

# 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**

#### NOTES

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

#### WARNINGS

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

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

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00

**Suction or pumping devices for medical purposes; Devices for carrying-off, for treatment of, or for carrying-over, body-liquids; Drainage systems** ({ [A61M 3/00](#) - [A61M 5/00](#), [A61M 11/00](#) - [A61M 16/00](#), [A61M 27/00](#) - [A61M 35/00](#) take precedence } ; 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 5/14](#); implements for holding wounds open [A61B 17/02](#); { saliva removers for dentists [A61C 17/04](#) } ; filters implantable into blood vessels [A61F 2/01](#); pumps in general [F04](#))

**WARNING**

Groups [A61M 1/0007](#), [A61M 1/0015](#), [A61M 1/0017](#), [A61M 1/0025](#) - [A61M 1/0029](#), [A61M 1/0033](#), [A61M 1/0035](#), [A61M 1/0045](#), [A61M 1/005](#) - [A61M 1/0054](#), [A61M 1/006](#), [A61M 1/0068](#) - [A61M 1/0072](#), [A61M 1/0082](#), [A61M 1/0086](#), [A61M 1/009](#) - [A61M 1/0098](#), [A61M 1/0204](#), [A61M 1/0213](#) - [A61M 1/0236](#), [A61M 1/0254](#), [A61M 1/0277](#), [A61M 1/0286](#), [A61M 1/0295](#), [A61M 1/062](#) - [A61M 1/068](#), [A61M 1/1001](#) - [A61M 1/1008](#), [A61M 1/1012](#) - [A61M 1/1036](#), [A61M 1/1039](#) - [A61M 1/1044](#), [A61M 1/1048](#) - [A61M 1/1051](#), [A61M 1/1055](#) - [A61M 1/1058](#), [A61M 1/1062](#) - [A61M 1/1065](#), [A61M 1/1074](#) - [A61M 1/1075](#), [A61M 1/1082](#), [A61M 1/1084](#), [A61M 1/1087](#) - [A61M 1/1089](#), [A61M 1/1096](#) - [A61M 1/1098](#), [A61M 1/122](#) - [A61M 1/125](#), [A61M 1/1601](#) - [A61M 1/1652](#), [A61M 1/166](#) - [A61M 1/1676](#), [A61M 1/1682](#) - [A61M 1/1684](#), [A61M 1/1688](#), [A61M 1/262](#) - [A61M 1/267](#), [A61M 1/281](#) - [A61M 1/284](#), [A61M 1/288](#), [A61M 1/301](#) - [A61M 1/309](#), [A61M 1/322](#) - [A61M 1/327](#), [A61M 1/3403](#) - [A61M 1/341](#), [A61M 1/3417](#), [A61M 1/3424](#) - [A61M 1/3437](#), [A61M 1/3444](#) - [A61M 1/3451](#), [A61M 1/3458](#), [A61M 1/3465](#), [A61M 1/3468](#), [A61M 1/3475](#) - [A61M 1/3493](#), [A61M 1/3601](#) - [A61M 1/362](#), [A61M 1/3629](#) - [A61M 1/3632](#), [A61M 1/3635](#) - [A61M 1/3638](#), [A61M 1/3641](#), [A61M 1/3644](#) - [A61M 1/3652](#), [A61M 1/3656](#) - [A61M 1/3661](#), [A61M 1/3667](#), [A61M 1/3673](#), [A61M 1/3676](#), [A61M 1/3678](#), [A61M 1/3683](#), [A61M 1/3686](#), [A61M 1/3689](#), [A61M 1/3692](#), [A61M 1/3695](#) - [A61M 1/3698](#) are incomplete pending reclassification of documents from group [A61M 1/00](#) or respective subgroup.

Until reclassification is complete, groups [A61M 1/00](#) or respective subgroup and [A61M 1/0007](#), [A61M 1/0015](#), [A61M 1/0017](#), [A61M 1/0025](#) - [A61M 1/0029](#), [A61M 1/0033](#), [A61M 1/0035](#), [A61M 1/0045](#), [A61M 1/005](#) - [A61M 1/0054](#), [A61M 1/006](#), [A61M 1/0068](#) - [A61M 1/0072](#), [A61M 1/0082](#), [A61M 1/0086](#), [A61M 1/009](#) - [A61M 1/0098](#), [A61M 1/0204](#), [A61M 1/0213](#) - [A61M 1/0236](#), [A61M 1/0254](#), [A61M 1/0277](#), [A61M 1/0286](#),

[A61M 1/0295](#), [A61M 1/062](#) - [A61M 1/068](#), [A61M 1/1001](#) - [A61M 1/1008](#), [A61M 1/1012](#) - [A61M 1/1036](#), [A61M 1/1039](#) - [A61M 1/1044](#), [A61M 1/1048](#) - [A61M 1/1051](#), [A61M 1/1055](#) - [A61M 1/1058](#), [A61M 1/1062](#) - [A61M 1/1065](#), [A61M 1/1074](#) - [A61M 1/1075](#), [A61M 1/1082](#), [A61M 1/1084](#), [A61M 1/1087](#) - [A61M 1/1089](#), [A61M 1/1096](#) - [A61M 1/1098](#), [A61M 1/122](#) - [A61M 1/125](#), [A61M 1/1601](#) - [A61M 1/1652](#), [A61M 1/166](#) - [A61M 1/1676](#), [A61M 1/1682](#) - [A61M 1/1684](#), [A61M 1/1688](#), [A61M 1/262](#) - [A61M 1/267](#), [A61M 1/281](#) - [A61M 1/284](#), [A61M 1/288](#), [A61M 1/301](#) - [A61M 1/309](#), [A61M 1/322](#) - [A61M 1/327](#), [A61M 1/3403](#) - [A61M 1/341](#), [A61M 1/3417](#), [A61M 1/3424](#) - [A61M 1/3437](#), [A61M 1/3444](#) - [A61M 1/3451](#), [A61M 1/3458](#), [A61M 1/3465](#), [A61M 1/3468](#), [A61M 1/3475](#) - [A61M 1/3493](#), [A61M 1/3601](#) - [A61M 1/362](#), [A61M 1/3629](#) - [A61M 1/3632](#), [A61M 1/3635](#) - [A61M 1/3638](#), [A61M 1/3641](#), [A61M 1/3644](#) - [A61M 1/3652](#), [A61M 1/3656](#) - [A61M 1/3661](#), [A61M 1/3667](#), [A61M 1/3673](#), [A61M 1/3676](#), [A61M 1/3678](#), [A61M 1/3683](#), [A61M 1/3686](#), [A61M 1/3689](#), [A61M 1/3692](#), [A61M 1/3695](#) - [A61M 1/3698](#) should be considered in order to perform a complete search.

- 1/0001 . {Containers for suction drainage, e.g. rigid containers}
- 1/0003 . . {Self-contained vacuum aspirators}
- 1/0005 . . {with means for emptying the suction container, e.g. by interrupting suction}
- 1/0007 . . . {Emptying the suction container without interrupting suction}
- 1/0009 . . {incorporating a movable wall to create suction, e.g. syringes (with a flexible member creating suction [A61M 1/0011](#); cupping glasses [A61M 1/08](#))}
- 1/0011 . . {Drainage containers incorporating a flexible member creating suction, e.g. bags in a low-pressure chamber, bellows}
- 1/0013 . . {Two- or three-bottle systems for underwater drainage, e.g. for chest cavity drainage}
- 1/0015 . . {Mechanical means for preventing flexible containers from collapsing when vacuum is applied inside, e.g. stents}
- 1/0017 . . {Bag or liner in a rigid container, with suction applied to both}
- 1/0019 . {Drainage containers not being adapted for subjection to vacuum, e.g. bags (devices worn by the patient for reception of urine [A61F 5/44](#); emptying devices for drainage bags [B65B 69/0016](#))}
- 1/0021 . {Gravity drainage systems ([A61M 1/0019](#) takes precedence)}
- 1/0023 . {Suction drainage systems (containers therefor [A61M 1/0001](#); suction-irrigation systems [A61M 1/0058](#))}

- 1/0025 . . {comprising sensors or indicators for physical values}
- 1/0027 . . . {Visual indicating means for vacuum pressure}
- 1/0029 . . . {Visual indicating means for flow}
- 1/0031 . . {Suction control ([A61M 1/0013](#), [A61M 1/0041](#) take precedence)}
- 1/0033 . . . {by changing the size of a vent ([A61M 1/0047](#) takes precedence)}
- 1/0035 . . . {by changing the section of the line, e.g. flow regulating valves ([A61M 1/0043](#), [A61M 1/0045](#) take precedence)}
- 1/0037 . . {Intermittent or pulsating suction ([A61M 1/0005](#), [A61M 1/0062](#) take precedence)}
- 1/0039 . . {Handpieces (aspiration tips [A61M 1/008](#))}
- 1/0041 . . . {with means for varying suction manually (suction control [A61M 1/0031](#))}
- 1/0043 . . . . {by changing the section of the line}
- 1/0045 . . . . {by deformation of the fluid passage}
- 1/0047 . . . . {by changing the size of a vent (in combination with changing the section of the line [A61M 1/0043](#))}
- 1/0049 . . {Means preventing overflow or contamination of the pumping systems (combined with rigid drainage containers [A61M 1/0001](#))}
- 1/005 . . . {using valves with freely moving parts, e.g. float valves}
- 1/0052 . . . {by filtering, sterilising or disinfecting the exhaust air, e.g. swellable filter valves}
- 1/0054 . . . . {by heat}
- 1/0056 . . {Filters for solid matter (similar devices for dental use [A61C 17/046](#))}
- 1/0058 . {Suction-irrigation systems (aspiration tips supplying fluids [A61M 1/0084](#); combined with tracheal tubes [A61M 16/0463](#))}
- 1/006 . . {Determination of loss or gain of body fluids due to suction-irrigation, e.g. during surgery}
- 1/0062 . . {operating alternately ([A61M 1/0064](#) takes precedence)}
- 1/0064 . . {Handpieces therefor}
- 1/0066 . {Suction pumps ([A61M 1/0003](#), [A61M 1/0011](#), [A61M 1/0023](#), [A61M 1/10](#) take precedence)}
- 1/0068 . . {Piston pumps, e.g. syringes}
- 1/007 . . . {the barrel serving as aspiration container, e.g. in a breast pump}
- 1/0072 . . {Membrane pumps, e.g. bulbs}
- 1/0074 . . {by vacuum created above a liquid flowing from a closed container}
- 1/0076 . . {using Laval or Venturi jet pumps}
- 1/0078 . {Tube strippers, i.e. for clearing the contents of the tubes (vein strippers [A61B 17/00008](#))}
- 1/008 . {Drainage tubes; Aspiration tips}
- 1/0082 . . {rotating}
- 1/0084 . . {With gas or fluid supply means, e.g. for supplying rinsing fluids, anticoagulants (for irrigation without suction [A61M 3/0279](#); combined with tracheal tubes [A61M 16/0463](#); dental instruments with combined rinsing and aspirating [A61C 17/0208](#))}
- 1/0086 . . {Connectors therefor, e.g. detachable from hand-piece}
- 1/0088 . . {with a seal, e.g. to stick around a wound for isolating the treatment area}
- 1/009 . . . {having pumping means on suction site, e.g. miniature pump on wound dressing}
- 1/0092 . . . {having venting means on or near the tip}
- 1/0094 . {having means for processing the drained fluid, e.g. an absorber}
- 1/0096 . . {Draining devices provided with means for releasing antimicrobial or gelation agents in the drained fluid}
- 1/0098 . . {Draining devices provided with means for filtering out the harmless water content before discarding the drainage container}
- 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 11/00](#))}
- 1/0254 . . . {with a support plate moving only in one plane, e.g. horizontal}
- 1/0259 . . {Apparatus for treatment of blood or blood constituents not otherwise provided for (for agitating [A61M 1/025](#); for separating blood components present in distinct layers in a container [A61M 1/029](#))}
- 1/0272 . . {Apparatus for treatment of blood or blood constituents prior to or for conservation, e.g. freezing, drying or centrifuging}
- 1/0277 . . . {Frames constraining or supporting bags, e.g. during freezing}
- 1/0281 . . {Apparatus for treatment of blood or blood constituents prior to transfusion, e.g. washing, filtering or thawing}
- 1/0286 . . {Handling a large number of blood product units, e.g. storage cabinets, blood bank administration}
- 1/029 . . {Separating blood components present in distinct layers in a container, not otherwise provided for (containers for storing blood or blood components [A61J 1/05](#); sampling or analysing blood by separating blood components [G01N 33/491](#))}
- 1/0295 . . . {whereby the blood container and a solution container are compressed simultaneously by the same means}
- 1/04 . {Artificial} pneumothorax apparatus
- 1/06 . Milking pumps ([feeding-bottles A61J 9/00](#))
- 1/062 . . {Pump accessories}
- 1/064 . . . {Suction cups}
- 1/066 . . . . {Inserts therefor}

