

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:

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

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}
- WARNING**
- Group [A61M 1/0272](#) is incomplete pending reclassification of documents from groups [A01N 1/14](#), [A01N 1/142](#) and [A01N 1/146](#).
- Group [A61M 1/0272](#) is also impacted by reclassification into groups [C12N 5/54](#) - [C12N 5/548](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 1/0277 . . . {Frames constraining or supporting bags, e.g. during freezing}
- WARNING**
- Group [A61M 1/0277](#) is incomplete pending reclassification of documents from groups [A01N 1/14](#), [A01N 1/142](#) and [A01N 1/146](#).
- Group [A61M 1/0277](#) is also impacted by reclassification into groups [C12N 5/54](#) - [C12N 5/548](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 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 . . . {intracorporeal (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 (intracorporeal [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 thereof}
- 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-corporal 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}
- 3/0283 . . . {with at least two inner passageways, a first one for irrigating and a second for evacuating (suction-irrigation systems [A61M 1/77](#); aspiration tips with fluid supply means [A61M 1/85](#); for negative pressure wound therapy [A61M 1/92](#))}
- 3/0287 {with an external liquid collector}
- 3/0291 {with dilating fingers}
- 3/0295 {with inflatable balloon}
- 3/06 . . combined with bidets

5/00 **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 (tube connectors, tube couplings, valves or branch units, specially adapted for medical use [A61M 39/00](#); containers specially adapted for medical or pharmaceutical purposes [A61J 1/00](#))**

WARNING

Group [A61M 5/00](#) is impacted by reclassification into groups [A61M 5/009](#) and [A61M 5/0091](#).

Groups [A61M 5/00](#), [A61M 5/009](#) and [A61M 5/0091](#) should be considered in order to perform a complete search.

- 5/001 . . {Apparatus specially adapted for cleaning or sterilising syringes or needles}
- 5/002 . . {Packages specially adapted therefor, e.g. packages for syringes or needles or kits for diabetics}
- 5/003 . . {Kits for diabetics}
- 2005/004 . . {Magazines with multiple needles directly inserted into an injection or infusion device, e.g. revolver-like magazines}

- 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}
- 2005/006 . . {for gases, e.g. CO₂}
- 5/007 . . {for contrast media}
- 5/008 . . {Racks for supporting syringes or needles}
- 5/009 . . {Electronic or electro-mechanical add-on modules}

WARNING

Groups [A61M 5/009](#) and [A61M 5/0091](#) are incomplete pending reclassification of documents from groups [A61M 5/00](#), [A61M 2005/3126](#), [A61M 5/3155](#), [A61M 5/31551](#) and [A61M 5/31553](#).

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

- 5/0091 . . {Rotatable add-on modules}
- 5/14 . . Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor
- 2005/1401 . . {Functional features}
- 2005/1402 . . . {Priming}
- 2005/1403 . . . {Flushing or purging}
- 2005/1404 . . . {Keep vein-open rate [KVO], i.e. low flow rate}
- 2005/1405 . . . {Patient controlled analgesia [PCA]}
- 2005/1406 . . . {Minimizing backflow along the delivery catheter track}
- 5/1407 . . {Infusion of two or more substances}
- 5/1408 . . . {in parallel, e.g. by manifolds or with sequencing valves}
- 5/1409 . . . {in series, e.g. reconstitution systems with a first substance passing through a container holding a second substance}
- 5/141 . . {with capillaries for restricting fluid flow}
- 5/1411 . . {Drip chambers ([A61M 5/1689](#), [A61M 5/40](#) take precedence)}
- 5/1412 . . {Burettes, measuring cylinders (for laboratory use [B01L 3/02](#))}
- 5/1413 . . {Modular systems comprising interconnecting elements}
- 5/1414 . . {Hanging-up devices}
- 5/1415 . . . {Stands, brackets or the like for supporting infusion accessories}
- 2005/1416 {placed on the body of the patient}
- 5/1417 . . . {Holders or handles for hanging up infusion containers}
- 5/1418 . . . {Clips, separators or the like for supporting tubes or leads}
- 5/142 . . Pressure infusion, e.g. using pumps

NOTE

In this group, the following expression is used with the meaning indicated:

- "pressure infusion" includes powered injection working at a controlled rate

- 2005/14204 . . . {with gas-producing electrochemical cell}
- 2005/14208 . . . {with a programmable infusion control system, characterised by the infusion program}
- 5/14212 . . . {Pumping with an aspiration and an expulsion action}
- 5/14216 {Reciprocating piston type}

- 5/1422 {with double acting or multiple pistons}
- 5/14224 {Diaphragm type}
- 5/14228 {with linear peristaltic action, i.e. comprising at least three pressurising members or a helical member}
- 5/14232 {Roller pumps}
- 5/14236 {Screw, impeller or centrifugal type pumps}
- 5/1424 {Manually operated pumps}
- 5/14244 {adapted to be carried by the patient, e.g. portable on the body}
- 5/14248 {of the skin patch type}
- 2005/14252 {with needle insertion means}
- 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. 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 ([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
- 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 {Multi-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 or for avoiding extravasation}
- 5/162 Needle sets, i.e. connections by puncture between reservoir and tube
- 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 1/34](#), [A61M 5/36 take precedence](#))
- 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
- 5/16804 {Active flow controllers}
- 5/16809 {by repeated filling and emptying of an intermediate volume}
- 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}
- 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}
- 5/16863 {Occlusion detection}

