

CPC COOPERATIVE PATENT CLASSIFICATION

A HUMAN NECESSITIES

HEALTH; AMUSEMENT

A61 MEDICAL OR VETERINARY SCIENCE; HYGIENE

A61B **DIAGNOSIS; SURGERY; IDENTIFICATION** (analysing biological material [G01N](#), e.g. [G01N 33/48](#); obtaining records using waves other than optical waves, in general [G03B 42/00](#))

NOTE

This subclass covers instruments, implements and processes for diagnostic, surgical and person-identification purposes, including obstetrics, instruments for cutting corns, vaccination instruments, finger-printing, psycho-physical tests.

WARNINGS

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

| | | |
|-----------------------------|------------|---|
| A61B 17/03 | covered by | A61B 17/00 |
| A61B 17/125 | covered by | A61B 17/122 |
| A61B 17/138 | covered by | A61B 17/12 |
| A61B 17/76 | covered by | A61B 17/744 |
| A61B 17/78 | covered by | A61B 17/744 |
| A61B 17/90 | covered by | A61B 17/88 , A61B 2017/90 |
| A61B 17/94 | covered by | A61B 17/29 |
- 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.

Diagnosis; Psycho-physical tests

1/00 Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes (examination of body cavities or body tracts using ultrasonic, sonic or infrasonic waves [A61B 8/12](#); instruments, e.g. endoscopes, for taking a cell sample [A61B 10/00](#); endoscopic cutting instruments [A61B 17/32](#); surgical instruments using a laser beam being directed along or through a flexible conduit [A61B 18/22](#); technical endoscopes [G02B 23/24](#)); **illuminating arrangements therefor** (for the eyes [A61B 3/00](#))

- 1/00002 . {Operational features of endoscopes}
- 1/00004 . . {characterised by electronic signal processing}
- 1/00006 . . . {of control signals}
- 1/00009 . . . {of image signals ([G06T](#) takes precedence)}
- 1/00011 . . {characterised by data transmission}
- 1/00013 . . . {using optical means}
- 1/00016 . . . {using wireless means}
- 1/00018 . . . {using electrical cables}
- 1/0002 . . {provided with data storages}
- 1/00022 . . . {removable}
- 1/00025 . . {characterised by power management}
- 1/00027 . . . {characterised by power supply}
- 1/00029 {externally powered, e.g. wireless}
- 1/00032 {internally powered}
- 1/00034 {rechargeable}
- 1/00036 . . . {Means for power saving, e.g. sleeping mode}
- 1/00039 . . {provided with data input arrangements for the user}

- 1/00041 . . . {for user message recording}
- 1/00043 . . {provided with signal output arrangements}
- 1/00045 . . . {Display arrangement}
- 1/00048 {Constructional features of the display}
- 1/0005 {for multiple images}
- 1/00052 {positioned at proximal end of the endoscope body}
- 1/00055 . . . {for alerting the user}
- 1/00057 . . {provided with means for testing or calibration}
- 1/00059 . . {provided with identification means for the endoscope}
- 1/00062 . . {provided with means for preventing overuse}
- 1/00064 . {Constructional details of the endoscope body}
- 1/00066 . . {Proximal part of endoscope body, e.g. handles ([A61B 1/0052](#) takes precedence)}
- 1/00068 . . . {Valve switch arrangements}
- 1/00071 . . {Insertion part of the endoscope body ([A61B 1/0055](#) takes precedence)}
- 1/00073 . . . {with externally grooved shaft}
- 1/00075 . . . {with externally roughened shaft}
- 1/00078 . . . {with stiffening means}
- 1/0008 . . . {characterised by distal tip features}
- 1/00082 {Balloons}
- 1/00085 {Baskets}
- 1/00087 {Tools ([A61B 17/00234](#) takes precedence)}
- 1/00089 {Hoods}
- 1/00091 {Nozzles}
- 1/00094 {Suction openings}
- 1/00096 {Optical elements}
- 1/00098 {Deflecting means for inserted tools}
- 1/00101 {the distal tip features being detachable}

- 1/00103 . . {designed for single use}
- 1/00105 . . {characterised by modular construction}
- 1/00108 . . {characterised by self-sufficient functionality for stand-alone use}
- 1/00111 . . {Manufacturing of endoscope parts}
- 1/00112 . {Connection or coupling means}
- 1/00114 . . {Electrical cables for connection to external units}
- 1/00117 . . {Optical cables, e.g. for connection to an external light source}
- 1/00119 . . {Tubes or pipes, e.g. for fluid supply to the endoscope}
- 1/00121 . . {Connectors, fasteners and adapters, e.g. on the endoscope handle}
- 1/00124 . . . {electrical, e.g. electrical plug-and-socket connection}
- 1/00126 . . . {optical, e.g. for light supply cables}
- 1/00128 . . . {mechanical, e.g. for tubes or pipes}
- 1/00131 . {Accessories for endoscopes}
- 1/00133 . . {Drive units, e.g. for endoscopic tools}
- 1/00135 . . {Oversleeves ([A61B 1/00142 takes precedence](#))}
- 1/00137 . . {End pieces, e.g. caps, seals, forceps plugs}
- 1/0014 . . {Fastening elements for attaching accessories to the outside of an endoscope shaft, e.g. clips, clamps or bands}
- 1/00142 . {with means for preventing contamination, e.g. by using a sanitary sheath}
- 1/00144 . . {Hygienic packaging}
- 1/00147 . {Holding or positioning arrangements}
- 1/00149 . . {using articulated arms}
- 1/00151 . . {using everted tubes}
- 1/00154 . . {using guide tubes}
- 1/00156 . . {using self propulsion}
- 1/00158 . . {using magnetic field}
- 1/0016 . . {using motor drive units}
- 1/00163 . {Optical arrangements ([A61B 1/002](#), [A61B 1/06 take precedence](#))}
- 1/00165 . . {with light-conductive means, e.g. fibre optics ([A61B 1/07 takes precedence](#))}
- 1/00167 . . . {Details of optical fibre bundles, e.g. shape or fibre distribution}
- 1/0017 . . . {Details of single optical fibres, e.g. material or cladding}
- 1/00172 . . {with means for scanning}
- 1/00174 . . {characterised by the viewing angles}
- 1/00177 . . . {for 90 degrees side-viewing}
- 1/00179 . . . {for off-axis viewing}
- 1/00181 . . . {for multiple fixed viewing angles ([A61B 1/00193 takes precedence](#))}
- 1/00183 . . . {for variable viewing angles}
- 1/00186 . . {with imaging filters}
- 1/00188 . . {with focusing or zooming features}
- 1/0019 . . . {characterised by variable lenses}
- 1/00193 . . {adapted for stereoscopic vision}
- 1/00195 . . {with eyepieces}
- 1/00197 . . . {characterised by multiple eyepieces}
- 1/002 . having rod-lens arrangements ([A61B 1/055 takes precedence](#))
- 1/005 . Flexible endoscopes
- 1/0051 . . {with controlled bending of insertion part}
- 1/0052 . . . {Constructional details of control elements, e.g. handles}
- 1/0053 {using distributed actuators, e.g. artificial muscles}
- 1/0055 . . . {Constructional details of insertion parts, e.g. vertebral elements}
- 1/0056 {the insertion parts being asymmetric, e.g. for unilateral bending mechanisms}
- 1/0057 . . . {Constructional details of force transmission elements, e.g. control wires}
- 1/0058 . . {using shape-memory elements}
- 1/008 . . Articulations
- 1/01 . . Guiding arrangements therefore
- 1/012 . characterised by internal passages or accessories therefor
- 1/0125 . . {Endoscope within endoscope}
- 1/015 . . Control of fluid supply or evacuation
- 1/018 . . for receiving instruments
- 1/04 . combined with photographic or television appliances ([camera adapters G03B 17/48](#))
- 1/041 . . {Capsule endoscopes for imaging}
- 1/042 . . {characterised by a proximal camera, e.g. a CCD camera}
- 1/043 . . {for fluorescence imaging}
- 1/045 . . Control therefor
- 1/05 . . characterised by the image sensor, e.g. camera, being in the distal end portion
- 1/051 . . . {Details of CCD assembly}
- 1/053 . . . {being detachable}
- 1/055 . . having rod-lens arrangements
- 1/06 . with illuminating arrangements
- 1/0607 . . {for annular illumination}
- 1/0615 . . {for radial illumination}
- 1/0623 . . {for off-axis illumination}
- 1/063 . . {for monochromatic illumination}
- 1/0638 . . {providing two or more wavelengths}
- 1/0646 . . {with illumination filters}
- 1/0653 . . {with wavelength conversion}
- 1/0661 . . {Endoscope light sources}
- 1/0669 . . . {at proximal end of an endoscope}
- 1/0676 . . . {at distal tip of an endoscope}
- 1/0684 . . . {using light emitting diodes [LED]}
- 1/0692 . . . {head mounted}
- 1/07 . . using light-conductive means, e.g. optical fibres
- 1/12 . with cooling or rinsing arrangements
- 1/121 . . {provided with means for cleaning post-use}
- 1/122 . . . {using cleaning tools, e.g. brushes}
- 1/123 . . . {using washing machines}
- 1/125 . . . {using fluid circuits}
- 1/126 . . {provided with means for cleaning in-use}
- 1/127 . . {with means for preventing fogging ([A61B 1/253 takes precedence](#))}
- 1/128 . . {provided with means for regulating temperature}
- 1/227 . for ears, i.e. otoscopes
- 1/2275 . . {with controlled air pressure}
- 1/233 . for the nose, i.e. nasoscopes {, e.g. testing of patency of Eustachian tubes}
- 1/24 . for the mouth, i.e. stomatoscopes, e.g. with tongue depressors ([tongue depressors per se A61B 13/00](#)); Instruments for opening or keeping open the mouth ([combined with saliva removers A61C 17/00](#); [mouth openers for animals A61D 15/00](#))
- 1/247 . . with means for viewing areas outside the direct line of sight, e.g. dentists' mirrors
- 1/253 . . . with means for preventing fogging