- 1/068 . . . {having means for simultaneous feeding, e.g. with rubber nipple for feeding}
- 1/08 . Cupping glasses
- 1/10 . Blood pumps; Artificial hearts; Devices for mechanical circulatory assistance, e.g. intra-aortic balloon pumps ([artificial heart valves A61F 2/24](#); [heart stimulation A61H 31/00](#))
- 1/1001 . . {General aspects of blood pumps irrespective of pump type}
- 1/1003 . . . {skeletal muscle-powered}
- 1/1005 . . . {with means for making a blood flow pulsatile ([moving filter membranes used for pumping A61M 1/267](#); [piston pumps A61M 1/1081](#))}
- 1/1006 . . . {Blood pumps incorporated within another functional device, e.g. an oxygenator, a dialyser or a blood chamber}
- 1/1008 . . {Tubes; Connections therefor}
- 1/101 . . {Non-positive displacement pumps, e.g. impeller, centrifugal, vane pumps}
- 1/1012 . . . {Constructional features thereof}
- 1/1013 . . . . {Types of bearings}
- 1/1015 . . . . . {Magnetic bearings}
- 1/1017 . . . . . {Hydrodynamic bearings}
- 1/1018 . . . . . {with occluders preventing backflow}
- 1/102 . . . . . {having a purge fluid supply}
- 1/1022 . . . . . {using filtered blood as purge fluid}
- 1/1024 . . . . . {having a collapsible rotor}
- 1/1025 . . . . . {Details on blood sealings between rotational parts, e.g. sealing by axial forces}
- 1/1029 . . . {Drive systems therefor}
- 1/1031 . . . . {using a motor with canned rotor, i.e. a motor enclosed within a casing along with the rotor so that the motor bearings are lubricated by the blood that is being pumped}
- 1/1032 . . . . . {with hydraulic or pneumatic driving means}
- 1/1034 . . . . . {using rotating cables for driving}
- 1/1036 . . . . . {using rotating magnets for driving}
- 1/1037 . . {Pumps having flexible elements, e.g. with membranes, diaphragms, or bladder pumps ([Moving membranes in blood filters used for pumping A61M 1/267](#))}
- 1/1039 . . . {Peristaltic pumps}
- 1/1041 . . . . {Linear}
- 1/1043 . . . {Constructional features thereof}
- 1/1044 . . . . {Compliance chamber containing a gas or liquid other than blood to compensate volume variations of a blood chamber}
- 1/1046 . . . {Drive systems therefor, e.g. mechanically, electromechanically or skeletal muscle drive means}
- 1/1048 . . . . {characterised by way of converting the movement}
- 1/1049 . . . . . {with means converting the rotation of a motor into a translational movement of the flexible element}
- 1/1051 . . . . . . {the axis of both movements being parallel, e.g. roller screw actuator, cylindrical cam transmission}
- 1/1053 . . . . . {using non-rotary electrical means}
- 1/1055 . . . . . {Electromagnetic means, e.g. solenoids or ferro-fluids, magnetostrictive means}
- 1/1056 . . . . . {Thermo-electric means, e.g. shaped memory alloys}
- 1/1058 . . . . . {Piezoelectric means}
- 1/106 . . . . . {using hydraulic or pneumatic means}
- 1/1062 . . . . . {with application of vacuum at the blood pump, e.g. to accelerate filling}
- 1/1063 . . . . . {Diastole or systole switching by stopping or reversing a hydraulic or pneumatic pump operating at a much higher cyclical speed than the heart rate}
- 1/1065 . . . . . {Diastole or systole switching by valve means between the blood pump and the hydraulic or pneumatic energy source}
- 1/1067 . . . {using a blood vessel as flexible element ([not used, see subgroups](#))}
- 1/1068 . . . . {using the heart as flexible element}
- 1/107 . . . {Pulsating membrane pumps without valves, e.g. for counter pulsation, extra-arterial balloon pumps}
- 1/1072 . . . . {Intra-arterial balloon pumps, e.g. intra-aortic ([intravascular pumps A61M 1/125](#))}
- 1/1074 . . . . . {Intra-ventricular balloon pumps}
- 1/1075 . . . {the pump membrane acting as inlet valve}
- 1/1081 . . {Piston pumps}
- 1/1082 . . {High-frequency pumps}
- 1/1084 . . {Venturi or jet pumps}
- 1/1086 . . {Regulating or controlling systems therefor}
- 1/1087 . . {Active valves for blood pumps or artificial hearts, i.e. using an external force for actuating the valve}
- 1/1089 . . . {where the valve is formed by a flexible tube element which is clamped for restricting the flow}
- 1/1096 . . {Passive valves for blood pumps or artificial hearts, i.e. valves actuated by the fluid}
- 1/1098 . . . {Valves having flexible or resilient parts, e.g. flap valve}
- 1/12 . . . implantable into the body ([not used, see subgroups](#))}
- 1/122 . . . {Heart assist devices, i.e. for assisting an ailing heart, using additional pumping means in the blood circuit}
- 1/125 . . . {intravascular, i.e. introduced or implanted in an existing blood vessel}
- 1/127 . . . {Energy supply devices, converters therefor}
- 1/14 . . Dialysis systems; Artificial kidneys; Blood oxygenators; {Reciprocating systems for treatment of body fluids, e.g. single needle systems for haemofiltration, pheris ([haemofiltration using non reciprocating systems A61M 1/34](#); [extracorporeal blood circuit aspects A61M 1/36](#))}; (processes of separation using semi-permeable membranes [B01D 61/00](#); semi-permeable membranes characterised by the material, manufacturing processes therefor [B01D 71/00](#))
- 1/16 . . . with membranes ([A61M 1/30 takes precedence; membranes per se B01D 69/00, B01D 71/00](#))}
- 1/1601 . . . {Control or regulation}
- 1/1603 . . . . {Regulation parameters}
- 1/1605 . . . . . {Physical characteristics of the dialysate fluid}
- 1/1607 . . . . . . {before use}
- 1/1609 . . . . . . {after use}
- 1/1611 . . . . . {Weight of the patient}

- 1/1613 . . . . {Profiling or modelling}
- 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 ([B01D 69/00](#), [B01D 71/00](#) take precedence)}
- 1/1623 . . . . {Disposition of membranes}
- 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 dialyzer 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 (with regeneration of dialysates [A61M 1/1696](#))}
- 1/1658 . . . . {Degasification (in general [B01D 19/00](#))}
- 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 ([A61M 1/28](#) and [A61F 2/022](#) take precedence)}
- 1/168 . . . {Sterilisation or cleaning before or after use (sterilisation of materials in general [A61L](#); cleaning or sterilisation of membrane modules apart from the machine [B01D 65/02](#))}
- 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 (testing of the membrane modules [B01D 65/10](#); investigating fluid-tightness of structures in general [G01M 3/00](#))}
- 1/1694 . . . {with recirculating dialysing liquid}
- 1/1696 . . . . {with dialysate regeneration}
- 1/1698 . . . {Blood oxygenators with or without heat-exchangers ([A61M 1/1678](#) takes precedence; membranes therefor [B01D 67/00](#), [B01D 69/00](#), [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 . . {Reciprocating systems, alternately withdrawing blood from and returning it to the patient, e.g. single-lumen-needle dialysis or single needle systems for haemofiltration, 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, 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. haemofiltration, diafiltration {([A61M 1/30](#) takes precedence; extracorporeal blood circuit aspects [A61M 1/36](#))}
- 1/3403 . . {Regulation parameters}



- 1/3406 . . . {Physical characteristics of the filtrate, e.g. urea}
- 1/341 . . . {by measuring the filtrate rate, 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 the filter}
- 1/3434 . . . . . {with pre-dilution and post-dilution}
- 1/3437 . . . . {downstream 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 mechanical 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 dialyzing 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}
- 1/3493 . . . {using treatment agents in suspension}
- 1/3496 . . {Plasmapheresis; Leucopheresis; Lymphopheresis ([A61M 1/3472](#) takes precedence; single-needle processes [A61M 1/30](#))}
- 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](#))}
- 1/3624 . . . {Level detectors; Level control}
- 1/3626 . . . . {Gas bubble detectors (blood leak detection by change of transparency of dialysate [A61M 1/1692](#); in infusion devices [A61M 5/365](#); observing bubbles in a liquid pool for leak detection, in general [G01M 3/06](#))}
- 1/3627 . . . . {Degassing devices; Buffer reservoirs; Drip chambers; Blood filters (priming [A61M 1/3643](#); blood filters for infusion [A61M 5/165](#))}
- 1/3629 . . . . . {degassing by changing pump speed, e.g. during priming}
- 1/363 . . . . . {Degassing by using vibrations}
- 1/3632 . . . . . {Combined venous-cardiotomy reservoirs}
- 1/3633 . . . . . {Blood component filters, e.g. leukocyte filters}
- 1/3635 . . . . . . {Constructional details}
- 1/3636 . . . . . . . {having a flexible housing}
- 1/3638 . . . . . {with a vapour trap}
- 1/3639 . . . . {Blood pressure control, pressure transducers specially adapted therefor}
- 1/3641 . . . . . {Pressure isolators}
- 1/3643 . . . . {Priming, rinsing before or after use}
- 1/3644 . . . . . {Mode of operation}
- 1/3646 . . . . . . {Expelling the residual body fluid after use, e.g. back to the body}
- 1/3647 . . . . . . {with recirculation of the priming solution}
- 1/3649 . . . . . . {using dialysate as priming or rinsing liquid}
- 1/365 . . . . . . {through membranes, e.g. by inverted trans-membrane pressure [TMP]}
- 1/3652 . . . . . . . {using gas, e.g. air}
- 1/3653 . . . . {Interfaces between patient blood circulation and extra-corporeal blood circuit}
- 1/3655 . . . . . {Arterio-venous shunts, 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 ([measuring the flow in general G01F](#))}
- 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 ([aspiration tips with anticoagulant delivery A61M 1/0084](#))}
- 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 ([heating or cooling infusion media A61M 5/44](#))}
- 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 . . . {Optimization of blood component yield}
- 1/385 . . . . {taking into account of the patient characteristics}
- 1/387 . . . . {taking into account of the needs or inventory}
- 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, 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}
- 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** ([{vaccination appliances for veterinary use A61D 1/025}](#) ; 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](#); {combinations of vial and syringe for mixing or transferring their contents [A61J 1/20](#); holders for containers for collecting, storing or administering blood or medical fluids [A61J 1/16](#))

- 5/001 . {Apparatus specially adapted for cleaning or sterilising syringes or needles}
- 5/002 . {Packages specially adapted therefor, e.g. for syringes or needles, kits for diabetics ([needle protection, e.g. caps, A61M 5/3202](#); for sharps [A61B 50/3001](#))}
- 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. CO<sub>2</sub>}
- 5/007 . {for contrast media}
- 5/008 . {Racks for supporting syringes or needles ([A61M 5/001 takes precedence](#))}

**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](#))

**WARNING**

Groups [A61M 3/0204](#) - [A61M 3/022](#) are incomplete pending reclassification of documents from group [A61M 3/02](#).

Until reclassification is complete, groups [A61M 3/02](#) and [A61M 3/0204](#) - [A61M 3/022](#) should be considered to perform a complete search.

- 3/005 . {comprising means for injection of two or more media, e.g. by mixing}
- 3/02 . Enemata; Irrigators
- 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}

