tubular or solid stem portion of the connector}	60/152	. . . . . branching on and drawing blood from a blood vessel
2039/268	. . . . {wherein the stem portion is moved for opening and closing the valve, e.g. by translation, rotation}	60/157	. . . . . mechanically acting upon the inside of the patient's blood vessel structure, e.g. contractile structures placed inside a vessel
39/28	. . Clamping means for squeezing flexible tubes, e.g. roller clamps {(tube strippers <a href="#">A61M 1/83</a> )}	60/161	. . . . . mechanically acting upon the outside of the patient's blood vessel structure, e.g. compressive structures placed around a vessel
39/281	. . . {Automatic tube cut-off devices, e.g. squeezing tube on detection of air}	60/165	. . . implantable in, on, or around the heart
2039/282	. . . . {including severing of the tube}	60/17	. . . . . inside a ventricle, e.g. intraventricular balloon pumps
39/283	. . . {Screw clamps}	60/174	. . . . . discharging the blood to the ventricle or arterial system via a cannula internal to the ventricle or arterial system
39/284	. . . {Lever clamps}	60/178	. . . . . drawing blood from a ventricle and returning the blood to the arterial system via a cannula external to the ventricle, e.g. left or right ventricular assist devices
39/285	. . . {Cam clamps, e.g. roller clamps with eccentric axis}	60/183	. . . . . drawing blood from both ventricles, e.g. bi-ventricular assist devices [ <a href="#">BiVAD</a> ]
39/286	. . . {Wedge clamps, e.g. roller clamps with inclined guides}	60/187	. . . . . mechanically acting upon the inside of the patient's native heart, e.g. contractile structures placed inside the heart
39/287	. . . . {Wedge formed by a slot having varying width, e.g. slide clamps}	60/191	. . . . . mechanically acting upon the outside of the patient's native heart, e.g. compressive structures placed around the heart
39/288	. . . {by bending or twisting the tube}	60/196	. . . replacing the entire heart, e.g. total artificial hearts [ <a href="#">TAH</a> ]
<b>60/00</b>	<b>Blood pumps; Devices for mechanical circulatory actuation; Balloon pumps for circulatory assistance</b> (heart stimulation <a href="#">A61H 31/00</a> ; heart stimulators for electrotherapy <a href="#">A61N 1/362</a> )	60/20	. Type thereof
	<b>NOTE</b>	60/205	. . Non-positive displacement blood pumps
	In this main group, it is obligatory to classify all aspects of location, type, medical purpose, driving details, control details, and constructional details other than driving details that are represented in groups <a href="#">A61M 60/10</a> , <a href="#">A61M 60/20</a> , <a href="#">A61M 60/30</a> , <a href="#">A61M 60/40</a> , <a href="#">A61M 60/50</a> and <a href="#">A61M 60/80</a> .	60/211	. . . using a jet, venturi or entrainment effect for pumping the blood
	This obligation extends to information that would normally only be considered as additional information.	60/216	. . . including a rotating member acting on the blood, e.g. impeller
60/10	. Location thereof with respect to the patient's body	60/221	. . . . the blood flow through the rotating member having both radial and axial components, e.g. mixed flow pumps
60/104	. . Extracorporeal pumps, i.e. the blood being pumped outside the patient's body	60/226	. . . . the blood flow through the rotating member having mainly radial components
		60/232	. . . . . Centrifugal pumps

- 60/237 . . . . the blood flow through the rotating member having mainly axial components, e.g. axial flow pumps
- 60/242 . . . . . with the outlet substantially perpendicular to the axis of rotation
- 60/247 . . Positive displacement blood pumps
- 60/253 . . . including a displacement member directly acting on the blood
- 60/258 . . . . . Piston pumps
- 60/263 . . . . . having a spherical housing, e.g. cardan pumps
- 60/268 . . . . . the displacement member being flexible, e.g. membranes, diaphragms or bladders
- 60/274 . . . . . the inlet and outlet being the same, e.g. para-aortic counter-pulsation blood pumps
- 60/279 . . . . . Peristaltic pumps, e.g. roller pumps
- 60/284 . . . . . Linear peristaltic pumps