- 1/267 . . for the respiratory tract, e.g. laryngoscopes, bronchoscopes
- 1/2673 . . {for monitoring movements of vocal chords}
- 1/2676 . . {Bronchoscopes}
- 1/273 . . for the upper alimentary canal, e.g. oesophagoscopes, gastroscopes
- 1/2733 . . {Oesophagoscopes}
- 1/2736 . . {Gastroscopes}
- 1/303 . . for the vagina, i.e. vaginoscopes
- 1/307 . . for the urinary organs, e.g. urethrosopes, cystoscopes
- 1/31 . . for the rectum, e.g. proctoscopes, sigmoidoscopes {, colonoscopes}
- 1/313 . . for introducing through surgical openings, e.g. laparoscopes
- 1/3132 . . {for laparoscopy}
- 1/3135 . . {for examination of the epidural or the spinal space}
- 1/3137 . . {for examination of the interior of blood vessels}
- 1/317 . . for bones or joints, e.g. osteoscopes, arthroscopes
- 1/32 . . Devices for opening or enlarging the visual field, e.g. of a tube of the body (dilators [A61M 29/00](#))
- 3/00 Apparatus for testing the eyes; Instruments for examining the eyes** (eye inspection using ultrasonic, sonic or infrasonic waves [A61B 8/10](#); devices for treatment of the eyes [A61F 9/00](#); exercisers for the eyes [A61H 5/00](#); optical systems in general [G02B](#))
- 3/0008 . . {provided with illuminating means ([A61B 3/117](#) takes precedence; goniolescopes used for laser treatment [A61F 9/009](#); illuminating means for optical instruments [G02B 27/00](#))}
- 3/0016 . . {Operational features thereof}
- 3/0025 . . {characterised by electronic signal processing, e.g. eye models}
- 3/0033 . . {characterised by user input arrangements}
- 3/0041 . . {characterised by display arrangements}
- 3/005 . . . {Constructional features of the display}
- 3/0058 . . . {for multiple images}
- 3/0066 . . {with identification means for the apparatus}
- 3/0075 . . {provided with adjusting devices, e.g. operated by control lever (manipulators [B25J](#))}
- 3/0083 . . {provided with means for patient positioning}
- 3/0091 . . {Fixation targets for viewing direction}
- 3/02 . . Subjective types, i.e. testing apparatus requiring the active assistance of the patient
- 3/022 . . {for testing contrast sensitivity}
- 3/024 . . for determining the visual field, e.g. perimeter types
- 3/028 . . for testing visual acuity; for determination of refraction, e.g. phoropters
- 3/0285 . . . {Phoropters}
- 3/032 . . . Devices for presenting test symbols or characters, e.g. test chart projectors ([A61B 3/036](#) takes precedence)
- 3/0325 {provided with red and green targets}
- 3/036 . . . for testing astigmatism
- 3/04 . . . Trial frames; Sets of lenses for use therewith (lenses [per se](#) [G02C 7/02](#))
- 3/06 . . for testing light sensitivity, e.g. adaptation; for testing colour vision
- 3/063 . . . {for testing light sensitivity, i.e. adaptation}
- 3/066 . . . {for testing colour vision}
- 3/08 . . for testing binocular or stereoscopic vision, e.g. strabismus
- 3/085 . . . {for testing strabismus}
- 3/09 . . for testing accommodation
- 3/10 . . Objective types, i.e. instruments for examining the eyes independent of the patients' perceptions or reactions
- 3/1005 . . {for measuring distances inside the eye, e.g. thickness of the cornea ([A61B 3/11](#) takes precedence)}
- 3/101 . . {for examining the tear film}
- 3/1015 . . {for wavefront analysis}
- 3/102 . . {for optical coherence tomography [OCT]}
- 3/1025 . . {for confocal scanning}
- 3/103 . . for determining refraction, e.g. refractometers, skiascopes
- 3/1035 . . . {for measuring astigmatism (testing astigmatism [A61B 3/036](#))}
- 3/107 . . for determining the shape or measuring the curvature of the cornea
- 3/11 . . for measuring interpupillary distance or diameter of pupils
- 3/111 . . . {for measuring interpupillary distance}
- 3/112 . . . {for measuring diameter of pupils}
- 3/113 . . for determining or recording eye movement
- 3/117 . . for examining the anterior chamber or the anterior chamber angle, e.g. gonioscopes
- 3/1173 . . . {for examining the eye lens}
- 3/1176 {for determining lens opacity, e.g. cataract}
- 3/12 . . for looking at the eye fundus, e.g. ophthalmoscopes ([A61B 3/13](#) takes precedence)
- 3/1208 . . . {Multiple lens hand-held instruments}
- 3/1216 . . . {for diagnostics of the iris}
- 3/1225 . . . {using coherent radiation}
- 3/1233 {for measuring blood flow, e.g. at the retina}
- 3/1241 . . . {specially adapted for observation of ocular blood flow, e.g. by fluorescein angiography}
- 3/125 . . . with contact lenses (contact lenses [per se](#) [G02C 7/04](#))
- 3/13 . . Ophthalmic microscopes
- 3/132 . . . {in binocular arrangement}
- 3/135 . . . Slit-lamp microscopes
- 3/14 . . Arrangements specially adapted for eye photography ({apparatus or arrangements for taking photographs [per se](#) [G03B](#))}
- 3/145 . . . {by video means}
- 3/15 . . . with means for aligning, spacing or blocking spurious reflection {; with means for relaxing}
- 3/152 {for aligning}
- 3/154 {for spacing}
- 3/156 {for blocking}
- 3/158 {of corneal reflection}
- 3/16 . . for measuring intraocular pressure, e.g. tonometers
- 3/165 . . . {Non-contacting tonometers}
- 3/18 . . Arrangement of plural eye-testing or -examining apparatus
- 3/185 . . {characterised by modular construction}
- 5/00 Detecting, measuring or recording for diagnostic purposes** (radiation diagnosis [A61B 6/00](#); diagnosis by ultrasonic, sonic or infrasonic waves [A61B 8/00](#)); Identification of persons

- 5/0002 . {Remote monitoring of patients using telemetry, e.g. transmission of vital signals via a communication network ([A61B 5/07](#) takes precedence; transmission systems for measured values [G08C](#); transmission [H04B](#); transmission of digital information [H04L](#); wireless communication networks [H04W](#))}
 - 5/0004 . . {characterised by the type of physiological signal transmitted}
 - 5/0006 . . . {ECG or EEG signals}
 - 5/0008 . . . {Temperature signals}
 - 5/0011 . . . {Foetal or obstetric data}
 - 5/0013 . . . {Medical image data ([A61B 1/00011](#), [A61B 6/56](#), [A61B 8/56](#) take precedence)}
 - 5/0015 . . {characterised by features of the telemetry system}
 - 5/0017 . . . {transmitting optical signals (transmission by light [H04B 10/00](#))}
 - 5/002 . . . {Monitoring the patient using a local or closed circuit, e.g. in a room or building ([A61B 5/0017](#) takes precedence)}
 - 5/0022 . . . {Monitoring a patient using a global network, e.g. telephone networks, internet}
 - 5/0024 . . . {for multiple sensor units attached to the patient, e.g. using a body or personal area network}
 - 5/0026 . . {characterised by the transmission medium}
 - 5/0028 . . . {Body tissue as transmission medium, i.e. transmission systems where the medium is the human body}
 - 5/0031 . . {Implanted circuitry}
 - 5/0033 . {Features or image-related aspects of imaging apparatus classified in [A61B 5/00](#), e.g. for MRI, optical tomography or impedance tomography apparatus; arrangements of imaging apparatus in a room (image data processing or generation [G06T](#))}
 - 5/0035 . . {adapted for acquisition of images from more than one imaging mode, e.g. combining MRI and optical tomography}
 - 5/0036 . . {including treatment, e.g., using an implantable medical device, ablating, ventilating}
- WARNING**
- Group [A61B 5/0036](#) is incomplete pending reclassification of documents from groups [A61B 5/0033](#) and [A61B 5/4836](#).
- Groups [A61B 5/0033](#), [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.
- 5/0037 . . {Performing a preliminary scan, e.g. a prescan for identifying a region of interest}
 - 5/004 . . {adapted for image acquisition of a particular organ or body part ([A61B 5/0082](#) takes precedence; arrangements for optical scanning [A61B 5/0062](#))}
 - 5/0042 . . . {for the brain}
 - 5/0044 . . . {for the heart}
 - 5/0046 . . {Arrangements of imaging apparatus in a room, e.g. room provided with shielding or for improved access to apparatus}
 - 5/0048 . {Detecting, measuring or recording by applying mechanical forces or stimuli ([A61B 5/021](#), [A61B 5/4884](#) and [A61B 9/00](#) take precedence)}
 - 5/0051 . . {by applying vibrations}
 - 5/0053 . . {by applying pressure, e.g. compression, indentation, palpation, grasping, gauging}
 - 5/0055 . . {by applying suction}
 - 5/0057 . . {by applying motion other than vibrations, e.g. rolling, rubbing, applying a torque, tribometry}
 - 5/0059 . {using light, e.g. diagnosis by transillumination, diascopy, fluorescence ([A61B 5/0093](#), [A61B 5/1455](#), [A61B 5/02416](#) and [A61B 5/0261](#) take precedence)}
 - 5/0062 . . {Arrangements for scanning}
 - 5/0064 . . . {Body surface scanning}
 - 5/0066 . . . {Optical coherence imaging}
 - 5/0068 . . . {Confocal scanning}
 - 5/0071 . . {by measuring fluorescence emission}
 - 5/0073 . . {by tomography, i.e. reconstruction of 3D images from 2D projections ([A61B 5/0066](#) takes precedence)}
 - 5/0075 . . {by spectroscopy, i.e. measuring spectra, e.g. Raman spectroscopy, infrared absorption spectroscopy ([A61B 5/0071](#) takes precedence)}
 - 5/0077 . . {Devices for viewing the surface of the body, e.g. camera, magnifying lens}
 - 5/0079 . . . {using mirrors, i.e. for self-examination}
 - 5/0082 . . {adapted for particular medical purposes}
 - 5/0084 . . . {for introduction into the body, e.g. by catheters ([A61B 5/1459](#) takes precedence)}
 - 5/0086 {using infra-red radiation}
 - 5/0088 . . . {for oral or dental tissue}
 - 5/0091 . . . {for mammography}
 - 5/0093 . {Detecting, measuring or recording by applying one single type of energy and measuring its conversion into another type of energy}
 - 5/0095 . . {by applying light and detecting acoustic waves, i.e. photoacoustic measurements}
 - 5/0097 . . {by applying acoustic waves and detecting light, i.e. acoustooptic measurements}
 - 5/01 . Measuring temperature of body parts; {Diagnostic temperature sensing, e.g. for malignant or inflamed tissue} (clinical thermometers [G01K 5/22](#); thermometers for special purposes [G01K 13/00](#))
 - 5/015 . . {By temperature mapping of body part}
 - 5/02 . Detecting, measuring or recording pulse, heart rate, blood pressure or blood flow; Combined pulse/heart-rate/blood pressure determination; Evaluating a cardiovascular condition not otherwise provided for, e.g. using combinations of techniques provided for in this group with electrocardiography or electroauscultation; Heart catheters for measuring blood pressure
 - 5/02007 . . {Evaluating blood vessel condition, e.g. elasticity, compliance}
 - 5/02014 . . . {Determining aneurysm}
 - 5/02021 . . . {Determining capillary fragility}
 - 5/02028 . . {Determining haemodynamic parameters not otherwise provided for, e.g. cardiac contractility or left ventricular ejection fraction}
 - 5/02035 . . . {Determining blood viscosity}
 - 5/02042 . . {Determining blood loss or bleeding, e.g. during a surgical procedure}
 - 5/0205 . . Simultaneously evaluating both cardiovascular conditions and different types of body conditions, e.g. heart and respiratory condition
 - 5/02055 . . . {Simultaneously evaluating both cardiovascular condition and temperature}