- 5/16877 . . . {Passive flow controllers; Devices for setting a flow rate ([clamp-type valves A61M 39/28](#))}
- 5/16881 {Regulating valves}
- 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
- 5/1723 {using feedback of body parameters, e.g. blood sugar or pressure}
- 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](#), filling of medical containers in general [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
- 5/20 . . Automatic syringes, e.g. with automatically actuated piston rod, with automatic needle injection, filling automatically ([A61M 5/142 takes precedence](#))
- 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](#))}
- 5/206 . . . {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 cartridges, e.g. automatic
- 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
- WARNING**
- Group [A61M 5/31](#) is impacted by reclassification into group [A61M 5/3147](#).
- Groups [A61M 5/31](#) and [A61M 5/3147](#) should be considered in order to perform a complete search.
- 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}
- 2005/3104 {Caps for syringes without needle}
- 2005/3106 {Plugs for syringes without needle}
- 2005/3107 {for needles}
- 2005/3109 {Caps sealing the needle bore by use of, e.g. air-hardening adhesive, elastomer or epoxy resin}
- 2005/311 {Plugs, i.e. sealing rods or stylets closing the bore of needles}
- 2005/3112 . . . {Incorporating self-aspirating means, e.g. to provide flashback}
- 2005/3114 . . . {Filling or refilling}
- 2005/3115 {spring-assisted}
- 2005/3117 . . . {Means preventing contamination of the medicament compartment of a syringe}
- 2005/3118 {via the distal end of a syringe, i.e. syringe end for mounting a needle cannula}
- 2005/312 {comprising sealing means, e.g. severable caps, to be removed prior to injection by, e.g. tearing or twisting}
- 2005/3121 {via the proximal end of a syringe, i.e. syringe end opposite to needle cannula mounting end}
- 2005/3123 . . . {having air entrapping or venting means, e.g. purging channels in pistons}
- 2005/3125 . . . {Display means, e.g. to indicate dose setting}
- WARNING**
- Group [A61M 2005/3125](#) is impacted by reclassification into group [A61M 5/3147](#).
- Groups [A61M 2005/3125](#) and [A61M 5/3147](#) should be considered in order to perform a complete search.
- 2005/3126 {related to dosing}
- WARNING**
- Group [A61M 2005/3126](#) is impacted by reclassification into groups [A61M 5/3155](#), [A61M 5/009](#) and [A61M 5/0091](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 2005/3128 . . . {Incorporating one-way valves, e.g. pressure-relief or non-return valves}
- 5/3129 . . . {Syringe barrels ([A61M 5/3205](#), [A61M 5/50](#) take precedence)}
- 2005/3131 {specially adapted for improving sealing or sliding}
- 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}
- 5/3134 {characterised by constructional features of the distal end, i.e. end closest to the tip of the needle cannula}
- 5/3135 {characterised by constructional features of the proximal end}
- 5/3137 {with finger grip means, e.g. for easy manipulation of the syringe rod}
- WARNING**
- Group [A61M 5/3137](#) is impacted by reclassification into group [A61M 5/3147](#).
- Groups [A61M 5/3137](#) and [A61M 5/3147](#) should be considered in order to perform a complete search.
- 2005/3139 {Finger grips not integrally formed with the syringe barrel, e.g. using adapter with finger grips}
- WARNING**
- Group [A61M 2005/3139](#) is impacted by reclassification into group [A61M 5/3147](#).
- Groups [A61M 2005/3139](#) and [A61M 5/3147](#) should be considered in order to perform a complete search.
- 2005/314 {Flat shaped barrel forms, e.g. credit card shaped}
- 2005/3142 {Modular constructions, e.g. supplied in separate pieces to be assembled by end-user}
- 2005/3143 . . . {Damping means for syringe components executing relative movements, e.g. retarders or attenuators slowing down or timing syringe mechanisms}
- 5/3145 . . . {Filters incorporated in syringes}
- 5/3146 . . . {Priming, e.g. purging, reducing backlash or clearance}
- 5/3147 . . . {Syringe accessories}
- WARNING**
- Group [A61M 5/3147](#) is incomplete pending reclassification of documents from groups [A61M 5/31](#), [A61M 2005/3125](#), [A61M 5/3137](#) and [A61M 2005/3139](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 5/3148 . . . {Means for causing or aiding aspiration or plunger retraction}
- 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}
- 5/31501 {Means for blocking or restricting the movement of the rod or piston ([A61M 5/5013](#) takes precedence)}

- 5/31505 {Integral with the syringe barrel, i.e. connected to the barrel so as to make up a single complete piece or unit}
- 2005/31506 {formed as a single piece, e.g. moulded}
- 2005/31508 {provided on the piston-rod}
- 2005/3151 {by friction}
- 5/31511 {Piston or piston-rod constructions, e.g. connection of piston with piston-rod ([A61M 5/5066](#) takes precedence)}
- 5/31513 {Piston constructions to improve sealing or sliding}
- 5/31515 {Connection of piston with piston rod}
- 2005/31516 {reducing dead-space in the syringe barrel after delivery}
- 2005/31518 {designed to reduce the overall size of an injection device, e.g. using flexible or pivotally connected chain-like rod members}
- 2005/3152 {including gears to multiply or attenuate the piston displacing force}
- 2005/31521 {Pistons with a forward extending skirt at their front end}
- 2005/31523 {for reducing reflux}
- 5/31525 {Dosing ([burettes](#), [pipettes B01L 3/02](#))}
- 5/31526 {by means of stepwise axial movements, e.g. ratchet mechanisms or detents}
- 5/31528 {by means of rotational movements, e.g. screw-thread mechanisms}
- 5/3153 {by single stroke limiting means}
- 5/31531 {Microsyringes, e.g. having piston bore diameter close or equal to needle shaft diameter}
- 5/31533 {Dosing mechanisms, i.e. setting a dose ([administrating mechanisms A61M 5/31565](#))}
- 5/31535 {Means improving security or handling thereof, e.g. blocking means, means preventing insufficient dosing, means allowing correction of overset dose}
- 5/31536 {Blocking means to immobilize a selected dose, e.g. to administer equal doses}
- 5/31538 {Permanent blocking, e.g. by medical personnel}
- 2005/3154 {limiting maximum permissible dose}
- 5/31541 {Means preventing setting of a dose beyond the amount remaining in the cartridge}
- 5/31543 {piston rod reset means, i.e. means for causing or facilitating retraction of piston rod to its starting position during cartridge change}
- 5/31545 {Setting modes for dosing}
- 5/31546 {Electrically operated dose setting, e.g. input via touch screen or plus/minus buttons}
- 5/31548 {Mechanically operated dose setting member}
- 5/3155 {by rotational movement of dose setting member, e.g. during setting or filling of a syringe}
- WARNING**
- Group [A61M 5/3155](#) is incomplete pending reclassification of documents from group [A61M 2005/3126](#). Group [A61M 5/3155](#) is also impacted by reclassification into groups [A61M 5/009](#) and [A61M 5/0091](#). All groups listed in this Warning should be considered in order to perform a complete search.
- 5/31551 {including axial movement of dose setting member}
- WARNING**
- Group [A61M 5/31551](#) is impacted by reclassification into groups [A61M 5/009](#) and [A61M 5/0091](#). Groups [A61M 5/31551](#), [A61M 5/009](#) and [A61M 5/0091](#) should be considered in order to perform a complete search.
- 5/31553 {without axial movement of dose setting member}
- WARNING**
- Group [A61M 5/31553](#) is impacted by reclassification into groups [A61M 5/009](#) and [A61M 5/0091](#). Groups [A61M 5/31553](#), [A61M 5/009](#) and [A61M 5/0091](#) should be considered in order to perform a complete search.
- 5/31555 {by purely axial movement of dose setting member, e.g. during setting or filling of a syringe}
- 5/31556 {Accuracy improving means}
- 5/31558 {using scaling up or down transmissions, e.g. gearbox}
- 5/3156 {using volume steps only adjustable in discrete intervals, i.e. individually distinct intervals}
- 5/31561 {using freely adjustable volume steps}
- 5/31563 {interacting with a displaceable stop member}
- 5/31565 {Administration mechanisms, i.e. constructional features, modes of administering a dose ([dosing mechanisms for setting a dose A61M 5/31533](#))}
- 5/31566 {Means improving security or handling thereof}
- 5/31568 {Means keeping track of the total dose administered, e.g. since the cartridge was inserted}