- 60/289 . . Devices for mechanical circulatory actuation assisting the residual heart function by means mechanically acting upon the patient's native heart or blood vessel structure, e.g. direct cardiac compression [DCC] devices
- 60/295 . . Balloon pumps for circulatory assistance
- 60/30 . . Medical purposes thereof other than the enhancement of the cardiac output
- 60/31 . . for enhancement of in vivo organ perfusion, e.g. retroperfusion
- 60/32 . . . of heart muscle tissues, e.g. using coronary sinus occlusion
- 60/33 . . . of kidneys
- 60/34 . . for enhancement of circulation to the extremities, e.g. the feet
- 60/35 . . for specific surgeries, e.g. for Fontan procedure
- 60/36 . . for specific blood treatment; for specific therapy
- 60/37 . . . Haemodialysis, haemofiltration or diafiltration
- 60/38 . . . Blood oxygenation
- 60/39 . . for blood transfusion
- 60/40 . . Details relating to driving
- 60/403 . . for non-positive displacement blood pumps
- 60/405 . . . the force acting on the blood contacting member being hydraulic or pneumatic
- 60/408 . . . the force acting on the blood contacting member being mechanical, e.g. transmitted by a shaft or cable
- 60/411 . . . . . generated by an electromotor
- 60/414 . . . . . transmitted by a rotating cable, e.g. for blood pumps mounted on a catheter
- 60/416 . . . . . transmitted directly by the motor rotor drive shaft
- 60/419 . . . the force acting on the blood contacting member being permanent magnetic, e.g. from a rotating magnetic coupling between driving and driven magnets
- 60/422 . . . the force acting on the blood contacting member being electromagnetic, e.g. using canned motor pumps
- 60/424 . . for positive displacement blood pumps
- 60/427 . . . the force acting on the blood contacting member being hydraulic or pneumatic
- 60/43 . . . . . using vacuum at the blood pump, e.g. to accelerate filling
- 60/432 . . . . . with diastole or systole switching by stopping or reversing the blood pump operating at a much higher cyclical speed than the heart beat
- 60/435 . . . . . with diastole or systole switching by valve means located between the blood pump and the hydraulic or pneumatic energy source
- 60/438 . . . the force acting on the blood contacting member being mechanical
- 60/441 . . . . . generated by an electromotor
- 60/443 . . . . . with means converting the rotation into a translational movement of the displacement member
- 60/446 . . . . . the axis of both movements being parallel, e.g. roller screw actuators or cylindrical cam transmissions
- 60/449 . . . . . generated by a solenoid
- 60/451 . . . . . generated by electro-thermomechanical actuators, e.g. shape memory alloy actuators
- 60/454 . . . . . generated by electro-active actuators, e.g. using electro-active polymers or piezoelectric elements
- 60/457 . . . the force acting on the blood contacting member being magnetic
- 60/459 . . . . . generated by permanent magnets
- 60/462 . . . . . Electromagnetic force
- 60/465 . . for devices for mechanical circulatory actuation
- 60/468 . . . the force acting on the actuation means being hydraulic or pneumatic
- 60/47 . . . the force acting on the actuation means being mechanical, e.g. mechanically driven members clamping a blood vessel
- 60/473 . . . . . generated by an electromotor
- 60/476 . . . . . with means converting the rotation into a translational movement of the displacement member
- 60/478 . . . . . the axis of both movements being parallel, e.g. roller screw actuators or cylindrical cam transmissions
- 60/481 . . . . . generated by a solenoid
- 60/484 . . . . . generated by electro-thermomechanical actuators, e.g. shape memory alloy actuators
- 60/486 . . . . . generated by electro-active actuators, e.g. using electro-active polymers or piezoelectric elements
- 60/489 . . . the force acting on the actuation means being magnetic
- 60/492 . . . . . generated by permanent magnets
- 60/495 . . . . . Electromagnetic force
- 60/497 . . for balloon pumps for circulatory assistance
- 60/50 . . Details relating to control
- 60/508 . . Electronic control means, e.g. for feedback regulation
- 60/515 . . . Regulation using real-time patient data