5/14	. . . . {Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor ( <a href="#">suction in pumping blood transfusion A61M 1/02</a> ; {infusion containers <a href="#">A61J 1/05</a> })}	5/1424	. . . . {Manually operated pumps}
2005/1401	. . . . {Functional features}	5/14244	. . . . {adapted to be carried by the patient, e.g. portable on the body}
2005/1402	. . . . {Priming}	5/14248	. . . . {of the skin patch type}
2005/1403	. . . . {Flushing or purging}	2005/14252	. . . . . {with needle insertion means}
2005/1404	. . . . {Keep vein-open rate [KVO], i.e. low flow rate}	2005/14256	. . . . . {with means for preventing access to the needle after use}
2005/1405	. . . . {Patient controlled analgesia [PCA]}	2005/1426	. . . . . {with means for preventing access to the needle after use}
2005/1406	. . . . {Minimizing backflow along the delivery catheter track}	2005/14264	. . . . . {with means for compensating influence from the environment}
5/1407	. . . . {Infusion of two or more substances}	2005/14268	. . . . . {with a reusable and a disposable component}
5/1408	. . . . {in parallel, e.g. manifolds, sequencing valves ( <a href="#">access sites A61M 39/02</a> ; <a href="#">tube connectors A61M 39/10</a> )}	2005/14272	. . . . . {for emergency, field or home use, e.g. self-contained kits to be carried by the doctor}
5/1409	. . . . {in series, e.g. first substance passing through container holding second substance, e.g. reconstitution systems ( <a href="#">needle sets A61M 5/162</a> )}	5/14276	. . . . . {specially adapted for implantation}
5/141	. . . . {with capillaries for restricting fluid flow}	5/1428	. . . . . {with manual pumping action}
5/1411	. . . . {Drip chambers ( <a href="#">A61M 5/162</a> , <a href="#">A61M 5/1689</a> , <a href="#">A61M 5/40</a> take precedence)}	2005/14284	. . . . . {with needle insertion means}
5/1412	. . . . {Burettes, measuring cylinders ( <a href="#">for laboratory use B01L 3/02</a> )}	2005/14288	. . . . . {Infusion or injection simulation ( <a href="#">simulation of surgery in general A61B 34/10</a> ; <a href="#">training for or simulation of use of injection or infusion devices G09B 23/285</a> )}
5/1413	. . . . {Modular systems comprising interconnecting elements}	2005/14292	. . . . . {Computer-based infusion planning or simulation of spatio-temporal infusate distribution}
5/1414	. . . . {Hanging-up devices}	2005/14296	. . . . . {Pharmacokinetic models}
5/1415	. . . . {Stands, brackets or the like for supporting infusion accessories}	5/145	. . . . . using pressurised reservoirs, e.g. pressurised by means of pistons
2005/1416	. . . . . {placed on the body of the patient}	2005/14506	. . . . . {mechanically driven, e.g. spring or clockwork}
5/1417	. . . . {Holders or handles for hanging up infusion containers}	2005/14513	. . . . . {with secondary fluid driving or regulating the infusion}
5/1418	. . . . {Clips, separators or the like for supporting tubes or leads}	5/1452	. . . . . {pressurised by means of pistons}
5/142	. . . . Pressure infusion, e.g. using pumps	5/14526	. . . . . {the piston being actuated by fluid pressure}
<b>NOTE</b>		2005/14533	. . . . . {cam actuated}
In this group, the following expression is used with the meaning indicated:		5/1454	. . . . . {spring-actuated, e.g. by a clockwork}
• "pressure infusion" includes powered injection working at a controlled rate		5/14546	. . . . . {Front-loading type injectors}
2005/14204	. . . . {with gas-producing electrochemical cell}	2005/14553	. . . . . {comprising a pressure jacket}
2005/14208	. . . . {with a programmable infusion control system, characterised by the infusion program}	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}
5/14212	. . . . {Pumping with an aspiration and an expulsion action}	5/14566	. . . . . {with a replaceable reservoir for receiving a piston rod of the pump}
5/14216	. . . . . {Reciprocating piston type}	2005/14573	. . . . . {with a replaceable reservoir for quick connection/disconnection with a driving system}
5/1422	. . . . . {with double acting or multiple pistons}	5/1458	. . . . . {Means for capture of the plunger flange}
5/14224	. . . . . {Diaphragm type}	5/14586	. . . . . {pressurised by means of a flexible diaphragm}
5/14228	. . . . . {with linear peristaltic action, i.e. comprising at least three pressurising members or a helical member}	5/14593	. . . . . {the diaphragm being actuated by fluid pressure}
<b>NOTE</b>		5/148	. . . . . flexible, {e.g. independent bags} ( <a href="#">A61M 5/155</a> takes precedence)
Pumps having tubular flexible working members <a href="#">F04B 43/08</a>		5/1483	. . . . . {using flexible bags externally pressurised by fluid pressure}
5/14232	. . . . . {Roller pumps}	5/1486	. . . . . {the bags being substantially completely surrounded by fluid}
<b>NOTE</b>		5/152	. . . . . pressurised by contraction of elastic reservoirs {( <a href="#">containers for dispensing contents by contraction of an elastic bag provided therein, in general B65D 83/0061</a> )}
Pumps having rollers for peristaltic action <a href="#">F04B 43/12</a>			
5/14236	. . . . . {Screw, impeller or centrifugal type pumps}		



- 5/155 . . . . pressurised by gas {introduced into the reservoir}
- 5/158 . . Needles {for infusions; Accessories therefor, e.g. for inserting infusion needles, or for holding them on the body}
- 2005/1581 . . . {Right-angle needle-type devices}
- 5/1582 . . . {Double lumen needles}
- 2005/1583 . . . {Needle extractors}
- 2005/1585 . . . {Needle inserters}
- 2005/1586 . . . {Holding accessories for holding infusion needles on the body (holding devices for catheters [A61M 25/02](#))}
- 2005/1587 . . . {suitable for being connected to an infusion line after insertion into a patient}
- 2005/1588 . . . {having means for monitoring, controlling or visual inspection, e.g. for patency check, avoiding extravasation}
- 5/162 . . Needle sets, i.e. connections by puncture between reservoir and tube {; Connections between reservoir and tube (in jet-action syringes [A61M 5/30](#); connectors for tubes having sealed ends and a needle for piercing them [A61M 39/14](#))}
- 2005/1623 . . . {Details of air intake}
- 5/1626 . . . {Needle protectors therefor (in combination with syringes [A61M 5/3202](#); protectors for sharps [A61B 50/3001](#))}
- 5/165 . . Filtering accessories, e.g. blood filters, filters for infusion liquids ({[A61M 1/14](#)}, [A61M 1/34](#), {[A61M 1/3627](#), [A61M 1/3679](#), [A61M 1/3687](#)} take precedence; {needle sets with incorporated air inlet filters [A61M 5/162](#)})
- 2005/1652 . . . {Filter with duct, e.g. filtering element incorporated in a flow line, tube, duct}
- 2005/1655 . . . {Filter with fibers, e.g. filtering element in form of hollow fibers}
- 2005/1657 . . . {Filter with membrane, e.g. membrane, flat sheet type infusion filter}
- 5/168 . . Means for controlling media flow to the body or for metering media to the body, e.g. drip meters, counters {; Monitoring media flow to the body (flow control in general [G05D 7/00](#))}
- 5/16804 . . . {Flow controllers}
- 5/16809 . . . . {by repeated filling and emptying of an intermediate volume (pressure infusion using positive displacement pumps [A61M 5/142](#))}
- 5/16813 . . . . {by controlling the degree of opening of the flow line}
- 5/16818 . . . . {by changing the height of the reservoir}
- 5/16822 . . . . {by controlling air intake into infusion reservoir (needle sets with air inlet [A61M 5/162](#))}
- 5/16827 . . . . {controlling delivery of multiple fluids, e.g. sequencing, mixing or via separate flow-paths (infusion of multiple fluids without using a controller [A61M 5/1407](#))}
- 5/16831 . . . {Monitoring, detecting, signalling or eliminating infusion flow anomalies (low-level float-valves causing cut-off [A61M 5/40](#); indicating or recording presence, absence or direction of flow in general [G01P 13/0066](#))}
- 5/16836 . . . . {by sensing tissue properties at the infusion site, e.g. for detecting infiltration (detecting tissue temperature for diagnostic purposes [A61M 39/0247](#))}
- 5/1684 . . . . {by detecting the amount of infusate remaining, e.g. signalling end of infusion}
- 5/16845 . . . . . {by weight}
- 5/1685 . . . . . {by detection of position of a floating member}
- 5/16854 . . . . . {by monitoring line pressure}
- 5/16859 . . . . . {Evaluation of pressure response, e.g. to an applied pulse}
- 2005/16863 . . . . . {Occlusion detection}
- 2005/16868 . . . . . {Downstream occlusion sensors}
- 2005/16872 . . . . . {Upstream occlusion sensors}
- 5/16877 . . . {Adjusting flow; Devices for setting a flow rate}
- 5/16881 . . . . {Regulating valves (on-off valves, e.g. clamps [A61M 39/28](#))}
- 5/16886 . . . {for measuring fluid flow rate, i.e. flowmeters}
- 5/1689 . . . . {Drip counters}
- 5/16895 . . . . {by monitoring weight change, e.g. of infusion container}
- 5/172 . . . electrical or electronic ({[A61M 5/16804](#), [A61M 5/16831](#) take precedence})
- 5/1723 . . . . {using feedback of body parameters, e.g. blood-sugar, pressure (measurement of body parameters [A61B 5/00](#))}
- 2005/1726 . . . . . {the body parameters being measured at, or proximate to, the infusion site}
- 5/178 . . Syringes
- 5/1782 . . {Devices aiding filling of syringes in situ (combination of a vial and a syringe for transferring or mixing their contents [A61J 1/2096](#), 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 {, e.g. including a manifold coupling two parallelly aligned syringes through separate channels to a common discharge assembly (surgical glue applicators [A61B 17/00491](#))}
- 5/20 . . Automatic syringes, e.g. with automatically actuated piston rod, with automatic needle injection, filling automatically ([A61M 5/142](#) {, [A61M 5/46](#)} take precedence; {hypodermic projectiles [F42B 12/54](#)})
- 2005/2006 . . . {Having specific accessories}
- 2005/2013 . . . . {triggering of discharging means by contact of injector with patient body}
- 2005/202 . . . . {cocking means, e.g. to bias the main drive spring of an injector}
- 2005/2026 . . . {Semi-automatic, e.g. user activated piston is assisted by additional source of energy}
- 5/2033 . . . {Spring-loaded one-shot injectors with or without automatic needle insertion (multishot dosing syringes [A61M 5/31525](#), needle insertion only [A61M 5/3287](#))}
- 5/204 . . . {connected to external reservoirs for multiple refilling}
- 5/2046 . . . {Media being expelled from injector by gas generation, e.g. explosive charge}

- 5/2053 . . . {Media being expelled from injector by pressurised fluid or vacuum ([for infusion A61M 5/145](#), [A61M 5/155](#))}
- 2005/206 . . . {With automatic needle insertion}
- 5/2066 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 2005/2073 . . . {preventing premature release, e.g. by making use of a safety lock}
- 2005/208 . . . . {Release is possible only when device is pushed against the skin, e.g. using a trigger which is blocked or inactive when the device is not pushed against the skin}
- 2005/2086 . . . {having piston damping means, e.g. axially or rotationally acting retarders}
- 2005/2093 . . . {including concentration setting means}
- 5/24 . . Ampoule syringes, i.e. syringes with needle for use in combination with replaceable ampoules or carpules, e.g. automatic {(ampoules or carpules [A61J 1/06](#))}
- 2005/2403 . . . {Ampoule inserted into the ampoule holder}
- 2005/2407 . . . . {from the rear}
- 2005/2411 . . . . {from the front}
- 2005/2414 . . . . {from the side}
- 2005/2418 . . . {comprising means for damping shocks on ampoule}
- 5/2422 . . . {using emptying means to expel or eject media, e.g. pistons, deformation of the ampoule, or telescoping of the ampoule}
- 5/2425 . . . . {by compression of deformable ampoule or carpule wall}
- 5/2429 . . . . {by telescoping of ampoules or carpules with the syringe body}
- 2005/2433 . . . {Ampoule fixed to ampoule holder}
- 2005/2437 . . . . {by clamping means}
- 2005/244 . . . . {by flexible clip}
- 2005/2444 . . . . {by thread}
- 5/2448 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 2005/2451 . . . . {preventing delivery before mixing is completed, e.g. by locking mechanisms}
- 5/2455 . . . {with sealing means to be broken or opened}
- 5/2459 . . . . {upon internal pressure increase, e.g. pierced or burst ([A61M 5/2429 takes precedence](#))}
- 2005/2462 . . . . . {by displacing occluding plugs}
- 5/2466 . . . . {by piercing without internal pressure increase ([A61M 5/2429 takes precedence](#))}
- 2005/247 . . . . . {with fixed or steady piercing means, e.g. piercing under movement of ampoule}
- 2005/2474 . . . . . {with movable piercing means, e.g. ampoule remains fixed or steady}
- 2005/2477 . . . {comprising means to reduce play of ampoule within ampoule holder, e.g. springs}
- 2005/2481 . . . {comprising means for biasing the ampoule out of the ampoule holder}
- 2005/2485 . . . {Ampoule holder connected to rest of syringe}
- 2005/2488 . . . . {via rotation, e.g. threads or bayonet}
- 2005/2492 . . . . {via snap connection}
- 2005/2496 . . . . {via pivot}
- 5/28 . . Syringe ampoules or carpules, i.e. ampoules or carpules provided with a needle
- 5/281 . . . {using emptying means to expel or eject media, e.g. pistons, deformation of the ampoule, or telescoping of the ampoule}
- 5/282 . . . . {by compression of deformable ampoule or carpule wall}
- 5/283 . . . . {by telescoping of ampoules or carpules with the syringe body}
- 5/284 . . . {comprising means for injection of two or more media, e.g. by mixing}
- 5/285 . . . {with sealing means to be broken or opened}
- 5/286 . . . . {upon internal pressure increase, e.g. pierced or burst ([A61M 5/283 takes precedence](#))}
- 2005/287 . . . . . {by displacing occluding plugs}
- 5/288 . . . . {by piercing without internal pressure increase ([A61M 5/283 takes precedence](#))}
- 5/30 . . Syringes for injection by jet action, without needle, e.g. for use with replaceable ampoules or carpules
- 5/3007 . . . {with specially designed jet passages at the injector's distal end}
- 5/3015 . . . {for injecting a dose of particles in form of powdered drug, e.g. mounted on a rupturable membrane and accelerated by a gaseous shock wave or supersonic gas flow ([cell injection devices C12M 3/006](#))}
- 2005/3022 . . . {Worn on the body, e.g. as patches ([pressure infusion of the skin patch type A61M 5/14248](#))}
- 5/31 . . Details
- 2005/3101 . . . {Leak prevention means for proximal end of syringes, i.e. syringe end opposite to needle mounting end}
- 2005/3103 . . . {Leak prevention means for distal end of syringes, i.e. syringe end for mounting a needle}
- 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 . . . {specific display means, e.g. to indicate dose setting}
- 2005/3126 . . . . {Specific display means related to dosing}
- 2005/3128 . . . {Incorporating one-way valves, e.g. pressure-relief or non-return valves}
- 5/3129 . . . {Syringe barrels ([A61M 5/3205](#) and [A61M 5/50 take precedence](#))}