5/3157	{Means providing feedback signals when administration is completed (A61M 5/20 takes precedence)}	5/3202	{Devices for protection of the needle before use, e.g. caps (A61M 5/50 takes precedence; protectors for sharps A61B 50/3001)}
5/31571	{Means preventing accidental administration (for automatic syringes A61M 5/20)}	WARNING	
5/31573	{Accuracy improving means}	Group A61M 5/3202 is impacted by reclassification into groups A61M 5/32021 , A61M 5/32023 , A61M 5/320231 , A61M 5/320233 , A61M 5/320235 , A61M 5/32025 , A61M 5/320253 , A61M 5/320255 , A61M 5/32027 and A61M 5/32029 .	
5/31575	{using scaling up or down transmissions, e.g. gearbox}	All groups listed in this Warning should be considered in order to perform a complete search.	
5/31576	{Constructional features; Drive mechanisms or modes for piston rods}	5/32021	{Caps made of two or more materials}
5/31578	{the piston rod being moved by the axial movement of a component directly in contact with it}	WARNING	
5/3158	{the component being manually operated or triggered by an axially moving actuator operated by user, e.g. an axially movable injection button}	Group A61M 5/32021 is incomplete pending reclassification of documents from groups A61M 5/3202 and A61M 5/3204 .	
5/31581	{the component being manually operated or triggered by a rotating or pivoting actuator operated by user, e.g. an injection lever or handle}	Groups A61M 5/3202 , A61M 5/3204 and A61M 5/32021 should be considered in order to perform a complete search.	
5/31583	{the piston rod being moved by the rotational movement of a component directly in contact with it}	5/32023	{Caps having a secondary function besides protecting the needle, e.g. sealing the needle lumen or blocking injector activation}
5/31585	{the component being manually operated or triggered by an axially moving actuator operated by user, e.g. an axially movable injection button}	WARNING	
5/31586	{the component being manually operated or triggered by a rotating or pivoting actuator operated by user, e.g. an injection lever or handle}	Groups A61M 5/32023 , A61M 5/320231 , A61M 5/320233 , A61M 5/320235 , A61M 5/32025 , A61M 5/320253 and A61M 5/320255 are incomplete pending reclassification of documents from groups A61M 5/3202 and A61M 5/3204 .	
2005/31588	{electrically driven}	All groups listed in this Warning should be considered in order to perform a complete search.	
5/3159	{Dose expelling manners}	5/320231	{Means for removing the cap}
5/31591	{Single dose, i.e. individually set dose administered only once from the same medicament reservoir, e.g. including single stroke limiting means}	5/320233	{actuated by twisting}
5/31593	{Multi-dose, i.e. individually set dose repeatedly administered from the same medicament reservoir}	5/320235	{actuated by pushing}
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}	5/32025	{Preventing accidental removal of the cap}
5/31596	{comprising means for injection of two or more media, e.g. by mixing}	5/320253	{Preventing premature or accidental actuation of the injector}
5/31598	{having multiple telescopically sliding coaxial pistons encompassing volumes for components to be mixed}	5/320255	{Preventing re-capping}
5/32	Needles; Details of needles pertaining to their connection with syringe or hub (infusion needles A61M 5/158); Accessories for bringing the needle into, or holding the needle on, the body; Devices for protection of needles	5/32027	{with electronic components}
2005/3201	{Coaxially assembled needle cannulas placed on top of another, e.g. needles having different diameters}	WARNING	
		Group A61M 5/32027 is incomplete pending reclassification of documents from groups A61M 5/3202 and A61M 5/3204 .	
		Groups A61M 5/3202 , A61M 5/3204 and A61M 5/32027 should be considered in order to perform a complete search.	

5/32029	{Caps made of two or more separable parts}	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}
	WARNING		
	Group A61M 5/32029 is incomplete pending reclassification of documents from groups A61M 5/3202 and A61M 5/3204 .	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 A61M 25/0612)}
	Groups A61M 5/3202 , A61M 5/3204 and A61M 5/32029 should be considered in order to perform a complete search.	5/3221	{Constructional features thereof, e.g. to improve manipulation or functioning}
5/3204	{Needle cap removers, i.e. devices to dislodge protection cover from needle or needle hub, e.g. deshielding devices}	2005/3223	{Means impeding or disabling repositioning of used needles at the syringe nozzle}
	WARNING	2005/3224	{Means to disalign the needle tip and syringe nozzle}
	Group A61M 5/3204 is impacted by reclassification into groups A61M 5/32021 , A61M 5/32023 , A61M 5/320231 , A61M 5/320233 , A61M 5/320235 , A61M 5/32025 , A61M 5/320253 , A61M 5/320255 , A61M 5/32027 and A61M 5/32029 .	2005/3226	{with means obstructing or blocking the needle mounting opening}
	All groups listed in this Warning should be considered in order to perform a complete search.	2005/3227	{the needle being retracted laterally outside the syringe barrel, e.g. with separate guideway}
5/3205	{Apparatus for removing or disposing of used needles or syringes, e.g. containers; Means for protection against accidental injuries from used needles (for sharps A61B 50/362 ; disintegrating apparatus in general B02C , e.g. B02C 19/0075 , B23H 9/001 ; disposal of medical waste in general B09B 3/00 ; receptacles for refuse disposal in general B65F 1/00)}	2005/3228	{the needle being retracted by a member protruding laterally through a slot in the barrel, e.g. double-ended needles}
2005/3206	{Needle or needle hub disconnecting devices forming part of or being attached to the hub or syringe body}	2005/323	{Connection between plunger distal end and needle hub proximal end, e.g. stud protruding from the plunger}
2005/3208	{by application of rotational movement to the needle hub, e.g. by use of electrically driven toothed wheels}	2005/3231	{Proximal end of needle captured or embedded inside piston head, e.g. by friction or hooks}
2005/3209	{comprising heat generating means, e.g. melt chamber}	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}
5/321	{Means for protection against accidental injuries by used needles}	5/3234	{Fully automatic needle retraction, i.e. in which triggering of the needle does not require a deliberate action by the user}
2005/3212	{Blunting means for the sharp end of the needle}	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}
5/3213	{Caps placed axially onto the needle, e.g. equipped with finger protection guards (axially-extensible protective sleeves A61M 5/3243)}	2005/3236	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}
2005/3215	{Tools enabling the cap placement}	2005/3238	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}
5/3216	{Caps placed transversally onto the needle, e.g. pivotally attached to the needle base}		
2005/3217	{Means to impede repositioning of protection cap from needle covering to needle uncovering position, e.g. catch mechanisms}		