- 60/523 . . . . . using blood flow data, e.g. from blood flow transducers
- 60/531 . . . . . using blood pressure data, e.g. from blood pressure sensors
- 60/538 . . . Regulation using real-time blood pump operational parameter data, e.g. motor current
- 60/546 . . . . . of blood flow, e.g. by adapting rotor speed
- 60/554 . . . . . of blood pressure
- 60/562 . . . for making blood flow pulsatile in blood pumps that do not intrinsically create pulsatile flow

- 60/569 . . . . synchronous with the native heart beat
- 60/577 . . . High-frequency driving
- 60/585 . . User interfaces
- 60/592 . . Communication of patient or blood pump data to distant operators for treatment purposes
- 60/80 . Constructional details other than related to driving
- 60/802 . . of non-positive displacement blood pumps
- 60/804 . . . Impellers
- 60/806 . . . . Vanes or blades
- 60/808 . . . . . specially adapted for deformable impellers, e.g. expandable impellers
- 60/81 . . . Pump housings
- 60/812 . . . . Vanes or blades, e.g. static flow guides
- 60/814 . . . . Volutas
- 60/816 . . . . . Sensors arranged on or in the housing, e.g. ultrasound flow sensors
- 60/818 . . . Bearings
- 60/82 . . . . Magnetic bearings
- 60/822 . . . . . specially adapted for being actively controlled
- 60/824 . . . . Hydrodynamic or fluid film bearings
- 60/825 . . . . . Contact bearings, e.g. ball-and-cup or pivot bearings
- 60/827 . . . Sealings between moving parts
- 60/829 . . . . having a purge fluid supply
- 60/831 . . . . . using filtered blood as purge fluid
- 60/833 . . . Occluders for preventing backflow
- 60/835 . . of positive displacement blood pumps
- 60/837 . . . Aspects of flexible displacement members, e.g. shapes or materials
- 60/839 . . of devices for mechanical circulatory actuation
- 60/841 . . of balloon pumps for circulatory assistance
- 60/843 . . . Balloon aspects, e.g. shapes or materials
- 60/845 . . of extracorporeal blood pumps
- 60/847 . . . arranged in a cassette
- 60/849 . . . Disposable parts
- 60/851 . . . Valves
- 60/853 . . . . the valve being formed by a flexible tube element which is clamped for restricting the flow
- 60/855 . . of implantable pumps or pumping devices
- 60/857 . . . Implantable blood tubes
- 60/859 . . . . Connections therefor
- 60/861 . . . Connections or anchorings for connecting or anchoring pumps or pumping devices to parts of the patient's body
- 60/863 . . . . Apex rings
- 60/865 . . . Devices for guiding or inserting pumps or pumping devices into the patient's body
- 60/867 . . . . using position detection during deployment, e.g. for blood pumps mounted on and driven through a catheter
- 60/869 . . . Compliance chambers containing a gas or liquid other than blood to compensate volume variations of a blood chamber
- 60/871 . . . Energy supply devices; Converters therefor
- 60/873 . . . . specially adapted for wireless or transcutaneous energy transfer [TET], e.g. inductive charging
- 60/875 . . . . . specially adapted for optimising alignment of external and implantable coils
- 60/876 . . . . Implantable batteries
- 60/878 . . . . Electrical connections within the patient's body
- 60/88 . . . . Percutaneous cables
- 60/882 . . . . Devices powered by the patient, e.g. skeletal muscle powered devices
- 60/884 . . . being associated to additional implantable blood treating devices
- 60/886 . . . . Blood oxygenators
- 60/888 . . . . Blood filters
- 60/89 . . . Valves
- 60/892 . . . . Active valves, i.e. actuated by an external force
- 60/894 . . . . Passive valves, i.e. valves actuated by the blood
- 60/896 . . . . . having flexible or resilient parts, e.g. flap valves
- 60/898 . . . . . the blood pump being a membrane blood pump and the membrane acting as inlet valve
- 60/90 . Details not provided for in groups [A61M 60/40](#), [A61M 60/50](#) or [A61M 60/80](#)
- 99/00 Subject matter not provided for in other groups of this subclass**
- 2202/00 Special media to be introduced, removed or treated**
- NOTE**
- The classification symbols [A61M 2202/0007](#) - [A61M 2202/0092](#) are not listed first when assigned to patent documents.