- 5/021 . . . Measuring pressure in heart or blood vessels
([A61B 5/0205 takes precedence](#))
- 5/02108 . . . {from analysis of pulse wave characteristics}
- 5/02116 {of pulse wave amplitude ([A61B 5/02225 takes precedence](#))}
- 5/02125 {of pulse wave propagation time}
- 5/02133 . . . {by using induced vibration of the blood vessel}
- 5/02141 . . . {Details of apparatus construction, e.g. pump units or housings therefor, cuff pressurising systems, arrangements of fluid conduits or circuits ([A61B 5/02233](#), [A61B 5/0235 take precedence](#))}
- 5/0215 . . . by means inserted into the body ([catheters A61M 25/00](#))
- 5/02152 {specially adapted for venous pressure}
- 5/02154 {by optical transmission}
- 5/02156 {Calibration means}
- 5/02158 {provided with two or more sensor elements}
- 5/022 . . . by applying pressure to close blood vessels, e.g. against the skin; Ophthalmodynamometers
- 5/02208 {using the Korotkoff method}
- 5/02216 {Ophthalmodynamometers}
- 5/02225 {using the oscillometric method}
- 5/02233 {Occluders specially adapted therefor ([tourniquets A61B 17/132](#))}
- 5/02241 {of small dimensions, e.g. adapted to fingers}
- 5/0225 the pressure being controlled by electric signals, e.g. derived from Korotkoff sounds
- 5/02255 {the pressure being controlled by plethysmographic signals, e.g. derived from optical sensors}
- 5/023 the pressure transducers comprising a liquid column
- 5/0235 Valves specially adapted therefor
- 5/024 . . . Detecting, measuring or recording pulse rate or heart rate ([A61B 5/0205](#), [A61B 5/021 take precedence](#))
- 5/02405 . . . {Determining heart rate variability}
- 5/02411 . . . {of foetuses}
- 5/02416 . . . {using photoplethysmograph signals, e.g. generated by infra-red radiation ([A61B 5/14552 takes precedence](#))}
- 5/02422 {within occluders}
- 5/02427 {Details of sensor}
- 5/02433 {for infra-red radiation}
- 5/02438 . . . {with portable devices, e.g. worn by the patient}
- 5/02444 . . . {Details of sensor ([A61B 5/02427 takes precedence](#))}
- 5/0245 . . . by using sensing means generating electric signals, {i.e. ECG signals}
- 5/02455 {provided with high/low alarm devices}
- 5/025 within occluders, e.g. responsive to Korotkoff sounds ([electric stethoscopes A61B 7/04](#))
- 5/0255 . . . Recording instruments specially adapted therefor
- 5/026 . . . Measuring blood flow ({[A61B 3/1233](#), [A61B 3/1241 take precedence](#)})
- 5/0261 . . . {using optical means, e.g. infra-red light}
- 5/0263 . . . {using NMR}
- 5/0265 using electromagnetic means, e.g. electromagnetic flowmeter
- 5/027 using catheters
- 5/0275 . . . using tracers, e.g. dye dilution
- 5/02755 {Radioactive tracers}
- 5/028 by thermo-dilution
- 5/0285 . . . Measuring or recording phase velocity of blood waves
- 5/029 . . . Measuring or recording blood output from the heart, e.g. minute volume ({[A61B 8/065 takes precedence](#)})
- 5/0295 . . . using plethysmography, i.e. measuring the variations in the volume of a body part as modified by the circulation of blood therethrough, e.g. impedance plethysmography
- 5/03 . . . Detecting, measuring or recording fluid pressure within the body other than blood pressure, e.g. cerebral pressure; {Measuring pressure in body tissues or organs ([A61B 5/205 takes precedence](#))}
- 5/031 . . {Intracranial pressure}
- 5/032 . . {Spinal fluid pressure}
- 5/033 . . {Uterine pressure}
- 5/035 . . . {Intra-uterine probes therefor}
- 5/036 . . {by means introduced into body tracts ([A61B 5/032 and A61B 5/035 take precedence](#))}
- 5/037 . . . {Measuring oesophageal pressure}
- 5/038 . . . {Measuring oral pressure}
- 5/04 . . . Measuring bioelectric signals of the body or parts thereof
- 5/04001 . . {adapted to neuroelectric signals, e.g. nerve impulses}
- 5/04002 . . {Measuring direct current (D.C.) or slowly varying biopotentials}
- 5/04004 . . {Input circuits for EEG-, or EMG-signals}
- 5/04005 . . {Detecting magnetic fields produced by bio-electric currents ([measuring magnetic variables in general G01R 33/00](#))}
- 5/04007 . . . {specially adapted for magnetocardiographic signals}
- 5/04008 . . . {specially adapted for magneto-encephalographic signals}
- 5/04009 {using evoked response}
- 5/04011 . . {Vector-cardiography}
- 5/04012 . . {Analysis of electro-cardiograms, electro-encephalograms, electro-myograms}
- 5/04014 . . . {by measuring frequency distribution using a set of filters ([arrangements for analysing frequency spectra in general G01R 23/00](#))}
- 5/04015 {provided with alarm devices}
- 5/04017 . . . {by using digital filtering}
- 5/04018 {provided with alarm devices}
- 5/0402 . . . Electrocardiography, i.e. ECG
- 5/04021 . . . {ECG simulator circuits}
- 5/04023 . . . {Physical templates or devices for measuring ECG waveforms, e.g. an electrocardiograph ruler or caliper ([A61B 5/04525 takes precedence](#))}
- 5/04025 . . . {Preparing electrode site, e.g. by abrasion}
- 5/04026 . . . {Means for providing electrolyte, e.g. syringes}
- 5/04028 . . . {Generation of artificial ECG signals based on measured signals, e.g. to compensate for missing leads}
- 5/0404 . . . Hand-held devices