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}	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}
2005/3241	. . . . .	{Needle retraction energy is accumulated inside of a hollow plunger rod}	2005/3267	. . . . .	{Biased sleeves where the needle is uncovered by insertion of the needle into a patient's body}
2005/3242	. . . . .	{Needle retraction by vacuum}	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}
5/3243	. . . . .	{being axially-extensible, e.g. protective sleeves coaxially slidable on the syringe barrel (devices for protecting guide needles in combination with catheters A61M 25/0612)}	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}
5/3245	. . . . .	{Constructional features thereof, e.g. to improve manipulation or functioning}	5/3271	. . . . .	{with guiding tracks for controlled sliding of needle protective sleeve from needle exposing to needle covering position}
2005/3246	. . . . .	{being squeezably deformable for locking or unlocking purposes, e.g. with elliptical cross-section}	5/3272	. . . . .	{having projections following labyrinth paths}
2005/3247	. . . . .	{Means to impede repositioning of protection sleeve from needle covering to needle uncovering position}	5/3273	. . . . .	{freely sliding on needle shaft without connection to syringe or needle}
2005/3249	. . . . .	{Means to disalign the needle tip and the distal needle passage of a needle protection sleeve}	5/3275	. . . . .	{being connected to the needle hub or syringe by radially deflectable members, e.g. longitudinal slats, cords or bands}
2005/325	. . . . .	{Means obstructing the needle passage at distal end of a needle protection sleeve}	5/3276	. . . . .	{Means imparting rotational movement to the needle or needle hub in order to assist in its disconnection from syringe nozzle}
2005/3252	. . . . .	{being extended by a member protruding laterally through a slot in the syringe barrel}	5/3278	. . . . .	{Apparatus for destroying used needles or syringes (needle resheathing means destroying the needle A61M 5/321)}
2005/3253	. . . . .	{disconnecting the needle hub from the syringe barrel during removal of the sleeve from the syringe barrel}	2005/3279	. . . . .	{Breaking syringe nozzles or needle hubs}
2005/3254	. . . . .	{Shielding of proximal needles, e.g. for pen needles}	2005/328	. . . . .	{having needle tip encapsulating means, e.g. two-component hardenable compound or molten plastic}
2005/3256	. . . . .	{having folding ring sections}	2005/3282	. . . . .	{using mechanical means, e.g. mills}
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}	2005/3283	. . . . .	{using electric current between electrodes}
2005/3258	. . . . .	{being compressible or compressed along the needle}	2005/3284	. . . . .	{Deformation of needle by deflection or bending}
5/326	. . . . .	{Fully automatic sleeve extension, i.e. in which triggering of the sleeve does not require a deliberate action by the user}	5/3286	. . . . .	{Needle tip design, e.g. for improved penetration}
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}	5/3287	. . . . .	{Accessories for bringing the needle into the body; Automatic needle insertion (A61M 5/20 , A61M 5/31525 take precedence)}
2005/3263	. . . . .	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}	2005/3289	. . . . .	{with rotation of the needle, e.g. to ease penetration}
2005/3264	. . . . .	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}	5/329	. . . . .	{characterised by features of the needle shaft}
			5/3291	. . . . .	{Shafts with additional lateral openings}
			5/3293	. . . . .	{characterised by features of the needle hub}
			5/3294	. . . . .	{comprising means for injection of two or more media, e.g. by mixing}
			5/3295	. . . . .	{Multiple needle devices, e.g. a plurality of needles arranged coaxially or in parallel}
			5/3297	. . . . .	{Needles arranged coaxially}