- They are used only when associated to other subgroups of [A61M 2202/00](#) in combination sets
- Example:  
[A61M 2202/0417](#), [A61M 2202/0057](#)
- 2202/0007 . introduced into the body
- 2202/0014 . removed from the body
- 2202/0021 . removed from and reintroduced into the body, e.g. after treatment
- 2202/0028 . fluid entering a filter
- 2202/0035 . fluid leaving the cross-flow filter without having passed through the filtering element
- 2202/0042 . filtrate, i.e. the fluid passing through the filter
- 2202/005 . residue retained by the filter due to size
- 2202/0057 . retained by adsorption
- 2202/0064 . changed by biological action
- 2202/0071 . product to be retained or harvested, e.g. by pheresis
- 2202/0078 . changed by chemical action
- 2202/0085 . product washed out
- 2202/0092 . starting product created by centrifuging
- 2202/02 . Gases
- 2202/0208 . . Oxygen
- 2202/0216 . . Ozone
- 2202/0225 . . Carbon oxides, e.g. Carbon dioxide
- 2202/0233 . . . Carbon monoxide
- 2202/0241 . . Anaesthetics; Analgesics
- 2202/025 . . Helium
- 2202/0258 . . Krypton (KR)
- 2202/0266 . . Nitrogen (N)
- 2202/0275 . . . Nitric oxide [NO]
- 2202/0283 . . . Nitrous oxide (N<sub>2</sub>O)
- 2202/0291 . . Xenon
- 2202/03 . Gases in liquid phase, e.g. cryogenic liquids

- 2202/04 . Liquids
- 2202/0401 . . Ascitics
- 2202/0403 . . Gall; Bile
- 2202/0405 . . Lymph
- 2202/0407 . . . Lymphocytes
- 2202/0409 . . . . B-Lymphocytes
- 2202/0411 . . . . T-Lymphocytes
- 2202/0413 . . Blood
- 2202/0415 . . . Plasma
- 2202/0417 . . . . Immunoglobulin
- 2202/0419 . . . . . Immunoglobulin G
- 2202/0421 . . . . . Beta-2-microglobulin
- 2202/0423 . . . . . Serum; Human serous fluid, i.e. plasma without fibrinogen
- 2202/0425 . . . . . Thrombin
- 2202/0427 . . . . Platelets; Thrombocytes
- 2202/0429 . . . . Red blood cells; Erythrocytes
- 2202/0431 . . . . . Gerocytes
- 2202/0433 . . . . . Free haemoglobin
- 2202/0435 . . . . . Neocytes, e.g. reticulocytes
- 2202/0437 . . . . . Blood stem cells
- 2202/0439 . . . . White blood cells; Leucocytes
- 2202/0441 . . . . . Granulocytes, i.e. leucocytes containing many granules in their cytoplasm
- 2202/0443 . . . . . Macrophages, e.g. monocytes
- 2202/0445 . . . . Proteins
- 2202/0447 . . . . . Glycoproteins
- 2202/0449 . . . . . Fibrinogen, also called factor I
- 2202/045 . . . . . Fibrin
- 2202/0452 . . . . . Factor VIII
- 2202/0454 . . . . . Fibrinase, i.e. Factor XIII
- 2202/0456 . . . . Lipoprotein
- 2202/0458 . . . . . High-density lipoprotein
- 2202/046 . . . . . Low-density lipoprotein
- 2202/0462 . . . . Placental blood, umbilical cord blood
- 2202/0464 . . Cerebrospinal fluid
- 2202/0466 . . Saliva
- 2202/0468 . . non-physiological
- 2202/047 . . . cardioplegic
- 2202/0472 . . . . cryo-cardioplegic
- 2202/0474 . . . . haemodiluting
- 2202/0476 . . . . Oxygenated solutions
- 2202/0478 . . . . Heparin
- 2202/048 . . . . Anaesthetics
- 2202/0482 . . . . Enteral feeding product
- 2202/0484 . . . . Alcohol
- 2202/0486 . . . . Glucose
- 2202/0488 . . . . Surfactant, e.g. for the lung
- 2202/049 . . . . Toxic
- 2202/0492 . . . Pleural
- 2202/0494 . . . Obstetrical, amniotic fluid
- 2202/0496 . . . Urine
- 2202/0498 . . . . Urea
- 2202/06 . Solids
- 2202/062 . . Desiccants
- 2202/064 . . Powder
- 2202/066 . . . made from a compacted product by abrading
- 2202/068 . . . Faeces; Excretions
- 2202/07 . Proteins
- 2202/08 . Lipoids
- 2202/09 . Body tissue
- 2202/092 . . . Sweat glands
- 2202/095 . . . Collagen
- 2202/097 . . . endothelial cells
- 2202/10 . Bone-marrow
- 2202/20 . Pathogenic agents
- 2202/203 . . Bacteria
- 2202/206 . . Viruses
- 2202/30 . Vaccines
- 2205/00 General characteristics of the apparatus**
- 2205/02 . characterised by a particular materials
- 2205/0205 . . Materials having antiseptic or antimicrobial properties, e.g. silver compounds, rubber with sterilising agent