- 5/0408 . . . Electrodes specially adapted therefor (for foetal cardiography [A61B 5/0448](#); for electroencephalograph signals [A61B 5/0478](#); for electromyography [A61B 5/0492](#))
- 5/04082 {attached by means of suction}
- 5/04085 {Multiple electrode holders ([A61B 5/04286](#), [A61B 5/0422](#) take precedence)}
- 5/04087 {using conductive adhesive means}
- 5/0416 connected by means of snap fasteners
- 5/042 for introducing into the body
- 5/0421 {Endotracheal, oesophageal or gastric probes}
- 5/0422 {Multiple electrode holders}
- 5/0424 Protection against electrode failure
- 5/0428 . . . Input circuits specially adapted therefor
- 5/04282 {using insulating or floating elements, e.g. transformers, opto-couplers (transformers for specific applications [H01F 38/00](#); amplifiers [H03F](#); optocouplers [H04B 10/80](#))}
- 5/04284 {Capacitive or ionised electrodes, e.g. MOSFET}
- 5/04286 {Patient cord assembly, e.g. cable harness}
- 5/04288 {Switching circuits}
- 5/0432 . . . Recording apparatus specially adapted therefor
- 5/04325 {using integrated circuit memory devices}
- 5/0436 Magnetic recording apparatus
- 5/04365 {Playback at speeds other than the recording speed}
- 5/044 . . . Displays specially adapted therefor {arrangements for displaying electric variables or waveforms, e.g. cathode-ray oscilloscopes, [G01R 13/00](#)}
- 5/0444 . . . Foetal cardiography
- 5/0448 Electrodes specially adapted therefor, e.g. scalp electrodes
- 5/04485 {attached by means of suction}
- 5/0452 . . . Detecting specific parameters of the electrocardiograph cycle
- 5/04525 {by template matching}
- 5/0456 Detecting R peaks, e.g. for synchronising diagnostic apparatus {(physiological signal analysis for synchronising or triggering a measurement or image acquisition [A61B 5/7285](#))}
- 5/046 Detecting fibrillation
- 5/0464 Detecting tachycardia or bradycardia
- 5/0468 Detecting abnormal ECG interval {, e.g. extrasystoles, ectopic heartbeats}
- 5/0472 Detecting abnormal QRS complex {, e.g. widening}
- 5/0476 . . Electroencephalography {(devices for psychotechnics [A61B 5/16](#))}
- 5/0478 . . . Electrodes specially adapted therefor
- 5/048 . . . Detecting the frequency distribution of signals {(analysing frequency spectra in general [G01R 23/00](#))}
- 5/0482 . . . using biofeedback {(biofeedback per se [A61B 5/486](#))}
- 5/0484 . . . using evoked response
- 5/04842 {visually}
- 5/04845 {acoustically or auditory}
- 5/04847 {olfactory or gustatory}
- 5/0488 . . . Electromyography
- WARNING**
- Group [A61B 5/0488](#) is incomplete pending reclassification of documents from group [A61B 5/04888](#).
- Groups [A61B 5/0488](#) and [A61B 5/04888](#) should be considered in order to perform a complete search.
- 5/04882 . . . {of genito-urinary organs}
- 5/04884 . . . {Detecting gastro-intestinal contractions}
- 5/04886 . . . {specially adapted for electroglottography or electropalatography}
- 5/04888 . . . {Control of prosthetics}
- (Frozen)
- WARNING**
- Group [A61B 5/04888](#) is no longer used for the classification of documents as of January 1, 2019.
- The content of this groups is being reclassified into groups [A61B 5/0488](#), [A61B 5/4851](#), [A61F 2002/482](#) and [A61F 2/72](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 5/0492 . . . Electrodes specially adapted therefor, e.g. needle electrodes
- 5/0496 . . Electro-oculography, e.g. detecting nystagmus {(measuring or inducing nystagmus [A61B 5/4863](#))}
- 5/05 . . Detecting, measuring or recording for diagnosis by means of electric currents or magnetic fields; {Measuring using microwaves or radiowaves} ([A61B 5/02](#), [A61B 5/04](#), [A61B 5/11](#) take precedence)
- 5/0507 . . . {using microwaves or terahertz waves}
- 5/0515 . . . {Magnetic particle imaging}
- 5/0522 . . . {Magnetic induction tomography}
- 5/053 . . Measuring electrical impedance or conductance of a portion of the body
- 5/0531 {Measuring skin impedance}
- 5/0532 {specially adapted for acupuncture}
- 5/0533 {Measuring galvanic skin response, e.g. by lie detector}
- 5/0534 . . . {Testing vitality of teeth}
- 5/0535 . . . {impedance plethysmography}
- 5/0536 . . . {Impedance imaging, e.g. by tomography}
- 5/0537 . . . {Measuring body composition by impedance, e.g. tissue hydration or fat content}
- 5/0538 . . . {invasively, e.g. using a catheter}
- 5/055 . . involving electronic [EMR] or nuclear [NMR] magnetic resonance, e.g. magnetic resonance imaging
- 5/0555 . . . {Means for positioning of patients (for radiation diagnosis or therapy [A61B 6/04](#))}
- 5/06 . . Devices, other than using radiation, for detecting or locating foreign bodies (for removing same [A61B 17/50](#)) {; determining position of probes within or on the body of the patient}

- 5/061 . . {Determining position of a probe within the body employing means separate from the probe, e.g. sensing internal probe position employing impedance electrodes on the surface of the body ([A61B 1/00158 takes precedence](#))}
- 5/062 . . . {using magnetic field}
- 5/063 . . . {using impedance measurements}
- 5/064 . . . {using markers ([A61B 5/062 takes precedence](#))}
- 5/065 . . {Determining position of the probe employing exclusively positioning means located on or in the probe, e.g. using position sensors arranged on the probe}
- 5/066 . . . {Superposing sensor position on an image of the patient, e.g. obtained by ultrasound or x-ray imaging}
- 5/067 . . . {using accelerometers or gyroscopes}
- 5/068 . . . {using impedance sensors}
- 5/07 . . Endoradiosondes
- 5/073 . . {Intestinal transmitters}
- 5/076 . . {Permanent implantations (telemetry using implanted circuitry [A61B 5/0031](#); implanted stimulators for therapy [A61N 1/3605](#), [A61N 1/362](#), [A61N 1/372](#))}
- 5/08 . . Detecting, measuring or recording devices for evaluating the respiratory organs ([A61B 5/0205 takes precedence](#))
- 5/0803 . . {Recording apparatus specially adapted therefor}
- 5/0806 . . {by whole-body plethysmography (measuring blood flow using plethysmography [A61B 5/0295](#); impedance plethysmography [A61B 5/053](#); measuring volume of the body or parts thereof [A61B 5/1073](#))}
- 5/0809 . . {by impedance pneumography}
- 5/0813 . . {Measurement of pulmonary parameters by tracers, e.g. radioactive tracers}
- 5/0816 . . {Measuring devices for examining respiratory frequency (measuring frequency of electric signals [G01R 23/00](#))}
- 5/082 . . {Evaluation by breath analysis, e.g. determination of the chemical composition of exhaled breath ([A61B 5/083](#), [A61B 5/091 take precedence](#))}
- 5/0823 . . {Detecting or evaluating cough events}
- 5/0826 . . {Detecting or evaluating apnoea events ([A61B 5/4818 takes precedence](#))}
- 5/083 . . Measuring rate of metabolism by using breath test, e.g. measuring rate of oxygen consumption
- 5/0833 . . . {Measuring rate of oxygen consumption}
- 5/0836 . . . {Measuring rate of CO₂ production}
- 5/085 . . Measuring impedance of respiratory organs or lung elasticity
- 5/087 . . Measuring breath flow
- 5/0871 . . . {Peak expiratory flowmeters}
- 5/0873 . . . {using optical means}
- 5/0875 . . . {using means carried by the fluid stream, e.g. free floating balls}
- 5/0876 . . . {using means deflected by the fluid stream, e.g. flaps}
- 5/0878 . . . {using temperature sensing means}
- 5/09 . . . using an element rotated by the flow {(toys actuated by air current [A63H 33/40](#))}
- 5/091 . . Measuring volume of inspired or expired gases, e.g. to determine lung capacity
- 5/093 . . . the gases being exhaled into, or inhaled from, an expansible chamber, e.g. bellows or expansible bag
- 5/0935 {Recording apparatus specially adapted therefor}
- 5/095 within a rigid container, e.g. the boundary being formed by a liquid surface
- 5/097 . . Devices for facilitating collection of breath or for directing breath into or through measuring devices
- 5/103 . . Detecting, measuring or recording devices for testing the shape, pattern, {colour,} size or movement of the body or parts thereof, for diagnostic purposes ([A61B 5/08 takes precedence](#); measuring aids for tailors [A41H 1/00](#); measuring instruments specially adapted for dentistry [A61C 19/04](#))
- 5/1032 . . {Determining colour for diagnostic purposes (measuring colour in general [G01J 3/46](#))}
- 5/1034 . . . {by means of colour cards}
- 5/1036 . . {Measuring load distribution, e.g. podologic studies}
- 5/1038 . . . {Measuring plantar pressure during gait}
- 5/107 . . Measuring physical dimensions, e.g. size of the entire body or parts thereof
- 5/1071 . . . {measuring angles, e.g. using goniometers ([A61B 5/1123 takes precedence](#))}
- 5/1072 . . . {measuring distances on the body, e.g. measuring length, height or thickness ([A61B 5/1076 takes precedence](#))}
- 5/1073 . . . {Measuring volume, e.g. of limbs}
- 5/1074 . . . {Foot measuring devices}
- 5/1075 . . . {for measuring dimensions by non-invasive methods, e.g. for determining thickness of tissue layer ([A61B 8/0858 takes precedence](#))}
- 5/1076 . . . {for measuring dimensions inside body cavities, e.g. using catheters ([A61B 3/1005 takes precedence](#))}
- 5/1077 . . . {Measuring of profiles}
- 5/1078 {by moulding}
- 5/1079 . . . {using optical or photographic means}
- 5/11 . . Measuring movement of the entire body or parts thereof, e.g. head or hand tremor, mobility of a limb (for measuring pulse [A61B 5/02](#) {; [A61B 5/1038 takes precedence](#); motion detection to correct for motion artifacts in physiological signals [A61B 5/721](#)})
- 5/1101 . . . {Detecting tremor}
- 5/1102 . . . {Ballistocardiography}
- 5/1103 . . . {Detecting eye twinkling}
- 5/1104 . . . {induced by stimuli or drugs; ([A61B 5/1102 takes precedence](#); investigating medicinal preparations [G01N 33/15](#))}
- 5/1105 {of laboratory animals, e.g. activity}
- 5/1106 {to assess neuromuscular blockade, e.g. to estimate depth of anaesthesia}
- 5/1107 . . . {Measuring contraction of parts of the body, e.g. organ, muscle (apparatus for measuring work or force in general [G01L](#))}
- 5/1108 {of excised organs, e.g. muscle preparations}
- 5/1109 {of wounds, e.g. at the operation site}
- 5/1111 . . . {Detecting tooth mobility}
- 5/1112 . . . {Global tracking of patients, e.g. by using GPS}

- 5/1113 . . . {Local tracking of patients, e.g. in a hospital or private home}
- 5/1114 {Tracking parts of the body}
- 5/1115 {Monitoring leaving of a patient support, e.g. a bed or a wheelchair}
- 5/1116 . . . {Determining posture transitions}
- 5/1117 {Fall detection}
- 5/1118 . . . {Determining activity level}
- 5/112 . . . {Gait analysis}
- 5/1121 . . . {Determining geometric values, e.g. centre of rotation or angular range of movement}
- 5/1122 {of movement trajectories}
- 5/1123 . . . {Discriminating type of movement, e.g. walking or running ([A61B 5/1116](#), [A61B 5/112](#) take precedence)}
- 5/1124 . . . {Determining motor skills}
- 5/1125 {Grasping motions of hands}
- 5/1126 . . . {using a particular sensing technique}
- 5/1127 {using markers}
- 5/1128 {using image analysis ([A61B 5/1127](#) takes precedence)}
- 5/113 . . . occurring during breathing
- 5/1135 {by monitoring thoracic expansion}
- 5/117 . Identification of persons (methods or arrangements for recognising patterns, e.g. fingerprints, [G06K 9/00](#); identification of persons by analysing their voice or speech [G10L 17/00](#))

WARNING

Group [A61B 5/117](#) is impacted by reclassification into group [A61B 5/1171](#).

Groups [A61B 5/117](#) and [A61B 5/1171](#) should be considered in order to perform a complete search.