- 5/3298 {Needles arranged in parallel}
- 5/34 Constructions for connecting the needle
{, e.g. to syringe nozzle or needle hub
(connecting catheter tubes to hubs
[A61M 25/0014](#))}
- 2005/341 {angularly adjustable or angled away from
the axis of the injector}
- 2005/342 {Off-center needles, i.e. needle
connections not being coaxial with the
longitudinal symmetry axis of syringe
barrel}
- 5/343 {Connection of needle cannula to
needle hub, or directly to syringe nozzle
without a needle hub ([A61M 5/322](#) takes
precedence)}
- 5/344 {using additional parts, e.g. clamping rings
or collets}
- 5/345 {Adaptors positioned between needle
hub and syringe nozzle}
- 5/346 {friction fit ([A61M 5/344](#) takes
precedence)}
- 5/347 {rotatable, e.g. bayonet or screw
([A61M 5/344](#) takes precedence)}
- 5/348 {snap lock, i.e. upon axial displacement
of needle assembly ([A61M 5/344](#) takes
precedence)}
- 5/349 {using adhesive bond or glues}
- 5/36 with means for eliminating or preventing injection
or infusion of air into body (dialysis systems,
blood oxygenators [A61M 1/14](#); haemofiltration
equipment [A61M 1/34](#); {automatic tube cut-off
[A61M 39/281](#)})
- 5/365 {Air detectors ([A61M 5/1684](#) takes precedence;
in extracorporeal blood circuits [A61M 1/3626](#))}
- 5/38 using hydrophilic or hydrophobic filters
- 5/385 {using hydrophobic filters}
- 5/40 using low-level float-valve to cut off media flow
from reservoir {(position detection of a floating
member [A61M 5/1685](#))}
- 5/42 having means for desensitising skin, for protruding
skin to facilitate piercing, or for locating point
where body is to be pierced
- 5/422 {Desensitising skin}
- 5/425 {Protruding skin to facilitate piercing, e.g.
vacuum cylinders, vein immobilising means}
- 5/427 {Locating point where body is to be pierced,
e.g. vein location means using ultrasonic waves,
injection site templates}
- 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 ([A61M 5/142](#) takes
precedence {; monitoring pressure in infusion
systems [A61M 5/16854](#)})
- 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. ventilators (iron lungs [A61H 31/02](#)); Tracheal tubes**
- 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}	16/0422	. . . {Laser-resistant}
2016/0027	. . {pressure meter}	16/0425	. . . {Metal tubes}
2016/003	. . {with a flowmeter}	16/0427	. . . {with removable and re-insertable liner tubes, e.g. for cleaning}
2016/0033	. . . {electrical}	16/0429	. . . {with non-integrated distal obturators}
2016/0036	. . . . {in the breathing tube and used in both inspiratory and expiratory phase}	16/0431	. . . {with a cross-sectional shape other than circular}
2016/0039	. . . . {in the inspiratory circuit}	16/0434	. . {Cuffs}
2016/0042	. . . . {in the expiratory circuit}	16/0436	. . . {Special fillings therefor}
16/0045	. {Means for re-breathing exhaled gases, e.g. for hyperventilation treatment}	16/0438	. . . . {Liquid-filled}
16/0048	. {Mouth-to-mouth respiration (teaching or training models G09B 23/288)}	16/044	. . . {External cuff pressure control or supply, e.g. synchronisation with respiration}
16/0051	. {with alarm devices}	16/0443	. . . {Special cuff-wall materials (A61M 16/0481 , A61M 16/0422 take precedence)}
16/0054	. {Liquid ventilation}	16/0445	. . . {Special cuff forms, e.g. undulated}
16/0057	. {Pumps therefor}	16/0447	. . . . {Bell, canopy or umbrella shaped}
16/006	. . {Tidal volume membrane pumps}	16/045	. . . {with cuffs partially or completely inflated by the respiratory gas}
16/0063	. . {Compressors}	16/0452	. . . . {following the inspiration and expiration pressure}
16/0066	. . {Blowers or centrifugal pumps}	16/0454	. . . {Redundant cuffs}
16/0069	. . . {the speed thereof being controlled by respiratory parameters, e.g. by inhalation}	16/0456	. . . . {one cuff within another}
16/0072	. . {Tidal volume piston pumps}	16/0459	. . . . {one cuff behind another}
16/0075	. . {Bellows-type}	16/0461	. . {Nasoendotracheal tubes}
16/0078	. . {Breathing bags}	16/0463	. . {combined with suction tubes, catheters or the like; Outside connections}
16/0081	. . {Bag or bellow in a bottle}	16/0465	. . {Tracheostomy tubes; Devices for performing a tracheostomy; Accessories therefor, e.g. masks, filters}
16/0084	. . {self-reinflatable by elasticity, e.g. resuscitation squeeze bags}	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)}
16/0087	. {Environmental safety or protection means, e.g. preventing explosion}	16/047	. . . {Masks, filters, surgical pads, devices for absorbing secretions, specially adapted therefor}
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)}	16/0472	. . . {Devices for performing a tracheostomy}
16/0093	. . . {by adsorption, absorption or filtration}	16/0475	. . {having openings in the tube}
16/0096	. {High frequency jet ventilation}	16/0477	. . . {with incorporated means for delivering or removing fluids}
16/01	. specially adapted for anaesthetising (A61M 16/104 , A61M 16/18 take precedence)}	16/0479	. . . . {above the cuff, e.g. giving access to the upper trachea}
16/021	. {operated by electrical means (A61M 16/202 – A61M 16/205 take precedence)}	16/0481	. . . . {through the cuff wall}
16/022	. . {Control means therefor}	16/0484	. . . . {at the distal end}
16/024	. . . {including calculation means, e.g. using a processor}	16/0486	. . {Multi-lumen tracheal tubes}
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}	16/0488	. . {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)}
16/04	. Tracheal tubes (catheters in general A61M 25/00)	16/049	. . . {Mouthpieces}
16/0402	. . {Special features for tracheal tubes not otherwise provided for}	16/0493	. . . . {with means for protecting the tube from damage caused by the patient's teeth, e.g. bite block}
16/0404	. . . {with means for selective or partial lung respiration}	16/0495	. . . . {with tongue depressors}
16/0406	. . . . {implanted flow modifiers}	16/0497	. . . {Tube stabilizer}
16/0409	. . . {with mean for closing the oesophagus}	16/06	. Respiratory or anaesthetic masks
16/0411	. . . {with means for differentiating between oesophageal and tracheal intubation}	16/0605	. . {Means for improving the adaptation of the mask to the patient}
2016/0413	. . . . {with detectors of CO ₂ in exhaled gases}	16/0611	. . . {with a gusset portion}
16/0415	. . . {with access means to the stomach}	16/0616	. . . {with face sealing means comprising a flap or membrane projecting inwards, such that sealing increases with increasing inhalation gas pressure}
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}		