- 2205/0211 . . . Ceramics
- 2205/0216 . . . Materials providing elastic properties, e.g. for facilitating deformation and avoid breaking
- 2205/0222 . . . Materials for reducing friction
- 2205/0227 . . . Materials having sensing or indicating function, e.g. indicating a pressure increase
- 2205/0233 . . . Conductive materials, e.g. antistatic coatings for spark prevention
- 2205/0238 . . . the material being a coating or protective layer
- 2205/0244 . . . Micromachined materials, e.g. made from silicon wafers, microelectromechanical systems [MEMS] or comprising nanotechnology
- 2205/025 . . . Materials providing resistance against corrosion
- 2205/0255 . . . . in acidic environments or acidic fluids
- 2205/0261 . . . . in alcalic environments or alcalic fluids
- 2205/0266 . . . Shape memory materials
- 2205/0272 . . . Electro-active or magneto-active materials
- 2205/0277 . . . Chemo-active materials
- 2205/0283 . . . Electro-active polymers [EAP]
- 2205/0288 . . . Electro-rheological or magneto-rheological materials
- 2205/0294 . . . Piezoelectric materials
- 2205/04 . implanted
- 2205/05 . combined with other kinds of therapy
- 2205/051 . . with radiation therapy
- 2205/052 . . . infrared
- 2205/053 . . . ultraviolet
- 2205/054 . . with electrotherapy
- 2205/055 . . . with electrophoresis
- 2205/056 . . with active exercise
- 2205/057 . . with magnetotherapy
- 2205/058 . . with ultrasound therapy
- 2205/07 . having air pumping means
- 2205/071 . . hand operated
- 2205/073 . . . Syringe, piston type
- 2205/075 . . . Bulb type
- 2205/076 . . mouth operated
- 2205/078 . . foot operated
- 2205/10 . with powered movement mechanisms
- 2205/103 . . rotating
- 2205/106 . . reciprocating
- 2205/11 . with means for preventing cross-contamination when used for multiple patients
- 2205/12 . with interchangeable cassettes forming partially or totally the fluid circuit
- 2205/121 . . interface between cassette and base
- 2205/122 . . . using evacuated interfaces to enhance contact
- 2205/123 . . with incorporated reservoirs
- 2205/125 . . with incorporated filters

- 2205/126 . . . with incorporated membrane filters
- 2205/127 . . with provisions for heating or cooling
- 2205/128 . . with incorporated valves
- 2205/13 . with means for the detection of operative contact with patient, e.g. lip sensor
- 2205/14 . Detection of the presence or absence of a tube, a connector or a container in an apparatus
- 2205/15 . Detection of leaks
- 2205/16 . with back-up system in case of failure
- 2205/17 . with redundant control systems
- 2205/18 . with alarm
- 2205/183 . . the sound being generated pneumatically
- 2205/186 . . the sound being acoustically amplified, e.g. by resonance
- 2205/19 . Constructional features of carpules, syringes or blisters
- 2205/192 . . Avoiding coring, e.g. preventing formation of particles during puncture
- 2205/195 . . . by the needle tip shape
- 2205/197 . . . by the seal material
- 2205/21 . insensitive to tilting or inclination, e.g. spill-over prevention
- 2205/215 . . Tilt detection, e.g. for warning or shut-off
- 2205/27 . preventing use
- 2205/273 . . preventing reuse, e.g. of disposables
- 2205/276 . . preventing unwanted use
- 2205/32 . with radio-opaque indicia
- 2205/33 . Controlling, regulating or measuring
- 2205/3303 . . Using a biosensor
- 2205/3306 . . Optical measuring means
- 2205/331 . . . used as turbidity change detectors, e.g. for priming-blood or plasma-hemoglobine-interface detection
- 2205/3313 . . . used specific wavelengths
- 2205/3317 . . Electromagnetic, inductive or dielectric measuring means
- 2205/332 . . Force measuring means
- 2205/3324 . . PH measuring means
- 2205/3327 . . Measuring
- 2205/3331 . . Pressure; Flow