- 5/1171 . . based on the shapes or appearances of their bodies or parts thereof

WARNING

Group [A61B 5/1171](#) is incomplete pending reclassification of documents from group [A61B 5/117](#).

Groups [A61B 5/117](#) and [A61B 5/1171](#) should be considered in order to perform a complete search.

- 5/1172 . . . using fingerprinting
- 5/1174 . . . using footprinting
- 5/1176 . . . {Recognition of faces}
- 5/1178 . . . using dental data
- 5/12 . Audiometering {Evaluation of the auditory system, not limited to hearing capacity ([A61B 5/04845](#), [A61B 5/4023](#) take precedence)}
- 5/121 . . {evaluating hearing capacity}
- 5/123 . . . {subjective methods}
- 5/125 . . . {objective methods}
- 5/126 {measuring compliance or mechanical impedance of the tympanic membrane}
- 5/128 . . {evaluating tinnitus}

- 5/14 . {Devices for taking samples of blood ([hypodermic syringes A61M 5/00](#)); Measuring characteristics of blood *in vivo*, e.g. gas concentration within the blood, pH-value of blood ([measuring of blood pressure A61B 5/02](#); [non-radiation detecting or locating of foreign bodies in blood A61B 5/06](#))}

WARNING

This group and its subgroups are no longer used for the classification of new documents as from April 1st, 2010. The backlog of these group is being continuously reclassified to [A61B 5/15](#) and subgroups

- 5/1405 . . {Devices for taking blood samples (devices for taking samples of other body liquids [A61B 10/0045](#))}
- 5/1411 . . . {by percutaneous method, e.g. by lancet}
- 5/1416 . . . {by syringes containing more than one piston ([medical syringes in general A61M 5/178](#))}
- 5/1422 . . . {provided with indicating means, e.g. for vein entry}
- 5/1427 . . . {Multiple blood sampling, e.g. at periodic or pre-established intervals}
- 5/1433 . . . {provided with locking means ([details of syringes A61M 5/315](#))}
- 5/1438 . . . {using pre-evacuated means}
- 5/1444 {Safety means, e.g. for locking cannula ([removing or disposing of used needles or syringes A61M 5/3205](#))}
- 5/145 . Measuring characteristics of blood *in vivo*, e.g. gas concentration, pH value; {Measuring characteristics of body fluids or tissues, e.g. interstitial fluid, cerebral tissue} ([measuring of blood pressure or blood flow A61B 5/02](#); [non-radiation detecting or locating of foreign bodies in blood A61B 5/06](#))
- 5/14503 . . {invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors ([A61B 5/1459](#), [A61B 5/1464](#), [A61B 5/1473](#), [A61B 5/1482](#), [A61B 5/14865](#) take precedence)}
- 5/14507 . . {specially adapted for measuring characteristics of body fluids other than blood (devices for taking samples of body liquids [A61B 10/0045](#))}
- 5/1451 . . . {for interstitial fluid}
- 5/14514 {using means for aiding extraction of interstitial fluid, e.g. microneedles or suction}
- 5/14517 . . . {for sweat}
- 5/14521 {using means for promoting sweat production, e.g. heating the skin ([measuring sweat secretion A61B 5/4266](#))}
- 5/14525 . . {using microdialysis}
- 5/14528 . . . {invasively}
- 5/14532 . . {for measuring glucose, e.g. by tissue impedance measurement}
- 5/14535 . . {for measuring haematocrit}
- 5/14539 . . {for measuring pH}
- 5/14542 . . {for measuring blood gases ([A61B 5/14551](#) takes precedence)}
- 5/14546 . . {for measuring analytes not otherwise provided for, e.g. ions, cytochromes}
- 5/1455 . . using optical sensors, e.g. spectral photometrical oximeters
- 5/14551 . . . {for measuring blood gases}

- 5/14552 {Details of sensors specially adapted therefor}
- 5/14553 {specially adapted for cerebral tissue}
- 5/14555 {specially adapted for the eye fundus}
- 5/14556 {by fluorescence ([A61B 5/14555 takes precedence](#))}
- 5/14557 {specially adapted to extracorporeal circuits}
- 5/14558 . . . {by polarisation}
- 5/1459 . . . invasive, e.g. introduced into the body by a catheter ([A61B 5/1464 takes precedence](#))}
- 5/1464 . . . specially adapted for foetal tissue
- 5/1468 . . using chemical or electrochemical methods, e.g. by polarographic means ([A61B 5/1486 takes precedence](#))}
- 5/1473 . . . invasive, e.g. introduced into the body by a catheter ([A61B 5/1482 takes precedence](#))}
- 5/14735 {comprising an immobilised reagent}
- 5/1477 . . . non-invasive
- 5/1482 . . . specially adapted for foetal tissue
- 5/1486 . . using enzyme electrodes, e.g. with immobilised oxidase
- 5/14865 . . . {invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors}
- 5/1491 . . Heated applicators
- 5/1495 . . Calibrating or testing of in-vivo probes
- 5/15 . . Devices for taking samples of blood ([hypodermic syringes A61M 5/178](#))

NOTE

In these subgroups, the following terms are used with the meaning indicated:

- "piercing element" means skin penetrating component e.g. blade, needle, lancet, laser beam;
- "piercing or lancing device" means device ready to be used for lancing;
- "driving device" means device for driving a piercing element e.g. spring

WARNING

This group and its subgroups are not complete pending a reorganisation. See also [A61B 5/14](#), [A61B 5/1405](#) and subgroups

- 5/150007 . . {Details}
- 5/150015 . . . {Source of blood}
- 5/150022 {for capillary blood or interstitial fluid}
- 5/15003 {for venous or arterial blood}
- 5/150038 {for blood from umbilical cord}
- 5/150045 {for blood from vagina, placenta, colon or mouth}
- 5/150053 . . . {for enhanced collection of blood or interstitial fluid at the sample site, e.g. by applying compression, heat, vibration, ultrasound, suction or vacuum to tissue; for reduction of pain or discomfort; Skin piercing elements, e.g. blades, needles, lancets or canulas, with adjustable piercing speed}
- 5/150061 {Means for enhancing collection}
- 5/150068 {by tissue compression, e.g. with specially designed surface of device contacting the skin area to be pierced}
- 5/150076 {by heating}
- 5/150083 {by vibration, e.g. ultrasound}

- 5/150091 {by electricity}
- 5/150099 {by negative pressure, other than vacuum extraction into a syringe by pulling on the piston rod or into pre-evacuated tubes}
- 5/150106 {Means for reducing pain or discomfort applied before puncturing; desensitising the skin at the location where body is to be pierced}
- 5/150114 {by tissue compression, e.g. with specially designed surface of device contacting the skin area to be pierced}
- 5/150122 {by heating}
- 5/150129 {by cooling}
- 5/150137 {by vibration ([enhancing collection by vibration A61B 5/150175](#))}
- 5/150145 {by negative pressure, e.g. suction, vacuum}
- 5/150152 {by an adequate mechanical impact on the puncturing location}
- 5/15016 {by accessories for bringing the piercing element into the body, e.g. through rotation of the piercing element}
- 5/150167 {Adjustable piercing speed of skin piercing element, e.g. blade, needle, lancet or canula, for example with varying spring force or pneumatic drive}
- 5/150175 . . . {Adjustment of penetration depth}
- 5/150183 {Depth adjustment mechanism using end caps mounted at the distal end of the sampling device, i.e. the end-caps are adjustably positioned relative to the piercing device housing for example by rotating or screwing}
- 5/15019 {Depth adjustment mechanism using movable stops located inside the piercing device housing and limiting the travel of the drive mechanism ([mechanisms using distal end caps A61B 5/150183, mechanisms at the piercing element carrier proximal end A61B 5/150198](#))}
- 5/150198 {Depth adjustment mechanism at the proximal end of the carrier of the piercing element}
- 5/150206 . . . {Construction or design features not otherwise provided for; manufacturing or production; packages; sterilisation of piercing element, piercing device or sampling device}
- 5/150213 {Venting means}
- 5/150221 {Valves}
- 5/150229 {Pumps for assisting the blood sampling}
- 5/150236 {Pistons, i.e. cylindrical bodies that sit inside the syringe barrel, typically with an air tight seal, and slide in the barrel to create a vacuum or to expel blood}
- 5/150244 {Rods for actuating or driving the piston, i.e. the cylindrical body that sits inside the syringe barrel, typically with an air tight seal, and slides in the barrel to create a vacuum or to expel blood}