- 16/0622 {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 O₂ 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 O₂ concentration}
 - 2016/103 {the CO₂ 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 leader and follower 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}	25/0023	. . {by the form of the lumen, e.g. cross-section, variable diameter}
2021/0055	. . {with electric or electro-magnetic fields}	2025/0024	. . . {Expandable catheters or sheaths}
2021/0061	. . {Simulated heartbeat pulsed or modulated}	2025/0025	. . . {having a collapsible lumen}
2021/0066	. . {with heating or cooling}	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)}
2021/0072	. . {with application of electrical currents}	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)}
2021/0077	. . {with application of chemical or pharmacological stimulus}	25/0029	. . . . {characterized by features relating to at 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)}
2021/0083	. . {especially for waking up}	25/003	. . . . {characterized by features relating to at least one lumen located at the distal part of the catheter, e.g. filters, plugs or valves (catheter tips A61M 25/0067)}
2021/0088	. . {modulated by a simulated respiratory frequency}	2025/0031	. . . . . {characterized by lumina for withdrawing or delivering, i.e. used for extracorporeal circuit treatment}
21/0094	. {Isolation chambers used therewith, i.e. for isolating individuals from external stimuli (other treatment rooms or enclosures A61G 10/00)}	25/0032	. . . . {characterized by at least one unconventionally shaped lumen, e.g. polygons, ellipsoids, wedges or shapes comprising concave and convex parts}
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)	2025/0034	. . . . {characterized by elements which are assembled, connected or fused, e.g. splittable tubes, outer sheaths creating lumina or separate cores}
Probes; Catheters; Dilators; Drainage appliances for wounds		2025/0035	. . . . {characterized by a variable lumen cross-section by means of a resilient flexible septum or outer wall}
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)}	2025/0036	. . . . {with more than four lumina}
2025/0001	. {for pressure measurement}	2025/0037	. . . . {characterized by lumina being arranged side-by-side}
2025/0002	. . {with a pressure sensor at the distal end}	2025/0039	. . . . {characterized by lumina being arranged coaxially}
2025/0003	. . {having an additional lumen transmitting fluid pressure to the outside for measurement}	2025/004	. . . . {characterized by lumina being arranged circumferentially}
2025/0004	. {having two or more concentrically arranged tubes for forming a concentric catheter system}	25/0041	. . {pre-formed, e.g. specially adapted to fit with the anatomy of body channels (urethral catheters A61F 2/04)}
2025/0006	. . {which can be secured against axial movement, e.g. by using a locking cuff}	2025/0042	. . {Microcatheters, cannula or the like having outside diameters around 1 mm or less}
2025/0007	. {Epidural catheters}	25/0043	. {characterised by structural features}
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}	25/0045	. . {multi-layered, e.g. coated (coating materials A61L 29/08)}
25/0009	. {Making of catheters or other medical or surgical tubes}	2025/0046	. . . {Coatings for improving slidability}
25/001	. . {Forming the tip of a catheter, e.g. bevelling process, join or taper}	2025/0047	. . . . {the inner layer having a higher lubricity}
25/0012	. . {with embedded structures, e.g. coils, braids, meshes, strands or radiopaque coils}	2025/0048	. . . . . {with an outer layer made from silicon}
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}	25/005	. . {with embedded materials for reinforcement, e.g. wires, coils, braids}
25/0014	. . {Connecting a tube to a hub}	25/0051	. . . {made from fenestrated or weakened tubing layer}
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}	25/0052	. . . {Localized reinforcement, e.g. where only a specific part of the catheter is reinforced, for rapid exchange guidewire port}
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)}		

- 25/0053 . . . {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 ([tube connectors or tube couplings 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}	25/0606	. . . . {"Over-the-needle" catheter assemblies, e.g. I.V. catheters}
25/0158	. . . . {with magnetic or electrical means, e.g. by using piezo materials, electroactive polymers, magnetic materials or by heating of shape memory materials}	25/0612	. . . . {Devices for protecting the needle; Devices to help insertion of the needle, e.g. wings or holders}
2025/0161	. . . . {wherein the distal tips have two or more deflection regions}	25/0618	. . . . {having means for protecting only the distal tip of the needle, e.g. a needle guard}
2025/0163	. . . . {Looped catheters}	25/0625	. . . . . {with a permanent connection to the needle hub, e.g. a guiding rail, a locking mechanism or a guard advancement mechanism}
2025/0166	. . . . {Sensors, electrodes or the like for guiding the catheter to a target zone, e.g. image guided or magnetically guided}	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}
25/0169	. . {Exchanging a catheter while keeping the guidewire in place}	25/0637	. . . . . {Butterfly or winged devices, e.g. for facilitating handling or for attachment to the skin}
25/0172	. . {Exchanging a guidewire while keeping the catheter in place}	25/0643	. . . . . {Devices having a blunt needle tip, e.g. due to an additional inner component}
2025/0175	. . {having telescopic features, interengaging nestable members movable in relations to one another}	25/065	. . . . {Guide needles}
2025/0177	. . {having external means for receiving guide wires, wires or stiffening members, e.g. loops, clamps or lateral tubes}	2025/0656	. . . . . {having a tip larger than the rest of the body}
2025/018	. . {Catheters having a lateral opening for guiding elongated means lateral to the catheter}	25/0662	. . . . {Guide tubes}
2025/0183	. . {Rapid exchange or monorail catheters}	25/0668	. . . . . {splittable, tear apart}
2025/0186	. . {Catheters with fixed wires, i.e. so called "non-over-the-wire catheters"}	2025/0675	. . . . . {Introducing-sheath slitters}
2025/0188	. . {having slitted or breakaway lumens}	2025/0681	. . . . . {Systems with catheter and outer tubing, e.g. sheath, sleeve or guide tube}
2025/0191	. . {Suprapubic catheters}	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}
25/0194	. . {Tunnelling catheters}	25/0693	. . . . {Flashback chambers}
2025/0197	. . . . {for creating an artificial passage within the body, e.g. in order to go around occlusions}	25/09	. . . . Guide wires
25/02	. . Holding devices, e.g. on the body	2025/09008	. . . . {having a balloon}
2025/0206	. . . . {where the catheter is secured by using devices worn by the patient, e.g. belts or harnesses}	25/09016	. . . . {with mandrils}
2025/0213	. . . . {where the catheter is attached by means specifically adapted to a part of the human body}	25/09025	. . . . . {with sliding mandrils}
2025/022	. . . . . {specifically adapted for the mouth}	25/09033	. . . . . {with fixed mandrils, e.g. mandrils fixed to tip; Tensionable wires}
2025/0226	. . . . . {specifically adapted for the nose}	25/09041	. . . . {Mechanisms for insertion of guide wires}
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}	25/0905	. . . . {extendable, e.g. mechanisms for extension}
2025/024	. . . . {having a clip or clamp system}	2025/09058	. . . . {Basic structures of guide wires}
2025/0246	. . . . {fixed on the skin having a cover for covering the holding means}	2025/09066	. . . . . {having a coil without a core possibly combined with a sheath}
2025/0253	. . . . {where the catheter is attached by straps, bands or the like secured by adhesives}	2025/09075	. . . . . {having a core without a coil possibly combined with a sheath}
2025/026	. . . . . {where the straps are releasably secured, e.g. by hook and loop-type fastening devices}	2025/09083	. . . . . {having a coil around a core}
2025/0266	. . . . {using pads, patches, tapes or the like}	2025/09091	. . . . . {where a sheath surrounds the coil at the distal part}
2025/0273	. . . . . {having slits to place the pad around a catheter puncturing site}	2025/091	. . . . {having a lumen for drug delivery or suction}
2025/028	. . . . {having a mainly rigid support structure}	2025/09108	. . . . {Methods for making a guide wire}
2025/0286	. . . . {anchored in the skin by suture or other skin penetrating devices}	2025/09116	. . . . {Design of handles or shafts or gripping surfaces thereof for manipulating guide wires}
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}	2025/09125	. . . . {Device for locking a guide wire in a fixed position with respect to the catheter or the human body}
25/04	. . . . in the body, e.g. expansible {(A61M 25/10, A61M 16/0488 take precedence)}	2025/09133	. . . . {having specific material compositions or coatings; Materials with specific mechanical behaviours, e.g. stiffness, strength to transmit torque}
25/06	. . . . Body-piercing guide needles or the like	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}
- 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 **Drainage appliance for wounds or the like {, i.e. wound drains, implanted drains} ([negative pressure wound therapy devices A61M 1/90](#);) [implements for holding wound open A61B 17/02](#) (; [middle ear drainage A61F 11/202](#))}**