2005/3131	. . . .	{ specially adapted for improving sealing or sliding }	5/3153	. . . . .	{ by single stroke limiting means }
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 }	5/31531	. . . . .	{ Microsyringes, e.g. having piston bore diameter close or equal to needle shaft diameter }
5/3134	. . . .	{ characterised by constructional features of the distal end, i.e. end closest to the tip of the needle cannula }	5/31533	. . . . .	{ Dosing mechanisms, i.e. setting a dose ( <a href="#">administrating mechanisms A61M 5/31565</a> ) }
5/3135	. . . .	{ characterised by constructional features of the proximal end }	5/31535	. . . . .	{ Means improving security or handling thereof, e.g. blocking means, means preventing insufficient dosing, means allowing correction of overset dose }
5/3137	. . . .	{ Specially designed finger grip means, e.g. for easy manipulation of the syringe rod }	5/31536	. . . . .	{ Blocking means to immobilize a selected dose, e.g. to administer equal doses }
2005/3139	. . . . .	{ Finger grips not integrally formed with the syringe barrel, e.g. using adapter with finger grips }	5/31538	. . . . .	{ Permanent blocking, e.g. by medical personnel }
2005/314	. . . .	{ Flat shaped barrel forms, e.g. credit card shaped }	2005/3154	. . . . .	{ limiting maximum permissible dose }
2005/3142	. . . .	{ Modular constructions, e.g. supplied in separate pieces to be assembled by end-user }	5/31541	. . . . .	{ Means preventing setting of a dose beyond the amount remaining in the cartridge }
2005/3143	. . . .	{ Damping means for syringe components executing relative movements, e.g. retarders or attenuators slowing down or timing syringe mechanisms }	5/31543	. . . . .	{ piston rod reset means, i.e. means for causing or facilitating retraction of piston rod to its starting position during cartridge change }
5/3145	. . . .	{ Filters incorporated in syringes }	5/31545	. . . . .	{ Setting modes for dosing }
5/3146	. . . .	{ Priming, e.g. purging, reducing backlash or clearance }	5/31546	. . . . .	{ Electrically operated dose setting, e.g. input via touch screen or plus/minus buttons }
5/3148	. . . .	{ Means for causing or aiding aspiration or plunger retraction }	5/31548	. . . . .	{ Mechanically operated dose setting member }
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 }	5/3155	. . . . .	{ by rotational movement of dose setting member, e.g. during setting or filling of a syringe }
5/31501	. . . . .	{ Means for blocking or restricting the movement of the rod or piston ( <a href="#">A61M 5/5013 takes precedence</a> ) }	5/31551	. . . . .	{ including axial movement of dose setting member }
5/31505	. . . . .	{ Integral with the syringe barrel, i.e. connected to the barrel so as to make up a single complete piece or unit }	5/31553	. . . . .	{ without axial movement of dose setting member }
2005/31506	. . . . .	{ formed as a single piece, e.g. moulded }	5/31555	. . . . .	{ by purely axial movement of dose setting member, e.g. during setting or filling of a syringe }
2005/31508	. . . . .	{ provided on the piston-rod }	5/31556	. . . . .	{ Accuracy improving means }
2005/3151	. . . . .	{ by friction }	5/31558	. . . . .	{ using scaling up or down transmissions, e.g. gearbox }
5/31511	. . . . .	{ Piston or piston-rod constructions, e.g. connection of piston with piston-rod ( <a href="#">A61M 5/5066 takes precedence</a> ) }	5/3156	. . . . .	{ using volume steps only adjustable in discrete intervals, i.e. individually distinct intervals }
5/31513	. . . . .	{ Piston constructions to improve sealing or sliding }	5/31561	. . . . .	{ using freely adjustable volume steps }
5/31515	. . . . .	{ Connection of piston with piston rod }	5/31563	. . . . .	{ interacting with a displaceable stop member }
2005/31516	. . . . .	{ reducing dead-space in the syringe barrel after delivery }	5/31565	. . . . .	{ Administration mechanisms, i.e. constructional features, modes of administering a dose ( <a href="#">dosing mechanisms for setting a dose A61M 5/31533</a> ) }
2005/31518	. . . . .	{ designed to reduce the overall size of an injection device, e.g. using flexible or pivotally connected chain-like rod members }	5/31566	. . . . .	{ Means improving security or handling thereof }
2005/3152	. . . . .	{ including gearings to multiply or attenuate the piston displacing force }	5/31568	. . . . .	{ Means keeping track of the total dose administered, e.g. since the cartridge was inserted }
2005/31521	. . . . .	{ Pistons with a forward extending skirt at their front end }	5/3157	. . . . .	{ Means providing feedback signals when administration is completed ( <a href="#">A61M 5/20 takes precedence</a> ) }
2005/31523	. . . . .	{ for reducing reflux }	5/31571	. . . . .	{ Means preventing accidental administration ( <a href="#">for automatic syringes A61M 5/20</a> ) }
5/31525	. . . . .	{ Dosing ( <a href="#">burettes, pipettes B01L 3/02</a> ) }			
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 }			

5/31573 . . . . .	{Accuracy improving means}	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 <a href="#">A61B 50/362</a> ; disintegrating apparatus in general <a href="#">B02C</a> , e.g. <a href="#">B02C 19/0075</a> , <a href="#">B23H 9/001</a> ; disposal of medical waste in general <a href="#">B09B 3/0075</a> ; receptacles for refuse disposal in general <a href="#">B65F 1/00</a> )}
5/31575 . . . . .	{using scaling up or down transmissions, e.g. gearbox}	2005/3206 . . . . .	{Needle or needle hub disconnecting devices forming part of or being attached to the hub or syringe body}
5/31576 . . . . .	{Constructional features or modes of drive mechanisms for piston rods}	2005/3208 . . . . .	{by application of rotational movement to the needle hub, e.g. by use of electrically driven toothed wheels}
5/31578 . . . . .	{based on axial translation, i.e. components directly operatively associated and axially moved with plunger rod}	2005/3209 . . . . .	{comprising heat generating means, e.g. melt chamber}
5/3158 . . . . .	{performed by axially moving actuator operated by user, e.g. an injection button}	5/321 . . . . .	{Means for protection against accidental injuries by used needles}
5/31581 . . . . .	{performed by rotationally moving or pivoting actuator operated by user, e.g. an injection lever or handle}	2005/3212 . . . . .	{Blunting means for the sharp end of the needle}
5/31583 . . . . .	{based on rotational translation, i.e. movement of piston rod is caused by relative rotation between the user activated actuator and the piston rod}	5/3213 . . . . .	{Caps placed axially onto the needle, e.g. equipped with finger protection guards (axially-extensible protective sleeves <a href="#">A61M 5/3243</a> )}
5/31585 . . . . .	{performed by axially moving actuator, e.g. an injection button}	2005/3215 . . . . .	{Tools enabling the cap placement}
5/31586 . . . . .	{performed by rotationally moving or pivoted actuator, e.g. an injection lever or handle}	5/3216 . . . . .	{Caps placed transversally onto the needle, e.g. pivotally attached to the needle base}
2005/31588 . . . . .	{electrically driven}	2005/3217 . . . . .	{Means to impede repositioning of protection cap from needle covering to needle uncovering position, e.g. catch mechanisms}
5/3159 . . . . .	{Dose expelling manners}	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}
5/31591 . . . . .	{Single dose, i.e. individually set dose administered only once from the same medicament reservoir, e.g. including single stroke limiting means}	5/322 . . . . .	{Retractable needles, i.e. disconnected from and withdrawn into the syringe barrel by the piston (devices for protecting guide needles in combination with catheters <a href="#">A61M 25/0612</a> )}
5/31593 . . . . .	{Multi-dose, i.e. individually set dose repeatedly administered from the same medicament reservoir}	5/3221 . . . . .	{Constructional features thereof, e.g. to improve manipulation or functioning}
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}	2005/3223 . . . . .	{Means impeding or disabling repositioning of used needles at the syringe nozzle}
5/31596 . . . . .	{comprising means for injection of two or more media, e.g. by mixing}	2005/3224 . . . . .	{Means to disalign the needle tip and syringe nozzle}
2005/31598 . . . . .	{having multiple telescopically sliding coaxial pistons encompassing volumes for components to be mixed}	2005/3226 . . . . .	{with means obstructing or blocking the needle mounting opening}
5/32 . . . . .	Needles; Details of needles pertaining to their connection with syringe or hub ( <a href="#">infusion needles A61M 5/158</a> ); Accessories for bringing the needle into, or holding the needle on, the body {( <a href="#">A61M 5/42</a> , <a href="#">A61M 5/46</a> take precedence; <a href="#">guide needles for catheters A61M 25/065</a> )}; Devices for protection of needles {(apparatus specially adapted for cleaning or sterilising needles <a href="#">A61M 5/001</a> )}	2005/3227 . . . . .	{the needle being retracted laterally outside the syringe barrel, e.g. with separate guideway}
2005/3201 . . . . .	{Coaxially assembled needle cannulas placed on top of another, e.g. needles having different diameters}	2005/3228 . . . . .	{the needle being retracted by a member protruding laterally through a slot in the barrel, e.g. double-ended needles}
5/3202 . . . . .	{Devices for protection of the needle before use, e.g. caps ( <a href="#">A61M 5/50</a> takes precedence; for infusion spikes <a href="#">A61M 5/1626</a> ; protectors for sharps <a href="#">A61B 50/3001</a> )}		
5/3204 . . . . .	{Needle cap remover, i.e. devices to dislodge protection cover from needle or needle hub, e.g. deshielding devices}		



2005/323	. . . . .	{Connection between plunger distal end and needle hub proximal end, e.g. stud protruding from the plunger}	2005/3253	. . . . .	{disconnecting the needle hub from the syringe barrel during removal of the sleeve from the syringe barrel}
2005/3231	. . . . .	{Proximal end of needle captured or embedded inside piston head, e.g. by friction or hooks}	2005/3254	. . . . .	{Shielding of proximal needles, e.g. for pen needles}
5/3232	. . . . .	{Semi-automatic needle retraction, i.e. in which the triggering of the needle retraction requires a deliberate action by the user, e.g. manual release of spring-biased retraction means}	2005/3256	. . . . .	{having folding ring sections}
5/3234	. . . . .	{Fully automatic, i.e. in which the triggering does not require a deliberate action by the user}	5/3257	. . . . .	{Semi-automatic sleeve extension, i.e. in which the triggering of the sleeve extension requires a deliberate action by the user, e.g. manual release of spring-biased extension means}
2005/3235	. . . . .	{triggered by radial deflection of the anchoring parts between needle mount and syringe barrel or needle housing, e.g. spreading of needle mount retaining hooks having slanted surfaces by engagement with correspondingly shaped surfaces on the piston at the end of an injection stroke}	2005/3258	. . . . .	{being compressible or compressed along the needle}
2005/3236	. . . . .	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}	5/326	. . . . .	{Fully automatic, i.e. in which the triggering does not require a deliberate action by the user}
2005/3238	. . . . .	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}	2005/3261	. . . . .	{triggered by radial deflection of the anchoring parts between sleeve and syringe barrel, e.g. spreading of sleeve retaining hooks having slanted surfaces by engagement with conically shaped collet of the piston rod during the last portion of the injection stroke of the plunger}
2005/3239	. . . . .	{triggered by dislodgement of outer part anchoring the needle portion to the inside of the syringe barrel wall, e.g. a ring-shaped portion}	2005/3263	. . . . .	{Trigger provided at the distal end, i.e. syringe end for mounting a needle}
2005/3241	. . . . .	{Needle retraction energy is accumulated inside of a hollow plunger rod}	2005/3264	. . . . .	{Trigger provided at the proximal end, i.e. syringe end opposite to needle mounting end}
2005/3242	. . . . .	{Needle retraction by vacuum}	2005/3265	. . . . .	{Degree of extension of sleeve to its needle covering position is progressively established by the degree of piston insertion into the syringe barrel}
5/3243	. . . . .	{being axially-extensible, e.g. protective sleeves coaxially slidable on the syringe barrel ( <a href="#">devices for protecting guide needles in combination with catheters A61M 25/0612</a> )}	2005/3267	. . . . .	{Biased sleeves where the needle is uncovered by insertion of the needle into a patient's body}
5/3245	. . . . .	{Constructional features thereof, e.g. to improve manipulation or functioning}	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}
2005/3246	. . . . .	{being squeezably deformable for locking or unlocking purposes, e.g. with elliptical cross-section}	5/3269	. . . . .	{guided by means not coaxially aligned with syringe barrel, e.g. channel-like member formed on exterior surface of syringe barrel for guiding a pushing rod connected to and displacing needle safety sheath}
2005/3247	. . . . .	{Means to impede repositioning of protection sleeve from needle covering to needle uncovering position}	5/3271	. . . . .	{with guiding tracks for controlled sliding of needle protective sleeve from needle exposing to needle covering position}
2005/3249	. . . . .	{Means to disalign the needle tip and the distal needle passage of a needle protection sleeve}	5/3272	. . . . .	{having projections following labyrinth paths}
2005/325	. . . . .	{Means obstructing the needle passage at distal end of a needle protection sleeve}	5/3273	. . . . .	{freely sliding on needle shaft without connection to syringe or needle}
2005/3252	. . . . .	{being extended by a member protruding laterally through a slot in the syringe barrel}	5/3275	. . . . .	{being connected to the needle hub or syringe by radially deflectable members, e.g. longitudinal slats, cords or bands}

- 5/3276 . . . . . {Means imparting rotational movement to the needle or needle hub in order to assist in its disconnection from syringe nozzle}
- 5/3278 . . . . . {Apparatus for destroying used needles or syringes ([needle resheathing means destroying the needle A61M 5/321](#))}
- 2005/3279 . . . . . {Breaking syringe nozzles or needle hubs}
- 2005/328 . . . . . {having needle tip encapsulating means, e.g. two-component hardenable compound or molten plastic}
- 2005/3282 . . . . . {using mechanical means, e.g. mills}
- 2005/3283 . . . . . {using electric current between electrodes}
- 2005/3284 . . . . . {Deformation of needle by deflection or bending}
- 5/3286 . . . . . {Needle tip design, e.g. for improved penetration}
- 5/3287 . . . . . {Accessories for bringing the needle into the body; Automatic needle insertion ([A61M 5/20](#), [A61M 5/31525](#) take precedence)}
- 2005/3289 . . . . . {with rotation of the needle, e.g. to ease penetration}
- 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})**

**WARNING**

Groups [A61M 11/001](#) - [A61M 11/008](#), [A61M 11/042](#) - [A61M 11/048](#), [A61M 11/065](#) are incomplete pending reclassification of documents from group [A61M 11/00](#) or respective subgroup.