- 5/150251 {Collection chamber divided into at least two compartments, e.g. for division of samples (injection syringes having more than one chamber [A61M 5/19](#); syringes for injection of two or more media [A61M 5/2448](#), [A61M 5/284](#); sample preparation for further analysis [A61B 5/150755](#))}
- 5/150259 {Improved gripping, e.g. with high friction pattern or projections on the housing surface or an ergonomic shape}
- 5/150267 {Modular design or construction, i.e. subunits are assembled separately before being joined together or the device comprises interchangeable or detachable modules}
- 5/150274 {Manufacture or production processes or steps for blood sampling devices}
- 5/150282 {for piercing elements, e.g. blade, lancet, canula, needle}
- 5/15029 {for driving devices, i.e. means for driving the piercing element}
- 5/150297 {for piercing devices, i.e. devices ready to be used for lancing or piercing (for piercing elements [A61B 5/150282](#), for driving devices [A61B 5/15029](#))}
- 5/150305 {Packages specially adapted for piercing devices or blood sampling devices (kits for diabetes [A61M 5/003](#); packaging in general [B65D](#))}
- 5/150312 {Sterilisation of piercing elements, piercing devices or sampling devices (piercing element stocking means, e.g. cartridges, [A61B 5/15176](#))}
- 5/15032 {by heating}
- 5/150328 {by aseptic fluid}
- 5/150335 {by radiation}
- 5/150343 {Collection vessels for collecting blood samples from the skin surface, e.g. test tubes, cuvettes (sampling from within body cavities [A61B 5/150015](#), [A61B 5/150045](#))}
- 5/150351 {Caps, stoppers or lids for sealing or closing a blood collection vessel or container, e.g. a test-tube or syringe barrel (caps for bottles or containers in general [B65D 41/00](#))}
- 5/150358 {Strips for collecting blood, e.g. absorbent (optical reagent test strips [G01N 21/8483](#); chemical reagent test strips [G01N 33/4875](#), [G01N 33/52](#))}
- 5/150366 {Blood collection bags, e.g. connected to the patient by a catheter comprising means for removing a small sample of collected blood from the bag (collection bags as such [A61J 1/05](#), [A61M 1/0209](#))}
- 5/150374 {Details of piercing elements or protective means for preventing accidental injuries by such piercing elements (double-ended hollow needles [A61B 5/150473](#), [A61B 5/150389](#); single-ended hollow needles [A61B 5/150503](#), [A61B 5/150389](#))}
- 5/150381 {Design of piercing elements}
- 5/150389 {Hollow piercing elements, e.g. canulas, needles, for piercing the skin}
- 5/150396 {Specific tip design, e.g. for improved penetration characteristics}
- 5/150404 {Specific design of proximal end}
- 5/150412 {Pointed piercing elements, e.g. needles, lancets for piercing the skin (blade-like piercing elements [A61B 5/150442](#))}
- 5/150419 {comprising means for capillary action}
- 5/150427 {Specific tip design, e.g. for improved penetration characteristics}
- 5/150435 {Specific design of proximal end}
- 5/150442 {Blade-like piercing elements, e.g. blades, cutters, knives, for cutting the skin}
- 5/15045 {comprising means for capillary action}
- 5/150458 {Specific blade design, e.g. for improved cutting and penetration characteristics}
- 5/150465 {Specific design of proximal end}
- 5/150473 {Double-ended needles, e.g. used with pre-evacuated sampling tubes (hollow piercing element tip design [A61B 5/150396](#); needle sets for catheters [A61M 25/06](#); needles for bringing media into the body [A61M 5/32](#))}
- 5/15048 {Details of construction of proximal end}
- 5/150488 {Details of construction of shaft}
- 5/150496 {Details of construction of hub, i.e. element used to attach the double-ended needle to a piercing device or sampling device}
- 5/150503 {Single-ended needles (hollow piercing element tip design [A61B 5/150396](#), needle sets for catheters [A61M 25/06](#), needles for bringing media into the body [A61M 5/32](#))}
- 5/150511 {Details of construction of shaft}
- 5/150519 {Details of construction of hub, i.e. element used to attach the single-ended needle to a piercing device or sampling device}
- 5/150526 {Curved or bent needles}
- 5/150534 {Design of protective means for piercing elements for preventing accidental needle sticks, e.g. shields, caps, protectors, axially extensible sleeves, pivotable protective sleeves}
- 5/150541 {Breakable protectors, e.g. caps, shields or sleeves, i.e. protectors separated destructively, e.g. by breaking a connecting area}
- 5/150549 {Protectors removed by rotational movement, e.g. torsion or screwing}
- 5/150557 {Protectors removed by bending}
- 5/150564 {Protectors removed by pulling or pushing}
- 5/150572 {Pierceable protectors, e.g. shields, caps, sleeves or films, e.g. for hygienic purposes}
- 5/15058 {Joining techniques used for protective means}
- 5/150587 {by friction fit}
- 5/150595 {by snap-lock (i.e. based on axial displacement)}
- 5/150603 {by rotation, e.g. bayonet or screw}
- 5/15061 {by material engagement, e.g. welding, bonding}

- 5/150618 {Integrally moulded protectors, e.g. protectors simultaneously moulded together with a further component, e.g. a hub, of the piercing element}
- 5/150625 {by using additional parts, e.g. clamping rings or collets}
- 5/150633 {Protective sleeves which are axially extensible, e.g. sleeves connected to, or integrated in, the piercing or driving device; pivotable protective sleeves}
- 5/150641 {comprising means to impede repositioning of protection sleeve from covering to uncovering position}
- 5/150648 {fully automatically triggered, i.e. the triggering of the protective sleeve does not require a deliberate action by the user such as terminating the contact with the patient's skin}
- 5/150656 {semi-automatically triggered, i.e. in which the triggering of the protective sleeve requires a deliberate action by the user, e.g. manual release of spring-biased extension means}
- 5/150664 {Pivotable protective sleeves, i.e. sleeves connected to, or integrated in, the piercing or driving device, and which are pivoted for covering or uncovering the piercing element}
- 5/150671 {comprising means to impede repositioning of protection sleeve from covering to uncovering position}
- 5/150679 {fully automatically triggered, i.e. the triggering of the pivotable protective sleeve does not require a deliberate action by the user such as terminating the contact with the patient's skin}
- 5/150687 {semi-automatically triggered, i.e. in which the triggering of the pivotable protective sleeve requires a deliberate action by the user such as manual release of spring-biased extension means}
- 5/150694 {Procedure for removing protection means at the time of piercing}
- 5/150702 {fully automatically removed, i.e. the removing does not require any action by the user}
- 5/150709 {semi-automatically removed, i.e. before puncturing the protection is removed by a mechanism initiated by a deliberate action by the user, such as pressing a button}
- 5/150717 {manually removed}
- 5/150725 {removal procedure linked to further actions, e.g. cocking of the piercing device, which indicate that the piercing device is used or tempered}
- 5/150732 {Needle holders, for instance for holding the needle by the hub, used for example with double-ended needle and pre-evacuated tube,}
- 5/15074 {Needle sets comprising wings, e.g. butterfly type, for ease of handling}
- 5/150748 {Having means for aiding positioning of the piercing device at a location where the body is to be pierced ([means for aiding positioning of devices for bringing media into the body A61M 5/427](#), [locating blood vessels A61B 5/489](#))}
- 5/150755 {Blood sample preparation for further analysis, e.g. by separating blood components or by mixing}
- 5/150763 {with identification means ([identification means for surgical instruments A61B 90/90](#))}
- 5/15077 {characterized by physical shape}
- 5/150778 {having complementary physical shapes for indexing or registration purposes}
- 5/150786 {Optical identification systems, e.g. bar codes, colour codes}
- 5/150793 {Electrical or magnetic identification means}
- 5/150801 {Means for facilitating use, e.g. by people with impaired vision; means for indicating when used correctly or incorrectly; means for alarming}
- 5/150809 {by audible feedback}
- 5/150816 {by tactile feedback, e.g. vibration}
- 5/150824 {by visual feedback}
- 5/150832 {by topography of the surface, e.g. Braille, embossed printing}
- 5/150839 {Aesthetic features, e.g. distraction means to prevent fears of child patients}
- 5/150847 {Communication to or from blood sampling device ([transmitting measured data A61B 5/0002](#))}
- 5/150854 {long distance, e.g. between patient's home and doctor's office}
- 5/150862 {intermediate range, e.g. within room or building}
- 5/15087 {short range, e.g. between console and disposable ([using implanted devices A61B 5/150877](#))}
- 5/150877 {with implanted devices}
- 5/150885 {Preventing re-use}
- 5/150893 {by indicating if used, tampered with, unsterile or defective}
- 5/1509 {by disrupting a seal, e.g. puncturing a piston seal}
- 5/150908 {by disconnecting components, e.g. breaking or rupturing of connected parts, e.g. piston and rod}
- 5/150916 {by blocking components, e.g. piston, driving device or fluid passageway}
- 5/150923 {by means for destroying components or parts, e.g. by cutting or piercing}
- 5/150931 {by including soluble parts}
- 5/150938 {by blunting or disabling needle}
- 5/150946 {Means for varying, regulating, indicating or limiting the speed or time of blood collection}
- 5/150954 {Means for the detection of operative contact with patient, e.g. by temperature sensitive sensor}
- 5/150961 {Means for the detection of the presence or absence of a module, a component or an abnormal condition; detection of leaks}
- 5/150969 {Low-profile devices which resemble patches or plasters, e.g. also allowing collection of blood samples for testing}