- 27/002 . {Implant devices for drainage of body fluids from one part of the body to another ([intraocular A61F 9/00781](#); [middle ear A61F 11/202](#))}
- 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 Dilators with or without means for introducing media, e.g. remedies**
- 29/02 . Dilators made of swellable material ([balloon catheters for angioplasty A61M 25/104](#))
- 2029/025 . . {characterised by the guiding element}
- 31/00 Devices for introducing or retaining media, e.g. remedies, in cavities of the body ([A61M 25/00](#) takes precedence {; introducing or retaining ophthalmic products into the ocular cavities [A61F 9/0008](#))}**
- 31/002 . {Devices for releasing a drug at a continuous and controlled rate for a prolonged period of time ([artificial gland structures or devices A61F 2/022](#); [intra-uterine contraceptive devices A61F 6/14](#); [tampons for introducing into the vagina A61F 13/20](#), [A61L 15/00](#); [suppositories or bougies for intra-vaginal or intra-uterine application A61K 9/02](#); [physical forms of medicinal preparations for sustained or differential drug release A61K 9/20](#), [A61K 9/50](#))}
- 31/005 . {for contrast media}
- 31/007 . {Injectors for solid bodies, e.g. suppositories}
- 35/00 Devices for applying media, e.g. remedies, on the human body (devices for handling toiletry or cosmetic substances [A45D](#); absorbent pads, e.g. swabs, [A61F 13/15](#))**
- 35/003 . {Portable hand-held applicators having means for dispensing or spreading integral media ([hand-held massage devices with liquid delivery A61H 7/003](#))}
- 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 Other apparatus for introducing media into the body (for reproduction or fertilisation [A61B 17/425](#); apparatus for iontophoresis or cataphoresis [A61N 1/30](#)); Percutany, i.e. introducing medicines into the body by diffusion through the skin ([salt baths A61H 33/04](#))**
- 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](#))**
- 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 ([implantable infusion devices A61M 5/14276](#); [transcutaneous access sites A61M 39/0247](#))}
- 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 . . {Transcutaneous or percutaneous access sites to the inside of the body}
- 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}
- 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 or tube couplings
- 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}
- 39/1033 . . . {Swivel nut connectors, e.g. threaded connectors or 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}
- 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 meltable 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)}
- 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}
- 39/229 . . {Single-way cut-off valves}
- 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}
- 2039/248 {Ball-valve}
- 2039/2486 {Guided stem, e.g. reciprocating stopper}
- 2039/2493 . . . {Check valve with complex design, e.g. several inlets and outlets and several check valves in one body}
- 39/26 . . Valves closing automatically on disconnecting the line and opening on reconnection thereof {(check valves A61M 39/24)}
- 2039/261 . . . {where the fluid space within the valve is increasing upon disconnection}
- 2039/262 . . . {having a fluid space within the valve remaining the same upon connection and disconnection, i.e. neutral-drawback valve}
- 2039/263 . . . {where the fluid space within the valve is decreasing upon disconnection}
- 2039/265 . . . {electrically operated, e.g. a male connector closing an electrical circuit upon connection to a female valve portion}
- 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}
- 2039/267 {having a sealing sleeve around a tubular or solid stem portion of the connector}
- 2039/268 {wherein the stem portion is moved for opening and closing the valve, e.g. by translation, rotation}
- 39/28 . . Clamping means for squeezing flexible tubes, e.g. roller clamps {(tube strippers A61M 1/83)}
- 39/281 . . . {Automatic tube cut-off devices, e.g. squeezing tube on detection of air}
- 2039/282 {including severing of the tube}
- 39/283 . . . {Screw clamps}
- 39/284 . . . {Lever clamps}
- 39/285 . . . {Cam clamps, e.g. roller clamps with eccentric axis}
- 39/286 . . . {Wedge clamps, e.g. roller clamps with inclined guides}
- 39/287 {Wedge formed by a slot having varying width, e.g. slide clamps}
- 39/288 . . . {by bending or twisting the tube}
- 60/00** **Blood pumps; Devices for mechanical circulatory actuation; Balloon pumps for circulatory assistance** (heart stimulation A61H 31/00; heart stimulators for electrotherapy A61N 1/362)
- NOTE**
- 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 A61M 60/10, A61M 60/20, A61M 60/30, A61M 60/40, A61M 60/50 and A61M 60/80. This obligation extends to information that would normally only be considered as additional information.
- 60/10 . . Location thereof with respect to the patient's body
- 60/104 . . Extracorporeal pumps, i.e. the blood being pumped outside the patient's body
- 60/109 . . . incorporated within extracorporeal blood circuits or systems
- 60/113 in other functional devices, e.g. dialysers or heart-lung machines
- 60/117 . . . for assisting the heart, e.g. transcutaneous or external ventricular assist devices
- 60/122 . . Implantable pumps or pumping devices, i.e. the blood being pumped inside the patient's body
- 60/126 . . . implantable via, into, inside, in line, branching on, or around a blood vessel
- 60/13 by means of a catheter allowing explantation, e.g. catheter pumps temporarily introduced via the vascular system
- 60/135 inside a blood vessel, e.g. using grafting
- 60/139 inside the aorta, e.g. intra-aortic balloon pumps
- 60/143 inside the coronary sinus, e.g. for pressure-controlled intermittent coronary sinus occlusion