Until reclassification is complete, groups [A61M 11/00](#) or respective subgroup and [A61M 11/001](#) - [A61M 11/008](#), [A61M 11/042](#) - [A61M 11/048](#), [A61M 11/065](#) should be considered in order to perform a complete search.

- 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}

**WARNING**

Group [A61M 13/006](#) is incomplete pending reclassification of documents from group [A61M 13/003](#).

Until reclassification is complete, groups [A61M 13/003](#) and [A61M 13/006](#) should be considered in order to perform a complete search.

- 13/006 . . {with gas recirculation}

**Inhaling devices**

- 15/00 Inhalators {(drug delivery in endotracheal tubes A61M 16/04)}**

**WARNING**

Groups [A61M 15/0001](#) - [A61M 15/0026](#), [A61M 15/003](#) - [A61M 15/0043](#), [A61M 15/0046](#) - [A61M 15/0063](#), [A61M 15/0066](#) - [A61M 15/0083](#), [A61M 15/0088](#), [A61M 15/0093](#) - [A61M 15/0098](#), [A61M 15/025](#), [A61M 15/085](#) are incomplete pending reclassification of documents from group [A61M 15/00](#) or respective subgroup.

Until reclassification is complete, groups [A61M 15/00](#) or respective subgroup and [A61M 15/0001](#) - [A61M 15/0026](#), [A61M 15/003](#) - [A61M 15/0043](#), [A61M 15/0046](#) - [A61M 15/0063](#), [A61M 15/0066](#) - [A61M 15/0083](#), [A61M 15/0088](#), [A61M 15/0093](#) - [A61M 15/0098](#), [A61M 15/025](#), [A61M 15/085](#) should be considered in order to perform a complete search.

- 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 {(simulated smoking devices, e.g. imitation cigarettes, [A24F 47/002](#))}
- 15/08 . . Inhaling devices inserted into the nose

15/085 . . {Fixing means therefor}

## 16/00

**Devices for influencing the respiratory system of patients by gas treatment, e.g. mouth-to-mouth respiration; Tracheal tubes** (stimulating the respiratory movement by mechanical, pneumatic or electrical means, iron lungs combined with gas breathing means [A61H 31/00](#))

### WARNINGS

1. Groups [A61M 16/0003](#) - [A61M 16/0012](#), [A61M 16/006](#) - [A61M 16/0063](#), [A61M 16/0069](#), [A61M 16/0081](#) - [A61M 16/0084](#), [A61M 16/0093](#), [A61M 16/0402](#) - [A61M 16/0431](#), [A61M 16/0436](#) - [A61M 16/0438](#), [A61M 16/0443](#) - [A61M 16/0459](#), [A61M 16/0475](#) - [A61M 16/0486](#), [A61M 16/049](#) - [A61M 16/0495](#), [A61M 16/0605](#) - [A61M 16/0655](#), [A61M 16/0672](#) - [A61M 16/0677](#), [A61M 16/0688](#) - [A61M 16/0694](#), [A61M 16/0825](#) - [A61M 16/0866](#), [A61M 16/0883](#) - [A61M 16/0891](#), [A61M 16/1005](#) - [A61M 16/1015](#), [A61M 16/106](#) - [A61M 16/107](#), [A61M 16/108](#) - [A61M 16/1095](#), [A61M 16/122](#) - [A61M 16/127](#), [A61M 16/142](#) - [A61M 16/147](#), [A61M 16/161](#), [A61M 16/164](#) - [A61M 16/168](#), [A61M 16/201](#) - [A61M 16/207](#), [A61M 16/209](#) are incomplete pending reclassification of documents from group [A61M 16/00](#) or respective subgroup.

Until reclassification is complete, groups

[A61M 16/00](#) or respective subgroup and [A61M 16/0003](#) - [A61M 16/0012](#), [A61M 16/006](#) - [A61M 16/0063](#), [A61M 16/0069](#), [A61M 16/0081](#) - [A61M 16/0084](#), [A61M 16/0093](#), [A61M 16/0402](#) - [A61M 16/0431](#), [A61M 16/0436](#) - [A61M 16/0438](#), [A61M 16/0443](#) - [A61M 16/0459](#), [A61M 16/0475](#) - [A61M 16/0486](#), [A61M 16/049](#) - [A61M 16/0495](#), [A61M 16/0605](#) - [A61M 16/0655](#), [A61M 16/0672](#) - [A61M 16/0677](#), [A61M 16/0688](#) - [A61M 16/0694](#), [A61M 16/0825](#) - [A61M 16/0866](#), [A61M 16/0883](#) - [A61M 16/0891](#), [A61M 16/1005](#) - [A61M 16/1015](#), [A61M 16/106](#) - [A61M 16/107](#), [A61M 16/108](#) - [A61M 16/1095](#), [A61M 16/122](#) - [A61M 16/127](#), [A61M 16/142](#) - [A61M 16/147](#), [A61M 16/161](#), [A61M 16/164](#) - [A61M 16/168](#), [A61M 16/201](#) - [A61M 16/207](#), [A61M 16/209](#) should be considered in order to perform a complete search.

2. Group [A61M 16/00](#) is impacted by reclassification into groups [A61M 16/021](#), [A61M 16/022](#), [A61M 16/024](#) and [A61M 16/026](#).

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

16/0003 . . {Accessories therefor, e.g. sensors, vibrators, negative pressure}

16/0006 . . {with means for creating vibrations in patients' airways}



- 16/0009 . . {with sub-atmospheric pressure, e.g. during expiration}
- 16/0012 . . . {by Venturi means}
- 2016/0015 . . {inhalation detectors}
- 2016/0018 . . . {electrical}
- 2016/0021 . . . . {with a proportional output signal, e.g. from a thermistor}
- 2016/0024 . . . . {with an on-off output signal, e.g. from a switch}
- 2016/0027 . . {pressure meter}
- 2016/003 . . {with a flowmeter}
- 2016/0033 . . . {electrical}
- 2016/0036 . . . . {in the breathing tube and used in both inspiratory and expiratory phase}
- 2016/0039 . . . . {in the inspiratory circuit}
- 2016/0042 . . . . {in the expiratory circuit}
- 16/0045 . {Means for re-breathing exhaled gases, e.g. for hyperventilation treatment}
- 16/0048 . {Mouth-to-mouth respiration ([teaching or training models G09B 23/288](#))}
- 16/0051 . {with alarm devices}

**WARNING**

Group [A61M 16/0051](#) is impacted by reclassification into groups [A61M 16/021](#), [A61M 16/022](#), [A61M 16/024](#) and [A61M 16/026](#).

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

- 16/0054 . {Liquid ventilation}
- 16/0057 . {Pumps therefor}
- 16/006 . . {Tidal volume membrane pumps}
- 16/0063 . . {Compressors}
- 16/0066 . . {Blowers or centrifugal pumps}
- 16/0069 . . . {the speed thereof being controlled by respiratory parameters, e.g. by inhalation}
- 16/0072 . . {Tidal volume piston pumps}
- 16/0075 . . {Bellows-type}
- 16/0078 . . {Breathing bags}
- 16/0081 . . {Bag or bellow in a bottle}
- 16/0084 . . {self-reinflatable by elasticity, e.g. resuscitation squeeze bags}
- 16/0087 . {Environmental safety or protection means, e.g. preventing explosion}
- 16/009 . . {Removing used or expired gases or anaesthetic vapours ([Filtering, sterilising or disinfecting the exhaust air in drainage systems A61M 1/0052; Bacterial filters in the expiratory path A61M 16/1065](#))}
- 16/0093 . . . {by adsorption, absorption or filtration}
- 16/0096 . {High frequency jet ventilation}
- 16/01 . specially adapted for anaesthetising ([A61M 16/104](#), [A61M 16/18](#) take precedence)

- 16/021 . {operated by electrical means ([A61M 16/202](#) – [A61M 16/205](#) take precedence)}

**WARNING**

Group [A61M 16/021](#) is incomplete pending reclassification of documents from groups [A61M 16/00](#) and [A61M 16/0051](#).

Groups [A61M 16/00](#), [A61M 16/0051](#) and [A61M 16/021](#) should be considered in order to perform a complete search.

- 16/022 . . {Control means therefor}

**WARNING**

Group [A61M 16/022](#) is incomplete pending reclassification of documents from groups [A61M 16/00](#) and [A61M 16/0051](#).

Groups [A61M 16/00](#), [A61M 16/0051](#) and [A61M 16/022](#) should be considered in order to perform a complete search.

- 16/024 . . . {including calculation means, e.g. using a processor}

**WARNING**

Group [A61M 16/024](#) is incomplete pending reclassification of documents from groups [A61M 16/00](#) and [A61M 16/0051](#).

Groups [A61M 16/00](#), [A61M 16/0051](#) and [A61M 16/024](#) should be considered in order to perform a complete search.

- 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}

**WARNING**

Group [A61M 16/026](#) is incomplete pending reclassification of documents from groups [A61M 16/00](#) and [A61M 16/0051](#).

Groups [A61M 16/00](#), [A61M 16/0051](#) and [A61M 16/026](#) should be considered in order to perform a complete search.

- 16/04 . Tracheal tubes ([catheters in general A61M 25/00](#))
- 16/0402 . . {Special features for tracheal tubes not otherwise provided for}
- 16/0404 . . . {with means for selective or partial lung respiration}
- 16/0406 . . . . {implanted flow modifiers}
- 16/0409 . . . {with means for closing the oesophagus}
- 16/0411 . . . {with means for differentiating between oesophageal and tracheal intubation}
- 2016/0413 . . . . {with detectors of CO<sub>2</sub> in exhaled gases}
- 16/0415 . . . {with access means to the stomach}
- 16/0418 . . . {with integrated means for changing the degree of curvature, e.g. for easy intubation}
- 16/042 . . . {with separate conduits for in-and expiration gas, e.g. for limited dead volume}
- 16/0422 . . . {Laser-resistant}
- 16/0425 . . . {Metal tubes}
- 16/0427 . . . {with removable and re-insertable liner tubes, e.g. for cleaning}