- 2205/3334 . . . Measuring or controlling the flow rate
- 2205/3337 . . . Controlling, regulating pressure or flow by means of a valve by-passing a pump
- 2205/3341 . . . stabilising pressure or flow to avoid excessive variation
- 2205/3344 . . . Measuring or controlling pressure at the body treatment site
- 2205/3348 . . . Pressure measurement using a water column
- 2205/3351 . . . Controlling upstream pump pressure
- 2205/3355 . . . Controlling downstream pump pressure
- 2205/3358 . . . Measuring barometric pressure, e.g. for compensation
- 2205/3362 . . . with minimised length of fluid lines; Taking into account the elastic expansion of fluid lines to increase accuracy
- 2205/3365 . . Rotational speed
- 2205/3368 . . Temperature
- 2205/3372 . . . Temperature compensation
- 2205/3375 . . Acoustical, e.g. ultrasonic, measuring means
- 2205/3379 . . Masses, volumes, levels of fluids in reservoirs, flow rates
- 2205/3382 . . . Upper level detectors
- 2205/3386 . . . Low level detectors
- 2205/3389 . . . Continuous level detection ([A61M 2205/3393 takes precedence](#))
- 2205/3393 . . . by weighing the reservoir
- 2205/3396 . . . Reservoirs being alternately filled and emptied for measuring flow rate or delivered volume
- 2205/35 . Communication
- 2205/3507 . . with implanted devices, e.g. external control
- 2205/3515 . . . using magnetic means
- 2205/3523 . . . using telemetric means
- 2205/353 . . . using mechanical means, e.g. subcutaneous pushbuttons
- 2205/3538 . . . using electrical conduction through the body of the patient
- 2205/3546 . . Range
- 2205/3553 . . . remote, e.g. between patient's home and doctor's office
- 2205/3561 . . . local, e.g. within room or hospital
- 2205/3569 . . . sublocal, e.g. between console and disposable
- 2205/3576 . . with non implanted data transmission devices, e.g. using external transmitter or receiver
- 2205/3584 . . . using modem, internet or bluetooth
- 2205/3592 . . . using telemetric means, e.g. radio or optical transmission
- 2205/36 . related to heating or cooling
- 2205/3606 . . cooled
- 2205/3613 . . by body heat
- 2205/362 . . by gas flow
- 2205/3626 . . by controlled mixing of fluids at different temperatures
- 2205/3633 . . thermally insulated
- 2205/364 . . by chemical reaction
- 2205/3646 . . by heat accumulators, e.g. ice, sand
- 2205/3653 . . by Joule effect, i.e. electric resistance
- 2205/366 . . by liquid heat exchangers
- 2205/3666 . . using heat loss of a motor
- 2205/3673 . . thermo-electric, e.g. Peltier effect, thermocouples, semi-conductors
- 2205/368 . . by electromagnetic radiation, e.g. IR waves
- 2205/3686 . . . microwaves
- 2205/3693 . . by mechanical waves, e.g. ultrasonic
- 2205/42 . Reducing noise
- 2205/43 . making noise when used correctly
- 2205/44 . making noise when used incorrectly
- 2205/50 . with microprocessors or computers
- 2205/502 . . User interfaces, e.g. screens or keyboards
- 2205/505 . . . Touch-screens; Virtual keyboard or keypads; Virtual buttons; Soft keys; Mouse touches
- 2205/507 . . . Head Mounted Displays [HMD]
- 2205/52 . . with memories providing a history of measured varying parameters of apparatus or patient
- 2205/58 . Means for facilitating use, e.g. by people with impaired vision
- 2205/581 . . by audible feedback
- 2205/582 . . by tactile feedback
- 2205/583 . . by visual feedback
- 2205/584 . . . having a color code
- 2205/585 . . . having magnification means, e.g. magnifying glasses
- 2205/586 . . Ergonomic details therefor, e.g. specific ergonomics for left or right-handed users
- 2205/587 . . Lighting arrangements
- 2205/588 . . by olfactory feedback, i.e. smell

- 2205/59 . Aesthetic features, e.g. distraction means to prevent fears of child patients
- 2205/60 . with identification means
- 2205/6009 . . for matching patient with his treatment, e.g. to improve transfusion security