- 5/150977 . . . {Arrays of piercing elements for simultaneous piercing}
- 5/150984 . . . {Microneedles or microblades}
- 5/150992 . . . {Blood sampling from a fluid line external to a patient, such as a catheter line, combined with an infusion line; blood sampling from indwelling needle sets, e.g. sealable ports, luer couplings, valves (tubing connectors and couplings [A61M 39/00](#))}
- 5/151 . . . {Devices} specially adapted for taking samples of capillary blood, e.g. by lancets {, needles or blades}
- 5/15101 . . . {Details}
- 5/15103 . . . {Piercing procedure}
- 5/15105 . . . {Purely manual piercing, i.e. the user pierces the skin without the assistance of any driving means or driving devices}
- 5/15107 . . . {Piercing being assisted by a triggering mechanism}
- 5/15109 . . . {Fully automatically triggered, i.e. the triggering does not require a deliberate action by the user, e.g. by contact with the patient's skin}
- 5/15111 . . . {Semi-automatically triggered, e.g. at the end of the cocking procedure, for instance by biasing the main drive spring or when reaching sufficient contact pressure, the piercing device is automatically triggered without any deliberate action by the user}
- 5/15113 . . . {Manually triggered, i.e. the triggering requires a deliberate action by the user such as pressing a drive button}
- 5/15115 . . . {Driving means for propelling the piercing element to pierce the skin, e.g. comprising mechanisms based on shape memory alloys, magnetism, solenoids, piezoelectric effect, biased elements, resilient elements, vacuum or compressed fluids}
- 5/15117 . . . {comprising biased elements, resilient elements or a spring, e.g. a helical spring, leaf spring, or elastic strap}
- 5/15119 . . . {comprising shape memory alloys}
- 5/15121 . . . {comprising piezos}
- 5/15123 . . . {comprising magnets or solenoids}
- 5/15125 . . . {comprising a vacuum or compressed fluids}
- 5/15126 . . . {Means for controlling the lancing movement, e.g. 2D- or 3D-shaped elements, tooth-shaped elements or sliding guides}
- 5/15128 . . . {comprising 2D- or 3D-shaped elements, e.g. cams, curved guide rails or threads (comprising tooth-shaped elements [A61B 5/15132](#))}
- 5/1513 . . . {comprising linear sliding guides (comprising tooth-shaped elements [A61B 5/15132](#))}
- 5/15132 . . . {comprising tooth-shaped elements, e.g. toothed wheel or rack and pinion}
- 5/15134 . . . {Bladeless capillary blood sampling devices, i.e. devices for perforating the skin in order to obtain a blood sample but not using a blade, needle, canula, or lancet, e.g. by laser perforation, suction or pressurized fluids}
- 5/15136 . . . {by use of radiation, e.g. laser}
- 5/15138 . . . {provided with means to ensure the protection of the user, e.g. to avoid laser light entering the eyes of a user}
- 5/1514 . . . {by use of gaseous agents, e.g. using suction aspiration or pressurized gas}
- 5/15142 . . . {Devices intended for single use, i.e. disposable}
- 5/15144 . . . {comprising driving means, e.g. a spring, for retracting the piercing unit into the housing}
- 5/15146 . . . {Devices loaded with multiple lancets simultaneously, e.g. for serial firing without reloading, for example by use of stocking means. (multiple simultaneous cutting or piercing [A61B 5/150977](#))}
- 5/15148 . . . {Constructional features of stocking means, e.g. strip, roll, disc, cartridge, belt or tube}
- 5/15149 . . . {Arrangement of piercing elements relative to each other}
- 5/15151 . . . {Each piercing element being stocked in a separate isolated compartment}
- 5/15153 . . . {Multiple piercing elements stocked in a single compartment}
- 5/15155 . . . {Piercing elements which are specially shaped or are provided with fittings or attachments to facilitate nesting, stacking or joining together end-to-end or side-by-side}
- 5/15157 . . . {Geometry of stocking means or arrangement of piercing elements therein}
- 5/15159 . . . {Piercing elements stocked in or on a disc}
- 5/15161 . . . {Characterized by propelling the piercing element in a radial direction relative to the disc}
- 5/15163 . . . {Characterized by propelling the piercing element in an axial direction relative to the disc}
- 5/15165 . . . {Piercing elements stocked in or on a strip}
- 5/15167 . . . {Characterized by a folded strip}
- 5/15169 . . . {Characterized by a rolled strip}
- 5/15171 . . . {Characterized by propelling the piercing element perpendicular to the direction of movement of the strip}
- 5/15173 . . . {Characterized by propelling the piercing element parallel to the direction of movement of the strip}
- 5/15174 . . . {Piercing elements stocked in the form of a stack or pile}
- 5/15176 . . . {Stocking means comprising cap, cover, sheath or protection for aseptic stocking}
- 5/15178 . . . {Stocking means comprising separate compartments or units for new and for used piercing elements (separate compartments for used piercing elements in piercing devices [A61B 5/15184](#))}
- 5/1518 . . . {Security or safety mechanism to be deactivated for forwarding next piercing element}
- 5/15182 . . . {Means for keeping track or checking of the total number of piercing elements already used or the number of piercing elements still remaining in the stocking, e.g. by check window, counter, display}

- 5/15184 {Piercing device comprising a separate compartment or unit for used piercing elements ([separate compartments for used piercing elements in stocking means A61B 5/15178](#))}
- 5/15186 {Devices loaded with a single lancet, i.e. a single lancet with or without a casing is loaded into a reusable drive device and then discarded after use; drive devices reloadable for multiple use}
- 5/15188 {Constructional features of reusable driving devices}
- 5/1519 {comprising driving means, e.g. a spring, for propelling the piercing unit}
- 5/15192 {comprising driving means, e.g. a spring, for retracting the lancet unit into the driving device housing}
- 5/15194 {fully automatically retracted, i.e. the retraction does not require a deliberate action by the user, e.g. by terminating the contact with the patient's skin}
- 5/15196 {semi-automatically retracted, i.e. in which the retraction of the piercing unit requires a deliberate action by the user such as manual release of spring-biased retraction means}
- 5/15198 {purely manually retracted}
- 5/153 . . . {Devices} specially adapted for taking samples of venous or arterial blood, e.g. with syringes
- 5/1535 . . . {comprising means for indicating vein or arterial entry ([A61B 5/1545 takes precedence](#))}
- 5/154 . . . {Devices} using pre-evacuated means
- 5/1545 {comprising means for indicating vein or arterial entry}
- 5/155 . . . {Devices} specially adapted for continuous or multiple sampling, e.g. at predetermined intervals ([\(devices loaded with multiple lancets simultaneously A61B 5/15146\)](#))}
- 5/157 . . . {Devices} characterised by integrated means for measuring characteristics of blood
- 5/16 . . . Devices for psychotechnics ([using teaching or educational appliances G09B 1/00 - G09B 7/00](#)); Testing reaction times {}; Devices for evaluating the psychological state}
- WARNING**
- Group [A61B 5/16](#) is impacted by reclassification into group [A61B 5/163](#).
- Groups [A61B 5/16](#) and [A61B 5/163](#) should be considered in order to perform a complete search.
- 5/161 . . . {Flicker fusion testing ([eye testing A61B 3/00](#))}
- 5/162 . . . {Testing reaction times}
- 5/163 . . . {by tracking eye movement, gaze, or pupil change}
- WARNING**
- Group [A61B 5/163](#) is incomplete pending reclassification of documents from group [A61B 5/16](#).
- Groups [A61B 5/16](#) and [A61B 5/163](#) should be considered in order to perform a complete search.
- 5/164 . . . {Lie detection}
- 5/165 . . . {Evaluating the state of mind, e.g. depression, anxiety}
- 5/167 . . . {Personality evaluation}
- 5/168 . . . {Evaluating attention deficit, hyperactivity}
- 5/18 . . . for vehicle drivers {or machine operators}
- 5/20 . . . for measuring urological functions {restricted to the evaluation of the urinary system ([A61B 5/4375 takes precedence](#))}
- 5/201 . . . {Assessing renal or kidney functions}
- 5/202 . . . {Assessing bladder functions, e.g. incontinence assessment}
- 5/204 {Determining bladder volume}
- 5/205 {Determining bladder or urethral pressure}
- 5/207 . . . {Sensing devices adapted to collect urine}
- 5/208 {adapted to determine urine quantity, e.g. flow, volume}
- 5/22 . . . Ergometry; Measuring muscular strength or the force of a muscular blow ([\(exercising apparatus A63B 21/00\)](#) ; measuring of work or force in general [G01L](#))}
- 5/221 . . . {Ergometry, e.g. by using bicycle type apparatus}
- 5/222 {combined with detection or measurement of physiological parameters, e.g. heart rate}
- 5/224 . . . {Measuring muscular strength}
- 5/225 {of the fingers, e.g. by monitoring hand-grip force}
- 5/227 {of constricting muscles, i.e. sphincters}
- 5/228 {of masticatory organs, e.g. detecting dental force ([measuring instruments for dentigraphy A61C 19/04](#))}
- 5/40 . . . {Detecting, measuring or recording for evaluating the nervous system ([A61B 5/4806](#), [A61B 5/4821](#), [A61B 5/4824 take precedence](#))}
- 5/4005 . . . {for evaluating the sensory system ([A61B 5/12](#), [A61B 5/4058 take precedence](#))}
- 5/4011 {Evaluating olfaction, i.e. sense of smell}
- 5/4017 {Evaluating sense of taste}
- 5/4023 {Evaluating sense of balance}
- 5/4029 . . . {for evaluating the peripheral nervous systems ([A61B 5/04001 takes precedence](#))}
- 5/4035 {Evaluating the autonomic nervous system}
- 5/4041 {Evaluating nerves condition}
- 5/4047 {afferent nerves, i.e. nerves that relay impulses to the central nervous system}
- 5/4052 {efferent nerves, i.e. nerves that relay impulses from the central nervous system}
- 5/4058 . . . {for evaluating the central nervous system ([A61B 5/4806](#), [A61B 5/4821 take precedence](#))}
- 5/4064 {Evaluating the brain ([A61B 5/031](#), [A61B 5/0476](#), [A61B 5/14553 take precedence](#))}
- 5/407 {Evaluating the spinal cord ([A61B 5/4896 takes precedence](#))}
- 5/4076 . . . {Diagnosing or monitoring particular conditions of the nervous system ([A61B 5/4821](#), [A61B 5/4824 take precedence](#))}
- 5/4082 {Diagnosing or monitoring movement diseases, e.g. Parkinson, Huntington or Tourette}
- 5/4088 {Diagnosing or monitoring cognitive diseases, e.g. Alzheimer, prion diseases or dementia}
- 5/4094 {Diagnosing or monitoring seizure diseases, e.g. epilepsy}
- 5/41 . . . {Detecting, measuring or recording for evaluating the immune or lymphatic systems}