- 16/0429 . . . {with non-integrated distal obturators}
- 16/0431 . . . {with a cross-sectional shape other than circular}
- 16/0434 . . {Cuffs}
- 16/0436 . . . {Special fillings therefor}
- 16/0438 . . . . {Liquid-filled}
- 16/044 . . . {External cuff pressure control or supply, e.g. synchronisation with respiration}
- 16/0443 . . . {Special cuff-wall materials ([A61M 16/0481](#), [A61M 16/0422](#) take precedence)}
- 16/0445 . . . {Special cuff forms, e.g. undulated}
- 16/0447 . . . . {Bell, canopy or umbrella shaped}
- 16/045 . . . {with cuffs partially or completely inflated by the respiratory gas}
- 16/0452 . . . . {following the inspiration and expiration pressure}
- 16/0454 . . . {Redundant cuffs}
- 16/0456 . . . . {one cuff within another}
- 16/0459 . . . . {one cuff behind another}
- 16/0461 . . {Nasoendotracheal tubes}
- 16/0463 . . {combined with suction tubes, catheters or the like; Outside connections}
- 16/0465 . . {Tracheostomy tubes; Devices for performing a tracheostomy; Accessories therefor, e.g. masks, filters}
- 16/0468 . . . {with valves at the proximal end limiting exhalation, e.g. during speaking or coughing ([air passages from trachea to oesophagus or to pharynx, artificial epiglottis A61F 2/203](#))}
- 16/047 . . . {Masks, filters, surgical pads, devices for absorbing secretions, specially adapted therefor}
- 16/0472 . . . {Devices for performing a tracheostomy}
- 16/0475 . . {having openings in the tube}
- 16/0477 . . . {with incorporated means for delivering or removing fluids}
- 16/0479 . . . . {above the cuff, e.g. giving access to the upper trachea}
- 16/0481 . . . . {through the cuff wall}
- 16/0484 . . . . {at the distal end}
- 16/0486 . . {Multi-lumen tracheal tubes}
- 16/0488 . . {Mouthpieces; Means for guiding, securing or introducing the tubes ([guiding or introducing with laryngoscopes A61B 1/267](#); [holding devices on the body A61M 25/02](#))}
- 16/049 . . . {Mouthpieces}
- 16/0493 . . . . {with means for protecting the tube from damage caused by the patient's teeth, e.g. bite block}
- 16/0495 . . . . {with tongue depressors}
- 16/0497 . . . {Tube stabilizer}
- 16/06 . . Respiratory or anaesthetic masks
- 16/0605 . . {Means for improving the adaptation of the mask to the patient}
- 16/0611 . . . {with a gusset portion}
- 16/0616 . . . {with face sealing means comprising a flap or membrane projecting inwards, such that sealing increases with increasing inhalation gas pressure}
- 16/0622 . . . . {having an underlying cushion}
- 16/0627 . . . {with sealing means on a part of the body other than the face, e.g. helmets, hoods or domes}
- 16/0633 . . . {with forehead support}
- 16/0638 . . . . {in the form of a pivot}
- 16/0644 . . . . {having the means for adjusting its position}
- 16/065 . . . . . {in the form of a pivot}
- 16/0655 . . . . . {in the form of a linear or curvilinear slide}
- 2016/0661 . . {with customised shape}
- 16/0666 . . {Nasal cannulas or tubing ([devices for improving normal breathing through the nose A61F 5/08](#); [nose filters A62B 23/06](#); [outside holding devices A61M 25/02](#))}
- 16/0672 . . . {Nasal cannula assemblies for oxygen therapy}
- 16/0677 . . . . {Gas-saving devices therefor}
- 16/0683 . . {Holding devices therefor}
- 16/0688 . . . {by means of an adhesive}
- 16/0694 . . . {Chin straps}
- 16/08 . . Bellows; Connecting tubes ([having means for taking samples G01N 1/22](#)); Water traps; Patient circuits}
- 16/0808 . . {Condensation traps}
- 16/0816 . . {Joints or connectors}
- 16/0825 . . . {with ball-sockets}
- 16/0833 . . . {T- or Y-type connectors, e.g. Y-piece}
- 16/0841 . . . {for sampling}
- 16/085 . . . . {Gas sampling}
- 16/0858 . . . . {Pressure sampling ports}
- 16/0866 . . {Passive resistors therefor}
- 16/0875 . . {Connecting tubes}
- 16/0883 . . {Circuit type}
- 16/0891 . . . {Closed circuit, e.g. for anaesthesia}
- 16/10 . . Preparation of respiratory gases or vapours
- 16/1005 . . {with O<sub>2</sub> features or with parameter measurement}
- 16/101 . . . {using an oxygen concentrator}
- 16/1015 . . . {using a gas flush valve, e.g. oxygen flush valve}
- 2016/102 . . . {Measuring a parameter of the content of the delivered gas}
- 2016/1025 . . . . {the O<sub>2</sub> concentration}
- 2016/103 . . . . {the CO<sub>2</sub> concentration}
- 2016/1035 . . . . {the anaesthetic agent concentration}
- 16/104 . . {specially adapted for anaesthetics ([A61M 16/18](#) takes precedence)}
- 16/1045 . . {Devices for humidifying or heating the inspired gas by using recovered moisture or heat from the expired gas}
- 16/105 . . {Filters ([A61M 16/047](#), [A61M 16/22](#) take precedence; [water traps A61M 16/08](#))}
- 16/1055 . . . {bacterial}
- 16/106 . . . {in a path}
- 16/1065 . . . . {in the expiratory path}
- 16/107 . . . . {in the inspiratory path}
- 16/1075 . . {by influencing the temperature ([A61M 16/1045](#) takes precedence)}
- 16/108 . . . {before being humidified or mixed with a beneficial agent}
- 16/1085 . . . {after being humidified or mixed with a beneficial agent}
- 16/109 . . . {the humidifying liquid or the beneficial agent}
- 16/1095 . . . {in the connecting tubes}
- 16/12 . . by mixing different gases
- 16/122 . . . {with dilution}
- 16/125 . . . . {Diluting primary gas with ambient air}

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

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

<b>19/00</b>	<b>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)</b>
<b>21/00</b>	<b>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</b>
2021/0005	. {by the use of a particular sense, or stimulus}
2021/0011	. . {in a subliminal way, i.e. below the threshold of sensation}
2021/0016	. . {by the smell sense}
2021/0022	. . {by the tactile sense, e.g. vibrations}
2021/0027	. . {by the hearing sense}
2021/0033	. . . {subsonic}
2021/0038	. . . {ultrasonic}
2021/0044	. . {by the sight sense}
2021/005	. . . {images, e.g. video}
2021/0055	. . {with electric or electro-magnetic fields}
2021/0061	. . {Simulated heartbeat pulsed or modulated}

2021/0066	. . {with heating or cooling}
2021/0072	. . {with application of electrical currents}
2021/0077	. . {with application of chemical or pharmacological stimulus}
2021/0083	. . {especially for waking up}
2021/0088	. . {modulated by a simulated respiratory frequency}
21/0094	. {Isolation chambers used therewith, i.e. for isolating individuals from external stimuli (other treatment rooms or enclosures A61G 10/00)}
21/02	. for inducing sleep or relaxation, e.g. by direct nerve stimulation, hypnosis, analgesia (for massage A61H; electrotherapy A61N, e.g. applying alternating or intermittent electric currents for producing anaesthesia A61N 1/36021)

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

<b>25/00</b>	<b>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})</b>
2025/0001	. {for pressure measurement (not used)}
2025/0002	. . {with a pressure sensor at the distal end}
2025/0003	. . {having an additional lumen transmitting fluid pressure to the outside for measurement}
2025/0004	. {having two or more concentrically arranged tubes for forming a concentric catheter system}
2025/0006	. . {which can be secured against axial movement, e.g. by using a locking cuff}
2025/0007	. {Epidural catheters}
2025/0008	. {having visible markings on its surface, i.e. visible to the naked eye, for any purpose, e.g. insertion depth markers, rotational markers or identification of type}
25/0009	. {Making of catheters or other medical or surgical tubes}
25/001	. . {Forming the tip of a catheter, e.g. bevelling process, join or taper}
25/0012	. . {with embedded structures, e.g. coils, braids, meshes, strands or radiopaque coils}
25/0013	. . {Weakening parts of a catheter tubing, e.g. by making cuts in the tube or reducing thickness of a layer at one point to adjust the flexibility}
25/0014	. . {Connecting a tube to a hub}
25/0015	. . {Making lateral openings in a catheter tube, e.g. holes, slits, ports, piercings of guidewire ports; Methods for processing the holes, e.g. smoothing the edges}
25/0017	. {specially adapted for long-term hygiene care, e.g. urethral or indwelling catheters to prevent infections}
2025/0018	. {having a plug, e.g. an inflatable plug for closing catheter lumens}
2025/0019	. {Cleaning catheters or the like, e.g. for reuse of the device, for avoiding replacement}
25/002	. {Packages specially adapted therefor (combined with means for introducing catheters, e.g. dispensers, A61M 25/0113); catheter kit packages (for surgical articles A61B 50/30)}
25/0021	. {characterised by the form of the tubing (A61M 25/0054 takes precedence)}
25/0023	. . {by the form of the lumen, e.g. cross-section, variable diameter}
2025/0024	. . . {Expandable catheters or sheaths}

- 2025/0025 . . . {having a collapsible lumen}
- 25/0026 . . . {Multi-lumen catheters with stationary elements ([catheter assemblies comprising a catheter in combination with a guide tube, sheath or sleeve A61M 2025/0681](#); [catheters comprising telescoping coaxial elements A61M 2025/0175](#))}
- 25/0028 . . . . {characterized by features relating to at least one lumen located at the proximal part of the catheter, e.g. alterations in lumen shape or valves ([catheter hubs A61M 25/0097](#))}
- 25/0029 . . . . {characterized by features relating to 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](#))}
- 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](#))}
- 2025/0031 . . . . . {characterized by lumina for withdrawing or delivering, i.e. used for extracorporeal circuit treatment}
- 25/0032 . . . . . {characterized by at least one unconventionally shaped lumen, e.g. polygons, ellipsoids, wedges or shapes comprising concave and convex parts}
- 2025/0034 . . . . . {characterized by elements which are assembled, connected or fused, e.g. splittable tubes, outer sheaths creating lumina or separate cores ([making of catheters A61M 25/0009](#))}
- 2025/0035 . . . . . {characterized by a variable lumen cross-section by means of a resilient flexible septum or outer wall}
- 2025/0036 . . . . . {with more than four lumina}
- 2025/0037 . . . . . {characterized by lumina being arranged side-by-side}
- 2025/0039 . . . . . {characterized by lumina being arranged coaxially}
- 2025/004 . . . . . {characterized by lumina being arranged circumferentially}
- 25/0041 . . {pre-formed, e.g. specially adapted to fit with the anatomy of body channels ([urethral catheters A61F 2/04](#))}
- 2025/0042 . . {Microcatheters, cannula or the like having outside diameters around 1 mm or less}
- 25/0043 . {characterised by structural features}
- 25/0045 . . {multi-layered, e.g. coated ([coating materials A61L 29/08](#))}
- 2025/0046 . . . {Coatings for improving slidability}
- 2025/0047 . . . . {the inner layer having a higher lubricity}
- 2025/0048 . . . . . {with an outer layer made from silicon}
- 25/005 . . {with embedded materials for reinforcement, e.g. wires, coils, braids}
- 25/0051 . . . {made from fenestrated or weakened tubing layer}
- 25/0052 . . . {Localized reinforcement, e.g. where only a specific part of the catheter is reinforced, for rapid exchange guidewire port}
- 25/0053 . . . {having a variable stiffness along the longitudinal axis, e.g. by varying the pitch of the coil or braid}
- 25/0054 . . {with regions for increasing flexibility}
- 2025/0056 . . {provided with an antibacterial agent, e.g. by coating, residing in the polymer matrix or releasing an agent out of a reservoir}
- 2025/0057 . . {Catheters delivering medicament other than through a conventional lumen, e.g. porous walls or hydrogel coatings}
- 2025/0058 . . {having an electroactive polymer material, e.g. for steering purposes, for control of flexibility, for locking, for opening or closing}
- 2025/0059 . . {having means for preventing the catheter, sheath or lumens from collapsing due to outer forces, e.g. compressing forces, or caused by twisting or kinking}
- 2025/006 . . {having a special surface topography or special surface properties, e.g. roughened or knurled surface}
- 2025/0062 . . {having features to improve the sliding of one part within another by using lubricants or surfaces with low friction ([coatings A61M 2025/0046](#))}
- 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 ([general flow characteristics A61M 2206/10](#))}
- 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-simulation, e.g. for fixation purposes}
- 2025/0096 . . . {being laterally outward extensions or tools, e.g. hooks or fibres}
- 25/0097 . {characterised by the hub ([connectors A61M 39/10](#))}
- 2025/0098 . {having a strain relief at the proximal end, e.g. sleeve}
- 25/01 . Introducing, guiding, advancing, emplacing or holding catheters ([A61M 25/10 takes precedence](#))
- 25/0102 . . {Insertion or introduction using an inner stiffening member, e.g. stylet or push-rod}
- 25/0105 . . {Steering means as part of the catheter or advancing means; Markers for positioning ([systems for detection of markers A61B](#))}
- 25/0108 . . . {using radio-opaque or ultrasound markers}
- 25/0111 . . . {Aseptic insertion devices}
- 25/0113 . . . {Mechanical advancing means, e.g. catheter dispensers}
- 25/0116 . . . {self-propelled, e.g. autonomous robots ([A61M 25/0122 takes precedence](#))}
- 25/0119 . . . {Eversible catheters}
- 25/0122 . . . {with fluid drive by external fluid in an open fluid circuit}
- 25/0125 . . . {Catheters carried by the bloodstream, e.g. with parachutes; Balloon catheters specially designed for this purpose}
- 25/0127 . . . {Magnetic means; Magnetic markers}
- 25/013 . . . {One-way gripping collars}
- 25/0133 . . . {Tip steering devices}
- 25/0136 . . . . {Handles therefor}
- 25/0138 . . . . {having flexible regions as a result of weakened outer material, e.g. slots, slits, cuts, joints or coils}
- 25/0141 . . . . {having flexible regions as a result of using materials with different mechanical properties}
- 25/0144 . . . . {having flexible regions as a result of inner reinforcement means, e.g. struts or rods}
- 25/0147 . . . . {with movable mechanical means, e.g. pull wires}
- 2025/015 . . . . . {Details of the distal fixation of the movable mechanical means}
- 25/0152 . . . . {with pre-shaped mechanisms, e.g. pre-shaped stylets or pre-shaped outer tubes}
- 25/0155 . . . . {with hydraulic or pneumatic means, e.g. balloons or inflatable compartments}
- 25/0158 . . . . {with magnetic or electrical means, e.g. by using piezo materials, electroactive polymers, magnetic materials or by heating of shape memory materials}
- 2025/0161 . . . . {wherein the distal tips have two or more deflection regions}
- 2025/0163 . . . . {Looped catheters}
- 2025/0166 . . . {Sensors, electrodes or the like for guiding the catheter to a target zone, e.g. image guided or magnetically guided}
- 25/0169 . . {Exchanging a catheter while keeping the guidewire in place}
- 25/0172 . . {Exchanging a guidewire while keeping the catheter in place}
- 2025/0175 . . {having telescopic features, interengaging nestable members movable in relations to one another}
- 2025/0177 . . {having external means for receiving guide wires, wires or stiffening members, e.g. loops, clamps or lateral tubes}
- 2025/018 . . {Catheters having a lateral opening for guiding elongated means lateral to the catheter}
- 2025/0183 . . {Rapid exchange or monorail catheters}
- 2025/0186 . . {Catheters with fixed wires, i.e. so called "non-over-the-wire catheters"}
- 2025/0188 . . {having slitted or breakaway lumens}
- 2025/0191 . . {Suprapubic catheters}
- 25/0194 . . {Tunnelling catheters}
- 2025/0197 . . . {for creating an artificial passage within the body, e.g. in order to go around occlusions ([for fixation outside the body A61M 25/0194](#))}
- 25/02 . . Holding devices, e.g. on the body
- 2025/0206 . . . {where the catheter is secured by using devices worn by the patient, e.g. belts or harnesses}
- 2025/0213 . . . {where the catheter is attached by means specifically adapted to a part of the human body}
- 2025/022 . . . . {specifically adapted for the mouth}
- 2025/0226 . . . . {specifically adapted for the nose}
- 2025/0233 . . . . {specifically adapted for attaching to a body wall by means which are on both sides of the wall, e.g. for attaching to an abdominal wall}
- 2025/024 . . . {having a clip or clamp system}
- 2025/0246 . . . {fixed on the skin having a cover for covering the holding means}
- 2025/0253 . . . {where the catheter is attached by straps, bands or the like secured by adhesives}
- 2025/026 . . . . {where the straps are releasably secured, e.g. by hook and loop-type fastening devices}
- 2025/0266 . . . {using pads, patches, tapes or the like}
- 2025/0273 . . . . {having slits to place the pad around a catheter puncturing site}
- 2025/028 . . . {having a mainly rigid support structure}
- 2025/0286 . . . {anchored in the skin by suture or other skin penetrating devices}
- 2025/0293 . . . {Catheter, guide wire or the like with means for holding, centering, anchoring or frictionally engaging the device within an artificial lumen, e.g. tube ([natural lumen, e.g. vessels A61M 25/04](#))}
- 25/04 . . . in the body, e.g. expansible ([A61M 25/10, A61M 16/0488 take precedence](#))}
- 25/06 . . Body-piercing guide needles or the like