- 2205/6018 . . providing set-up signals for the apparatus configuration
- 2205/6027 . . Electric-conductive bridges closing detection circuits, with or without identifying elements, e.g. resistances, zener-diodes
- 2205/6036 . . characterised by physical shape, e.g. array of activating switches
- 2205/6045 . . having complementary physical shapes for indexing or registration purposes
- 2205/6054 . . Magnetic identification systems
- 2205/6063 . . Optical identification systems
- 2205/6072 . . . Bar codes
- 2205/6081 . . . Colour codes
- 2205/609 . . Biometric patient identification means
- 2205/70 . with testing or calibration facilities
- 2205/702 . . automatically during use
- 2205/705 . . Testing of filters for leaks
- 2205/707 . . Testing of filters for clogging
- 2205/75 . with filters
- 2205/7509 . . for virus
- 2205/7518 . . bacterial
- 2205/7527 . . liquophilic, hydrophilic
- 2205/7536 . . allowing gas passage, but preventing liquid passage, e.g. liquophobic, hydrophobic, water-repellent membranes
- 2205/7545 . . for solid matter, e.g. microaggregates
- 2205/7554 . . with means for unclogging or regenerating filters
- 2205/7563 . . with means preventing clogging of filters
- 2205/7572 . . with means for preventing contamination of the environment when replaced
- 2205/7581 . . with means for switching over to a fresh filter on clogging or saturation
- 2205/759 . . for removing preservatives, e.g. heavy metal compositions
- 2205/80 . voice-operated command
- 2205/82 . Internal energy supply devices
- 2205/8206 . . battery-operated
- 2205/8212 . . . with means or measures taken for minimising energy consumption
- 2205/8218 . . Gas operated
- 2205/8225 . . . using incorporated gas cartridges for the driving gas
- 2205/8231 . . . using electrochemical gas generating device for the driving gas
- 2205/8237 . . Charging means
- 2205/8243 . . . by induction
- 2205/825 . . . using mechanical generation of electricity, e.g. hand cranked generators
- 2205/8256 . . . being integrated in the case or housing of the apparatus
- 2205/8262 . . connectable to external power source, e.g. connecting to automobile battery through the cigarette lighter
- 2205/8268 . . Fuel storage cells
- 2205/8275 . . Mechanical
- 2205/8281 . . . spring operated
- 2205/8287 . . . operated by an external magnetic or electromagnetic field
- 2205/8293 . . Solar
- 2205/84 . . for treating several patients simultaneously
- 2206/00 Characteristics of a physical parameter; associated device therefor**
- 2206/10 . Flow characteristics
- 2206/11 . . Laminar flow
- 2206/12 . . the flow being spirally in a plane, e.g. against a plane side of a membrane filter element
- 2206/14 . . Static flow deviators in tubes disturbing laminar flow in tubes, e.g. archimedes screws
- 2206/16 . . Rotating swirling helical flow, e.g. by tangential inflows
- 2206/18 . . Coaxial flows, e.g. one flow within another
- 2206/20 . . having means for promoting or enhancing the flow, actively or passively
- 2206/22 . . eliminating pulsatile flows, e.g. by the provision of a dampening chamber
- 2207/00 Methods of manufacture, assembly or production**
- 2207/10 . Device therefor
- 2209/00 Ancillary equipment**
- 2209/01 . Remote controllers for specific apparatus
- 2209/02 . Equipment for testing the apparatus
- 2209/04 . Tools for specific apparatus
- 2209/045 . . for filling, e.g. for filling reservoirs
- 2209/06 . Packaging for specific medical equipment
- 2209/08 . Supports for equipment
- 2209/082 . . Mounting brackets, arm supports for equipment
- 2209/084 . . Supporting bases, stands for equipment
- 2209/086 . . . Docking stations
- 2209/088 . . on the body
- 2209/10 . Equipment for cleaning
- 2210/00 Anatomical parts of the body**
- 2210/005 . used as an access side to the body