- 60/148 in line with a blood vessel using resection or like techniques, e.g. permanent endovascular heart assist devices
- 60/152 branching on and drawing blood from a blood vessel
- 60/157 mechanically acting upon the inside of the patient's blood vessel structure, e.g. contractile structures placed inside a vessel
- 60/161 mechanically acting upon the outside of the patient's blood vessel structure, e.g. compressive structures placed around a vessel
- 60/165 . . . implantable in, on, or around the heart
- 60/17 inside a ventricle, e.g. intraventricular balloon pumps
- 60/174 discharging the blood to the ventricle or arterial system via a cannula internal to the ventricle or arterial system
- 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
- 60/183 drawing blood from both ventricles, e.g. bi-ventricular assist devices [BiVAD]
- 60/187 mechanically acting upon the inside of the patient's native heart, e.g. contractile structures placed inside the heart
- 60/191 mechanically acting upon the outside of the patient's native heart, e.g. compressive structures placed around the heart
- 60/196 . . . replacing the entire heart, e.g. total artificial hearts [TAH]
- 60/20 . Type thereof
- 60/205 . . Non-positive displacement blood pumps
- 60/211 . . . using a jet, venturi or entrainment effect for pumping the blood
- 60/216 . . . including a rotating member acting on the blood, e.g. impeller
- 60/221 the blood flow through the rotating member having both radial and axial components, e.g. mixed flow pumps
- 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 Volutes
- 60/816 Sensors arranged on or in the housing, e.g. ultrasonic 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	2202/0431	. . . . Gerocytes
99/00	Subject matter not provided for in other groups of this subclass	2202/0433	. . . . Free haemoglobin
2202/00	Special media to be introduced, removed or treated	2202/0435	. . . . Neocytes, e.g. reticulocytes
	NOTE	2202/0437	. . . . Blood stem cells
	The classification symbols A61M 2202/0007 - A61M 2202/0092 are not listed first when assigned to patent documents.	2202/0439	. . . . White blood cells; Leucocytes
	They are used only when associated to other subgroups of A61M 2202/00 in combination sets	2202/0441	. . . . Granulocytes, i.e. leucocytes containing many granules in their cytoplasm
	Example:	2202/0443	. . . . Macrophages, e.g. monocytes
	A61M 2202/0417 , A61M 2202/0057	2202/0445	. . . . Proteins
2202/0007	. introduced into the body	2202/0447	. . . . Glycoproteins
2202/0014	. removed from the body	2202/0449	. . . . Fibrinogen, also called factor 1
2202/0021	. removed from and reintroduced into the body, e.g. after treatment	2202/045	. . . . Fibrin
2202/0028	. fluid entering a filter	2202/0452	. . . . Factor VIII
2202/0035	. fluid leaving the cross-flow filter without having passed through the filtering element	2202/0454	. . . . Fibrinase, i.e. Factor XIII
2202/0042	. filtrate, i.e. the fluid passing through the filter	2202/0456	. . . . Lipoprotein
2202/005	. residue retained by the filter due to size	2202/0458	. . . . High-density lipoprotein
2202/0057	. retained by adsorption	2202/046	. . . . Low-density lipoprotein
2202/0064	. changed by biological action	2202/0462	. . . . Placental blood, umbilical cord blood
2202/0071	. product to be retained or harvested, e.g. by pheresis	2202/0464	. . . Cerebrospinal fluid
2202/0078	. changed by chemical action	2202/0466	. . . Saliva
2202/0085	. product washed out	2202/0468	. . non-physiological
2202/0092	. starting product created by centrifuging	2202/047	. . . cardioplegic
2202/02	. Gases	2202/0472	. . . . cryo-cardioplegic
2202/0208	. . Oxygen	2202/0474	. . . haemodiluting
2202/0216	. . Ozone	2202/0476	. . . Oxygenated solutions
2202/0225	. . Carbon oxides, e.g. Carbon dioxide	2202/0478	. . . Heparin
2202/0233	. . . Carbon monoxide	2202/048	. . . Anaesthetics
2202/0241	. . Anaesthetics; Analgesics	2202/0482	. . . Enteral feeding product
2202/025	. . Helium	2202/0484	. . . Alcohol
2202/0258	. . Krypton (KR)	2202/0486	. . . Glucose
2202/0266	. . Nitrogen (N)	2202/0488	. . . Surfactant, e.g. for the lung
2202/0275	. . . Nitric oxide [NO]	2202/049	. . . Toxic
2202/0283	. . . Nitrous oxide (N ₂ O)	2202/0492	. . Pleural
2202/0291	. . Xenon	2202/0494	. . Obstetrical, amniotic fluid
2202/03	. Gases in liquid phase, e.g. cryogenic liquids	2202/0496	. . Urine
2202/04	. Liquids	2202/0498	. . . Urea
2202/0401	. . Ascitics	2202/06	. Solids
2202/0403	. . Gall; Bile	2202/062	. . Desiccants
2202/0405	. . Lymph	2202/064	. . Powder
2202/0407	. . . Lymphocytes	2202/066	. . . made from a compacted product by abrading
2202/0409	. . . . B-Lymphocytes	2202/068	. . Faeces; Excretions
2202/0411	. . . . T-Lymphocytes	2202/07	. Proteins
2202/0413	. . Blood	2202/08	. Lipoids
2202/0415	. . . Plasma	2202/09	. Body tissue
2202/0417	. . . . Immunoglobulin	2202/092	. . Sweat glands
2202/0419	. . . . Immunoglobulin G	2202/095	. . Collagen
2202/0421	. . . . Beta-2-microglobulin	2202/097	. . endothelial cells
2202/0423	. . . . Serum; Human serous fluid, i.e. plasma without fibrinogen	2202/10	. Bone-marrow
2202/0425	. . . . Thrombin	2202/20	. Pathogenic agents
2202/0427	. . . Platelets; Thrombocytes	2202/203	. Bacteria
2202/0429	. . . Red blood cells; Erythrocytes	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 alkaline environments or alkaline 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
- 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
- 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
- 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-CO₂)
- 2230/204 . . . partial carbon monoxide pressure (P-CO)
- 2230/205 . . partial oxygen pressure (P-O₂)
- 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 CO₂ pressure (P-CO₂)
- 2230/435 . . . partial O₂ pressure (P-O₂)
- 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**