- 25/0606 . . . { "Over-the-needle" catheter assemblies, e.g. I.V. catheters }
  - 25/0612 . . . { Devices for protecting the needle; Devices to help insertion of the needle, e.g. wings or holders }
  - 25/0618 . . . . { having means for protecting only the distal tip of the needle, e.g. a needle guard }
  - 25/0625 . . . . . { with a permanent connection to the needle hub, e.g. a guiding rail, a locking mechanism or a guard advancement mechanism }
  - 25/0631 . . . . . { having means for fully covering the needle after its withdrawal, e.g. needle being withdrawn inside the handle or a cover being advanced over the needle }
  - 25/0637 . . . . . { Butterfly or winged devices, e.g. for facilitating handling or for attachment to the skin }
  - 25/0643 . . . . . { Devices having a blunt needle tip, e.g. due to an additional inner component }
  - 25/065 . . . { Guide needles }
  - 25/0656 . . . . { having a tip larger than the rest of the body }
  - 25/0662 . . . { Guide tubes }
  - 25/0668 . . . . { splittable, tear apart }
  - 25/0675 . . . . . { Introducing-sheath slitters }
  - 25/0681 . . . . { Systems with catheter and outer tubing, e.g. sheath, sleeve or guide tube }
  - 25/0687 . . . . { having means for atraumatic insertion in the body or protection of the tip of the sheath during insertion, e.g. special designs of dilators, needles or sheaths }
  - 25/0693 . . . { Flashback chambers }
  - 25/09 . . . Guide wires
  - 25/09008 . . . { having a balloon }
  - 25/09016 . . . { with mandrils }
  - 25/09025 . . . . { with sliding mandrils }
  - 25/09033 . . . . { with fixed mandrils, e.g. mandrils fixed to tip; Tensionable wires }
  - 25/09041 . . . { Mechanisms for insertion of guide wires }
  - 25/0905 . . . { extendable, e.g. mechanisms for extension }
  - 25/09058 . . . { Basic structures of guide wires (not used) }
  - 25/09066 . . . . { having a coil without a core possibly combined with a sheath }
  - 25/09075 . . . . { having a core without a coil possibly combined with a sheath }
  - 25/09083 . . . . { having a coil around a core }
  - 25/09091 . . . . . { where a sheath surrounds the coil at the distal part }
  - 25/091 . . . { having a lumen for drug delivery or suction }
  - 25/09108 . . . { Methods for making a guide wire }
  - 25/09116 . . . { Design of handles or shafts or gripping surfaces thereof for manipulating guide wires }
  - 25/09125 . . . { Device for locking a guide wire in a fixed position with respect to the catheter or the human body }
  - 25/09133 . . . { having specific material compositions or coatings; Materials with specific mechanical behaviours, e.g. stiffness, strength to transmit torque }
  - 25/09141 . . . . { made of shape memory alloys which take a particular shape at a certain temperature }
  - 25/0915 . . . { having features for changing the stiffness }
  - 25/09158 . . . . { when heated }
  - 25/09166 . . . { having radio-opaque features }
  - 25/09175 . . . . { having specific characteristics at the distal tip }
  - 25/09183 . . . . . { having tools at the distal tip }
  - 25/09191 . . . . { 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 ) }
  - 25/1004 . . . . { 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 }
  - 25/1013 . . . . { with concentrically mounted balloons, e.g. being independently inflatable }
  - 25/1015 . . . . { 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 }
- WARNING**
- Groups [A61M 25/10181](#) - [A61M 25/10188](#) are incomplete pending reclassification of documents from group [A61M 25/1018](#). Until reclassification is complete, groups [A61M 25/1018](#) and [A61M 25/10181](#) - [A61M 25/10188](#) should be considered in order to perform a complete search.
- 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 }
  - 25/102 . . . . { driven by a solenoid-activated pump }
  - 25/1022 . . . . { 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 }
  - 25/1031 . . . . . { 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 (**not used**)}
- 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}
- NOTE**
- This group also covers other centering means and is not limited to balloons
- 2025/105 . . . {having a balloon suitable for drug delivery, e.g. by using holes for delivery, drug coating or membranes}
- 2025/1052 . . . {for temporarily occluding a vessel for isolating a sector}
- 2025/1054 . . . {having detachable or disposable balloons}
- 2025/1056 . . . {having guide wire lumens outside the main shaft, i.e. the guide wire lumen is within or on the surface of the balloon}
- 2025/1059 . . . {having different inflatable sections mainly depending on the response to the inflation pressure, e.g. due to different material properties (**with different compartments** [A61M 2025/1072](#))}
- 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 appliances for wounds or the like, {i.e. wound drains, implanted drains}** (implements for holding wounds open [A61B 17/02](#); {middle ear drainage [A61F 11/002](#); other drainage devices [A61M 1/00](#)})
- 27/002 . {Implant devices for drainage of body fluids from one part of the body to another ([intraocular A61F 9/00781](#); middle ear [A61F 11/002](#))}
- 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** (instruments for performing visual medical inspections of cavities or tubes of the body [A61B 1/00](#))
- 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, {e.g. spreading}, media, e.g. remedies, on the human body** (devices for handling toilet or cosmetic substances [A45D](#); absorbent pads, e.g. swabs, [A61F 13/15](#)); (**Introducing media, e.g. remedies, into the body by diffusion through the skin** (using salt baths [A61H 33/04](#)))
- 35/003 . {Hand-held applicator instruments having media dispensing or spreading means (apparatus for iontophoresis [A61N 1/30](#); hand tools for applying fluent material to surfaces, in general [B05C 17/00](#); container closures with pads or like contents-applying means, in general [B65D 47/42](#))}
- 35/006 . . {Absorbent pads, e.g. swabs, containing a liquid, e.g. in a rupturable reservoir (absorbent pads, e.g. swabs, for medical use, in general [A61F 13/00](#), e.g. [A61F 13/38](#))}

37/00	<b>Other apparatus for introducing media into the body</b> (for reproduction or fertilisation <a href="#">A61B 17/425</a> ; apparatus for iontophoresis or cataphoresis <a href="#">A61N 1/30</a> ); Percutany, i.e. introducing medicines into the body by diffusion through the skin (salt baths <a href="#">A61H 33/04</a> )	39/0208 . . {Subcutaneous access sites for injecting or removing fluids (transcutaneous access sites <a href="#">A61M 39/0247</a> ; implantable infusion devices <a href="#">A61M 5/14276</a> )}
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}	2039/0211 . . . {with multiple chambers in a single site}
37/0015	. {by using microneedles}	2039/0214 . . . . {some or all chambers sharing a single septum}
2037/0023	. . {Drug applicators using microneedles}	2039/0217 . . . . . {at least some chambers being stacked separated by another septum}
2037/003	. . {having a lumen}	2039/022 . . . {being accessible from all sides, e.g. due to a cylindrically-shaped septum}
2037/0038	. . {having a channel at the side surface}	2039/0223 . . . {having means for anchoring the subcutaneous access site}
2037/0046	. . {Solid microneedles}	2039/0226 . . . {having means for protecting the interior of the access site from damage due to the insertion of a needle}
2037/0053	. . {Methods for producing microneedles}	2039/0229 . . . {having means for facilitating assembling, e.g. snap-fit housing or modular design}
2037/0061	. . {Methods for using microneedles}	2039/0232 . . . {having means for facilitating the insertion into the body}
37/0069	. {Devices for implanting pellets, e.g. markers or solid medicaments (for introducing of radioactive sources for interstitial radiation therapy, i.e. brachytherapy <a href="#">A61N 5/1027</a> )}	2039/0235 . . . {having an additional inlet, e.g. for a guidewire or a catheter tube}
37/0076	. {Tattooing apparatus (apparatus for marking animals <a href="#">A01K 11/00</a> ; vaccine applicators having needles or other puncturing means <a href="#">A61B 17/205</a> )}	2039/0238 . . . {having means for locating the implanted device to insure proper injection, e.g. radio-emitter, protuberances, radio-opaque markers}
37/0084	. . {Tattooing apparatus with incorporated liquid feeding device}	2039/0241 . . . {having means for filtering}
37/0092	. {using ultrasonic, sonic or infrasonic vibrations, e.g. phonophoresis}	2039/0244 . . . {having means for detecting an inserted needle}
		39/0247 . . {Semi-permanent or permanent transcutaneous or percutaneous access sites to the inside of the body (peritoneal dialysis catheters <a href="#">A61M 1/285</a> ; tracheostomy devices <a href="#">A61M 16/0465</a> ; measuring pressure within the body <a href="#">A61B 5/03</a> ; colostomy devices <a href="#">A61F 5/445</a> ; gastrotomy feeding tubes <a href="#">A61J 15/0015</a> ; means for fixing a feeding tube outside of the body <a href="#">A61J 15/0053</a> )}
		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 (septum <a href="#">A61M 2039/0036</a> )}
		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}

**39/00 Tubes, tube connectors, tube couplings, valves, access sites or the like, specially adapted for medical use** (for respiratory devices, e.g. tracheal tubes [A61M 16/00](#); artificial heart valves [A61F 2/24](#))

**WARNING**

Not complete, see [A61J 1/14](#)

2039/0009	. {Assemblies therefor designed for particular applications, e.g. contrast or saline injection, suction or irrigation}
2039/0018	. . {designed for flushing a line, e.g. by a by-pass}
2039/0027	. . {for mixing several substances from different containers}
2039/0036	. {characterised by a septum having particular features, e.g. having venting channels or being made from antimicrobial or self-lubricating elastomer}
2039/0045	. . {Radiopaque indicia}
2039/0054	. . {Multiple layers}
2039/0063	. . {Means for alignment of the septum, e.g. septum rim with alignment holes}
2039/0072	. . {Means for increasing tightness of the septum, e.g. compression rings, special materials, special constructions}
2039/0081	. . {Means for facilitating introduction of a needle in the septum, e.g. guides, special construction of septum}
2039/009	. . {Means for limiting access to the septum, e.g. shields, grids}
39/02	. Access sites
2039/0202	. . {for taking samples}
2039/0205	. . {for injecting media}