- 2210/02 . Bones
- 2210/04 . Skin
- 2210/06 . Head
- 2210/0606 . . Face
- 2210/0612 . . Eyes
- 2210/0618 . . Nose
- 2210/0625 . . Mouth
- 2210/0631 . . . Gums
- 2210/0637 . . . Teeth
- 2210/0643 . . . Tongue
- 2210/065 . . . Throat; Pharynx
- 2210/0656 . . . Epiglottis
- 2210/0662 . . Ears
- 2210/0668 . . . Middle ear
- 2210/0675 . . . Eustachian tube
- 2210/0681 . . Sinus (maxillaris)
- 2210/0687 . . Skull, cranium
- 2210/0693 . . Brain, cerebrum
- 2210/08 . Limbs
- 2210/083 . . Arms
- 2210/086 . . Legs
- 2210/10 . Trunk
- 2210/1003 . . Spinal column
- 2210/1007 . . Breast; mammary
- 2210/101 . . Pleural cavity
- 2210/1014 . . Diaphragm
- 2210/1017 . . Peritoneal cavity

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- 2210/1021 . . Abdominal cavity
- 2210/1025 . . Respiratory system ([A61M 2210/0618 take precedence](#))
- 2210/1028 . . . Larynx
- 2210/1032 . . . Trachea
- 2210/1035 . . . Bronchi
- 2210/1039 . . . Lungs
- 2210/1042 . . Alimentary tract ([A61M 2210/0618 takes precedence](#))
- 2210/1046 . . . Pharynx
- 2210/105 . . . Oesophagus
- 2210/1053 . . . Stomach
- 2210/1057 . . . . Duodenum
- 2210/106 . . . Small intestine
- 2210/1064 . . . Large intestine
- 2210/1067 . . . Anus
- 2210/1071 . . . Liver; Hepar
- 2210/1075 . . . Gall bladder
- 2210/1078 . . Urinary tract
- 2210/1082 . . . Kidney
- 2210/1085 . . . Bladder
- 2210/1089 . . . Urethra
- 2210/1092 . . . . Female
- 2210/1096 . . . . Male
- 2210/12 . . Blood circulatory system
- 2210/122 . . Pericardium
- 2210/125 . . Heart
- 2210/127 . . Aorta
- 2210/14 . . Female reproductive, genital organs
- 2210/1408 . . Ovaries
- 2210/1416 . . Ova, ovum
- 2210/1425 . . Uterine tubes
- 2210/1433 . . Uterus
- 2210/1441 . . . Ovocytes
- 2210/145 . . . Embryo, fetus
- 2210/1458 . . . Placenta
- 2210/1466 . . . Umbilical cord
- 2210/1475 . . Vagina
- 2210/1483 . . Labia
- 2210/1491 . . Clitoris
- 2210/16 . . Male reproductive, genital organs
- 2210/161 . . Testis
- 2210/162 . . Epididymis
- 2210/163 . . Ductus deferens
- 2210/164 . . Seminal vesicles
- 2210/165 . . Sperm ducts
- 2210/166 . . Prostate
- 2210/167 . . Penis
- 2210/168 . . Scrota, Scrotums
- 2230/08 . . Other bio-electrical signals
- 2230/10 . . Electroencephalographic signals
- 2230/14 . . Electro-oculogram [EOG]
- 2230/16 . . Visual evoked potential [VEP]
- 2230/18 . . Rapid eye-movements [REM]
- 2230/20 . . Blood composition characteristics
- 2230/201 . . Glucose concentration
- 2230/202 . . partial carbon oxide pressure, e.g. partial dioxide pressure (P-CO<sub>2</sub>)
- 2230/204 . . . partial carbon monoxide pressure (P-CO)
- 2230/205 . . partial oxygen pressure (P-O<sub>2</sub>)
- 2230/207 . . hematocrit
- 2230/208 . . pH-value
- 2230/30 . . Blood pressure ([A61M 2230/04 takes precedence](#))
- 2230/40 . . Respiratory characteristics
- 2230/42 . . Rate
- 2230/43 . . Composition of exhalation
- 2230/432 . . . partial CO<sub>2</sub> pressure (P-CO<sub>2</sub>)
- 2230/435 . . . partial O<sub>2</sub> pressure (P-O<sub>2</sub>)
- 2230/437 . . . the anaesthetic agent concentration
- 2230/46 . . Resistance or compliance of the lungs
- 2230/50 . . Temperature
- 2230/60 . . Muscle strain, i.e. measured on the user
- 2230/62 . . Posture
- 2230/63 . . Motion, e.g. physical activity
- 2230/65 . . Impedance, e.g. conductivity, capacity
- 2240/00** . . **Specially adapted for neonatal use**
- 2250/00** . . **Specially adapted for animals**

### Parts of the body

#### **2230/00** Measuring parameters of the user

##### **NOTE**

{In this group, symbol [A61M 2230/005](#) is only used as subsequent symbol in C-Sets and should not be allocated as single symbols.}

- 2230/005 . . Parameter used as control input for the apparatus
- 2230/04 . . Heartbeat characteristics, e.g. ECG, blood pressure modulation
- 2230/06 . . Heartbeat rate only