- 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 ([feeding tubes inside the stomach or intestines A61J 15/00](#))}
- 2039/087 . . {Tools for handling tubes, e.g. crimping tool for connecting tubes to a connector}
- 39/10 . Tube connectors; Tube couplings {([A61M 39/02 takes precedence](#); connecting needles to syringes or hubs [A61M 5/34](#); connecting catheter tubes to hubs [A61M 25/0014](#))}
- 2039/1005 . . {Detection of disconnection}
- 39/1011 . . {Locking means for securing connection; Additional tamper safeties ([A61M 39/16 takes precedence](#))}
- 2039/1016 . . {Unlocking means providing a secure or comfortable disconnection}
- 2039/1022 . . {additionally providing electrical connection}
- 2039/1027 . . {Quick-acting type connectors}
- 2039/1033 . . {Swivel nut connectors, e.g. threaded connectors, bayonet-connectors}
- 2039/1038 . . {Union screw connectors, e.g. hollow screw or sleeve having external threads}
- 2039/1044 . . {Verifying the connection, e.g. audible feedback, tactile feedback, visual feedback, using external light sources}
- 39/105 . . {Multi-channel connectors or couplings, e.g. for connecting multi-lumen tubes ([multi-channel connectors in general F16L 37/56](#))}
- 39/1055 . . {Rotating or swivel joints ([in general F16L 27/00](#))}
- 2039/1061 . . {Break-apart tubing connectors or couplings}
- 2039/1066 . . {having protection means, e.g. sliding sleeve to protect connector itself, shrouds to protect a needle present in the connector, protective housing, isolating sheath}
- 2039/1072 . . {with a septum present in the connector}
- 2039/1077 . . {Adapters, e.g. couplings adapting a connector to one or several other connectors}
- 2039/1083 . . {having a plurality of female connectors, e.g. Luer connectors}
- 2039/1088 . . {having a plurality of male connectors, e.g. Luer connectors}
- 2039/1094 . . {at least partly incompatible with standard connectors, e.g. to prevent fatal mistakes in connection}
- 39/12 . . for joining a flexible tube to a rigid attachment
- 39/14 . . for connecting tubes having sealed ends {([needle sets A61M 5/162](#); [having valves closing automatically on disconnection of line A61M 39/26](#))}
- 39/143 . . . {both tube ends being sealed by 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](#); [methods or apparatus for disinfection or sterilisation A61L 2/00](#))}
- 39/162 . . . {with antiseptic agent incorporated within the connector}
- 39/165 . . . {Shrouds or protectors for aseptically enclosing the connector}
- 2039/167 . . . {with energizing means, e.g. light, vibration, electricity}
- 39/18 . . . Methods or apparatus for making the connection under sterile conditions, i.e. sterile docking
- 39/20 . Closure caps or plugs for connectors or open ends of tubes
- 2039/205 . . {comprising air venting means}
- 39/22 . Valves or arrangement of valves {([A61M 39/02](#), [A61M 39/0247](#), [A61M 39/16 take precedence](#); regulating valves in infusion systems [A61M 5/16881](#); in devices worn by the patient for the reception of urine, faeces, catamenial or other discharge, or in colostomy devices [A61F 5/4405](#))}
- 39/221 . . {Frangible or pierceable closures within tubing ([A61M 39/14 takes precedence](#); [frangible closures for containers A61J 1/14](#))}
- 2039/222 . . . {frangible within tubing or bags}
- 39/223 . . {Multiway valves}
- 2039/224 . . . {of the slide-valve type}
- 39/225 . . {Flush valves, i.e. bypass valves for flushing line}
- 2039/226 . . {Spindles or actuating means}
- 39/227 . . {Valves actuated by a secondary fluid, e.g. hydraulically or pneumatically actuated valves}
- 39/228 . . . {with a tubular diaphragm constrictable by radial fluid force}
- 2039/229 . . {Stopcocks}
- 39/24 . . Check- or non-return valves
- 2039/2406 . . . {designed to quickly shut upon the presence of back-pressure}

2039/2413	. . .	{designed to reduce and or shut-off the flow when a certain maximum flow limit is exceeded}
2039/242	. . .	{designed to open when a predetermined pressure or flow rate has been reached, e.g. check valve actuated by fluid}
2039/2426	. . .	{Slit valve}
2039/2433	. . .	{Valve comprising a resilient or deformable element, e.g. flap valve, deformable disc}
2039/244	. . . .	{Hinged closure member, e.g. flap valve}
2039/2446	. . . .	{Flexible disc}
2039/2453	. . . . .	{not being fixed to the valve body}
2039/246	. . . . .	{being fixed along all or a part of its periphery}
2039/2466	. . . . .	{being fixed in its center}
2039/2473	. . .	{Valve comprising a non-deformable, movable element, e.g. ball-valve, valve with movable stopper or reciprocating element}
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 <a href="#">A61M 39/24</a> )}
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 <a href="#">A61M 1/0078</a> )}
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}

## 2202/00 Special media to be introduced, removed or treated ([applying radioactive material A61N 5/1028](#))

### NOTE

The classification symbols [A61M 2202/0007](#) - [A61M 2202/0092](#) are not listed first when assigned to patent documents.

They are used only when associated to other subgroups of [A61M 2202/00](#) in combination sets

Example:

[A61M 2202/0417](#), [A61M 2202/0057](#)

2202/0007	. introduced into the body
2202/0014	. removed from the body
2202/0021	. removed from and reintroduced into the body, e.g. after treatment
2202/0028	. fluid entering a filter
2202/0035	. fluid leaving the cross-flow filter without having passed through the filtering element
2202/0042	. filtrate, i.e. the fluid passing through the filter
2202/005	. residue retained by the filter due to size
2202/0057	. retained by adsorption
2202/0064	. changed by biological action
2202/0071	. product to be retained or harvested, e.g. by pheresis
2202/0078	. changed by chemical action
2202/0085	. product washed out
2202/0092	. starting product created by centrifuging
2202/02	. Gases ( <a href="#">smoke evacuating A61B 2218/008</a> )
2202/0208	. . Oxygen
2202/0216	. . Ozone
2202/0225	. . Carbon oxides, e.g. Carbon dioxide
2202/0233	. . . Carbon monoxide
2202/0241	. . Anaesthetics; Analgesics
2202/025	. . Helium
2202/0258	. . Krypton (KR)
2202/0266	. . Nitrogen (N)
2202/0275	. . . Nitric oxide [NO]
2202/0283	. . . Nitrous oxide (N <sub>2</sub> O)
2202/0291	. . Xenon
2202/03	. Gases in liquid phase, e.g. cryogenic liquids
2202/04	. Liquids
2202/0401	. . Ascitics
2202/0403	. . Gall; Bile
2202/0405	. . Lymph
2202/0407	. . . Lymphocytes
2202/0409	. . . . B-Lymphocytes
2202/0411	. . . . T-Lymphocytes
2202/0413	. . Blood
2202/0415	. . . Plasma
2202/0417	. . . . Immunoglobulin
2202/0419	. . . . . Immunoglobulin G
2202/0421	. . . . Beta-2-microglobulin
2202/0423	. . . . Serum; Human serous fluid, i.e. plasma without fibrinogen
2202/0425	. . . . Thrombin
2202/0427	. . . Platelets; Thrombocytes
2202/0429	. . . Red blood cells; Erythrocytes
2202/0431	. . . . Gerocytes
2202/0433	. . . . Free haemoglobin
2202/0435	. . . . Neocytes, e.g. reticulocytes
2202/0437	. . . . Blood stem cells

2202/0439	. . .	White blood cells; Leucocytes ( <a href="#">lymphocytes A61M 2202/0407</a> )
2202/0441	. . . .	Granulocytes, i.e. leucocytes containing many granules in their cytoplasm
2202/0443	. . . .	Macrophages, e.g. monocytes
2202/0445	. . .	Proteins ( <a href="#">immunoglobulin A61M 2202/0417</a> ; <a href="#">beta-2-microglobulin A61M 2202/0421</a> ; <a href="#">thrombin A61M 2202/0425</a> ; <a href="#">haemoglobin A61M 2202/0433</a> )
2202/0447	. . . .	Glycoproteins
2202/0449	. . . . .	Fibrinogen, also called factor I
2202/045	. . . . .	Fibrin
2202/0452	. . . . .	Factor VIII
2202/0454	. . . . .	Fibrinase, i.e. Factor XIII
2202/0456	. . .	Lipoprotein
2202/0458	. . . .	High-density lipoprotein
2202/046	. . . .	Low-density lipoprotein
2202/0462	. . .	Placental blood, umbilical cord blood
2202/0464	. .	Cerebrospinal fluid
2202/0466	. .	Saliva
2202/0468	. .	non-physiological
2202/047	. . .	cardioplegic
2202/0472	. . . .	cryo-cardioplegic
2202/0474	. . .	haemodiluting
2202/0476	. . .	Oxygenated solutions
2202/0478	. . .	Heparin
2202/048	. . .	Anaesthetics ( <a href="#">see also A61M 19/00</a> )
2202/0482	. . .	Enteral feeding product
2202/0484	. . .	Alcohol
2202/0486	. . .	Glucose
2202/0488	. . .	Surfactant, e.g. for the lung
2202/049	. . .	Toxic
2202/0492	. .	Pleural
2202/0494	. .	Obstetrical, amniotic fluid
2202/0496	. .	Urine
2202/0498	. . .	Urea
2202/06	. Solids	
2202/062	. .	Desiccants
2202/064	. .	Powder
2202/066	. . .	made from a compacted product by abrading
2202/068	. .	Faeces; Excretions
2202/07	. Proteins	
2202/08	. Lipoids	
2202/09	. Body tissue	
2202/092	. .	Sweat glands
2202/095	. .	Collagen
2202/097	. .	endothelial cells
2202/10	. Bone-marrow	
2202/20	. Pathogenic agents	
2202/203	. .	Bacteria
2202/206	. .	Viruses
2202/30	. Vaccines	
<b>2205/00</b>	<b>General characteristics of the apparatus</b>	
2205/02	. characterised by a particular materials	
2205/0205	. .	Materials having antiseptic or antimicrobial properties, e.g. silver compounds, rubber with sterilising agent
2205/0211	. .	Ceramics
2205/0216	. .	Materials providing elastic properties, e.g. for facilitating deformation and avoid breaking
2205/0222	. .	Materials for reducing friction
2205/0227	. .	Materials having sensing or indicating function, e.g. indicating a pressure increase
2205/0233	. .	Conductive materials, e.g. antistatic coatings for spark prevention
2205/0238	. .	the material being a coating or protective layer
2205/0244	. .	Micromachined materials, e.g. made from silicon wafers, microelectromechanical systems [MEMS] or comprising nanotechnology
2205/025	. .	Materials providing resistance against corrosion
2205/0255	. . .	in acidic environments or acidic fluids
2205/0261	. . .	in alcalic environments or alcalic fluids
2205/0266	. .	Shape memory materials
2205/0272	. .	Electro-active or magneto-active materials
2205/0277	. . .	Chemo-active materials
2205/0283	. . .	Electro-active polymers [EAP]
2205/0288	. . .	Electro-rheological or magneto-rheological materials
2205/0294	. . .	Piezoelectric materials
2205/04	. implanted	
2205/05	. combined with other kinds of therapy	
2205/051	. .	with radiation therapy
2205/052	. . .	infra-red
2205/053	. . .	ultra-violet
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 ([blood in dialysate A61M 1/1692](#))
- 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

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2210/1067	. . .	Anus
2210/1071	. . .	Liver; Hepar
2210/1075	. . .	Gall bladder
2210/1078	. .	Urinary tract
2210/1082	. . .	Kidney
2210/1085	. . .	Bladder
2210/1089	. . .	Urethra
2210/1092	. . . .	Female
2210/1096	. . . .	Male
2210/12	.	Blood circulatory system
2210/122	. .	Pericardium
2210/125	. .	Heart
2210/127	. .	Aorta
2210/14	.	Female reproductive, genital organs
2210/1408	. .	Ovaries
2210/1416	. .	Ova, ovum
2210/1425	. .	Uterine tubes
2210/1433	. .	Uterus
2210/1441	. . .	Ovocytes
2210/145	. . .	Embryo, fetus
2210/1458	. . .	Placenta
2210/1466	. . .	Umbilical cord
2210/1475	. .	Vagina
2210/1483	. .	Labia
2210/1491	. .	Clitoris
2210/16	.	Male reproductive, genital organs
2210/161	. .	Testis
2210/162	. .	Epididymis
2210/163	. .	Ductus deferens
2210/164	. .	Seminal vesicles
2210/165	. .	Sperm ducts
2210/166	. .	Prostate
2210/167	. .	Penis
2210/168	. .	Scrota, Scrotums

2230/435	. . .	partial O <sub>2</sub> pressure (P-O <sub>2</sub> )
2230/437	. . .	the anaesthetic agent concentration
2230/46	. .	Resistance or compliance of the lungs
2230/50	.	Temperature
2230/60	.	Muscle strain, i.e. measured on the user
2230/62	.	Posture
2230/63	.	Motion, e.g. physical activity
2230/65	.	Impedance, e.g. conductivity, capacity

**2240/00** Specially adapted for neonatal use

**2250/00** Specially adapted for animals

### Parts of the body

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

#### NOTE

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-CO <sub>2</sub> )
2230/204	. . .	partial carbon monoxide pressure (P-CO)
2230/205	. .	partial oxygen pressure (P-O <sub>2</sub> )
2230/207	. .	hematocrit
2230/208	. .	pH-value
2230/30	.	Blood pressure ( <a href="#">A61M 2230/04</a> takes precedence)
2230/40	.	Respiratory characteristics
2230/42	. .	Rate
2230/43	. .	Composition of exhalation
2230/432	. . .	partial CO <sub>2</sub> pressure (P-CO <sub>2</sub> )