- 5/411 . . {Detecting or monitoring allergy or intolerance reactions to an allergenic agent or substance}
- 5/412 . . {Detecting or monitoring sepsis}
- 5/413 . . {Monitoring transplanted tissue or organ, e.g. for possible rejection reactions after a transplant}
- 5/414 . . {Evaluating particular organs or parts of the immune or lymphatic systems}
- 5/415 . . . {the glands, e.g. tonsils, adenoids or thymus}
- 5/416 . . . {the spleen}
- 5/417 . . . {the bone marrow}
- 5/418 . . . {lymph vessels, ducts or nodes}
- 5/42 . {Detecting, measuring or recording for evaluating the gastrointestinal, the endocrine or the exocrine systems ([A61B 1/00](#), [A61B 5/4857](#), [A61B 5/486](#), [A61B 5/4866](#), [A61B 5/4869](#) take precedence)}
- 5/4205 . . {Evaluating swallowing}
- 5/4211 . . {Diagnosing or evaluating reflux}
- 5/4216 . . {Diagnosing or evaluating gastrointestinal ulcers}
- 5/4222 . . {Evaluating particular parts, e.g. particular organs}
- 5/4227 . . . {endocrine glands, i.e. thyroid, adrenals, hypothalamic, pituitary}
- 5/4233 . . . {oesophagus}
- 5/4238 . . . {stomach}
- 5/4244 . . . {liver}
- 5/425 . . . {pancreas}
- 5/4255 . . . {Intestines, colon or appendix}
- 5/4261 . . {Evaluating exocrine secretion production ([A61B 3/101](#) takes precedence)}
- 5/4266 . . . {sweat secretion}
- 5/4272 . . . {sebum secretion}
- 5/4277 . . . {saliva secretion}
- 5/4283 . . . {gastrointestinal secretions, e.g. bile production}
- 5/4288 . . . {mammary secretions}
- 5/4294 . . . {vaginal secretions}
- 5/43 . {Detecting, measuring or recording for evaluating the reproductive systems}
- 5/4306 . . {for evaluating the female reproductive systems, e.g. gynaecological evaluations}
- 5/4312 . . . {Breast evaluation or disorder diagnosis ([A61B 5/0091](#) takes precedence)}
- 5/4318 . . . {Evaluation of the lower reproductive system ([A61B 5/4343](#) takes precedence)}
- 5/4325 {of the uterine cavities, e.g. uterus, fallopian tubes, ovaries}
- 5/4331 {of the cervix ([A61B 5/435](#) takes precedence)}
- 5/4337 {of the vagina}
- 5/4343 . . . {Pregnancy and labour monitoring, e.g. for labour onset detection}
- 5/435 {Assessing cervix alteration or dilation}
- 5/4356 {Assessing uterine contractions ([A61B 5/033](#) takes precedence)}
- 5/4362 {Assessing foetal parameters}
- 5/4368 . . . {Sexual arousal evaluation}
- 5/4375 . . {for evaluating the male reproductive system}
- 5/4381 . . . {Prostate evaluation or disorder diagnosis}
- 5/4387 . . . {Testicles, seminal vesicles or sperm ducts evaluation}
- 5/4393 . . . {Sexual arousal or erectile dysfunction evaluation, e.g. tumescence evaluation}
- 5/44 . {Detecting, measuring or recording for evaluating the integumentary system, e.g. skin, hair or nails ([A61B 5/117](#) takes precedence)}
- 5/441 . . {Skin evaluation, e.g. for skin disorder diagnosis}
- 5/442 . . . {Evaluating skin mechanical properties, e.g. elasticity, hardness, texture, wrinkle assessment}
- 5/443 . . . {Evaluating skin constituents, e.g. elastin, melanin, water}
- 5/444 . . . {Evaluating skin marks, e.g. mole, nevi, tumour, scar}
- 5/445 . . . {Evaluating skin irritation or skin trauma, e.g. rash, eczema, wound, bed sore}
- 5/446 . . . {Scalp evaluation or scalp disorder diagnosis, e.g. dandruff}
- 5/447 . . . {specially adapted for aiding the prevention of ulcer or pressure sore development, i.e. before the ulcer or sore has developed}
- 5/448 . . {Hair evaluation, e.g. for hair disorder diagnosis}
- 5/449 . . {Nail evaluation, e.g. for nail disorder diagnosis}
- 5/45 . {For evaluating or diagnosing the musculoskeletal system or teeth ([A61B 5/1036](#), [A61B 5/1074](#), [A61B 7/006](#) take precedence)}
- 5/4504 . . {Bones ([A61B 5/4547](#) takes precedence)}
- 5/4509 . . . {Bone density determination}
- 5/4514 . . {Cartilage}
- 5/4519 . . {Muscles ([A61B 5/0488](#), [A61B 5/224](#) take precedence)}
- 5/4523 . . {Tendons}
- 5/4528 . . {Joints ([A61B 5/4533](#), [A61B 5/4538](#) take precedence)}
- 5/4533 . . {Ligaments}
- 5/4538 . . {Evaluating a particular part of the musculoskeletal system or a particular medical condition}
- 5/4542 . . . {Evaluating the mouth, e.g. the jaw}
- 5/4547 {Evaluating teeth}
- 5/4552 {Evaluating soft tissue within the mouth, e.g. gums or tongue}
- 5/4557 {Evaluating bruxism}
- 5/4561 . . . {Evaluating static posture, e.g. undesirable back curvature ([A61B 5/1116](#) takes precedence)}
- 5/4566 . . . {Evaluating the spine ([A61B 5/4561](#) takes precedence)}
- 5/4571 . . . {Evaluating the hip}
- 5/4576 . . . {Evaluating the shoulder}
- 5/458 . . . {Evaluating the elbow}
- 5/4585 . . . {Evaluating the knee}
- 5/459 . . . {Evaluating the wrist}
- 5/4595 . . . {Evaluating the ankle}
- 5/48 . {Other medical applications}
- 5/4803 . . {Speech analysis specially adapted for diagnostic purposes}
- 5/4806 . . {Sleep evaluation ([A61B 5/4821](#) takes precedence; devices for inducing sleep [A61M 21/02](#))}
- 5/4809 . . . {Sleep detection, i.e. determining whether a subject is asleep or not}
- 5/4812 . . . {Detecting sleep stages or cycles}
- 5/4815 . . . {Sleep quality}
- 5/4818 . . . {Sleep apnoea}

- 5/4821 . . {Determining level or depth of anaesthesia
([A61B 5/1106](#) takes precedence)}
- 5/4824 . . {Touch or pain perception evaluation
([A61B 5/4821](#) takes precedence)}
- 5/4827 . . . {assessing touch sensitivity, e.g. for evaluation
of pain threshold}
- 5/483 {by thermal stimulation}
- 5/4833 . . {Assessment of subject's compliance to
treatment}
- 5/4836 . . {Diagnosis combined with treatment in closed-
loop systems or methods ([A61B 5/0036](#) takes
precedence)}

WARNING

Group [A61B 5/4836](#) is impacted by reclassification into [A61B 5/0036](#).

Groups [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.

- 5/4839 . . . {combined with drug delivery}
- 5/4842 . . {Monitoring progression or stage of a disease}
- 5/4845 . . {Toxicology, e.g. by detection of alcohol, drug or
toxic products ([A61B 5/4848](#) takes precedence)}
- 5/4848 . . {Monitoring or testing the effects of treatment,
e.g. of medication}
- 5/4851 . . {Prosthesis assessment or monitoring}

WARNING

Group [A61B 5/4851](#) is incomplete pending reclassification of documents from group [A61B 5/04888](#).

Groups [A61B 5/4851](#) and [A61B 5/04888](#) should be considered in order to perform a complete search.

- 5/4854 . . {Diagnosis based on concepts of traditional
oriental medicine}
- 5/4857 . . {Indicating the phase of biorhythm (clocks or
watches with indicators for biological cycles
[G04B 19/264](#))}
- 5/486 . . {Bio-feedback ([A61B 5/0482](#) takes precedence)}
- 5/4863 . . {Measuring or inducing nystagmus}
- 5/4866 . . {Evaluating metabolism ([A61B 5/083](#) takes
precedence)}
- 5/4869 . . {Determining body composition}
- 5/4872 . . . {Body fat}
- 5/4875 . . . {Hydration status, fluid retention of the body}
- 5/4878 {Evaluating oedema}
- 5/4881 . . . {Determining interstitial fluid distribution or
content within body tissue (measuring analytes
in interstitial fluid in-vivo [A61B 5/1451](#))}
- 5/4884 . . {inducing physiological or psychological stress,
e.g. applications for stress testing}
- 5/4887 . . {Locating particular structures in or on the body}
- 5/489 . . . {Blood vessels}
- 5/4893 . . . {Nerves}
- 5/4896 . . . {Epidural space}
- 5/68 . . {Arrangements of detecting, measuring or recording
means, e.g. sensors, in relation to patient}
- 5/6801 . . {specially adapted to be attached to or worn on
the body surface}
- 5/6802 . . . {Sensor mounted on worn items}
- 5/6803 {Head-worn items, e.g. helmets, masks,
headphones or goggles}

- 5/6804 {Garments; Clothes}
- 5/6805 {Vests}
- 5/6806 {Gloves}
- 5/6807 {Footwear}
- 5/6808 {Diapers}
- 5/681 {Wristwatch-type devices}
- 5/6811 {External prosthesis}
- 5/6812 {Orthopaedic devices}
- 5/6813 . . . {Specially adapted to be attached to a specific
body part ([A61B 5/6802](#) takes precedence)}
- 5/6814 {Head}
- 5/6815 {Ear}
- 5/6816 {Ear lobe}
- 5/6817 {Ear canal}
- 5/6819 {Nose}
- 5/682 {Mouth, e.g., oral cavity; tongue; Lips;
Teeth}
- 5/6821 {Eye}
- 5/6822 {Neck}
- 5/6823 {Trunk, e.g., chest, back, abdomen, hip}
- 5/6824 {Arm or wrist}
- 5/6825 {Hand}
- 5/6826 {Finger}
- 5/6828 {Leg}
- 5/6829 {Foot or ankle}
- 5/683 . . . {Means for maintaining contact with the body
([A61B 5/6802](#) takes precedence)}
- 5/6831 {Straps, bands or harnesses}
- 5/6832 {using adhesives ([A61B 5/04087](#) takes
precedence)}

WARNING

Group [A61B 5/6832](#) is impacted by reclassification into group [A61B 5/68335](#).

Groups [A61B 5/6832](#) and [A61B 5/68335](#) should be considered in order to perform a complete search.

- 5/6833 {Adhesive patches}
- 5/68335 {including release sheets or liners}

WARNING

Group [A61B 5/68335](#) is incomplete pending reclassification of documents from group [A61B 5/6832](#).

Groups [A61B 5/6832](#) and [A61B 5/68335](#) should be considered in order to perform a complete search.

- 5/6834 {using vacuum}
- 5/6835 {Supports or holders, e.g., articulated arms}
- 5/6837 {Sutures}
- 5/6838 {Clamps or clips}
- 5/6839 {Anchoring means, e.g. barbs}
- 5/684 . . . {Indicating the position of the sensor on the
body}
- 5/6841 {by using templates}
- 5/6842 {by marking the skin}
- 5/6843 . . . {Monitoring or controlling sensor contact
pressure}
- 5/6844 . . . {Monitoring or controlling distance between
sensor and tissue}
- 5/6846 . . {specially adapted to be brought in contact with
an internal body part, i.e. invasive}

- 5/6847 . . . {mounted on an invasive device}
- 5/6848 {Needles}
- 5/6849 {in combination with a needle set}
- 5/685 {Microneedles}
- 5/6851 {Guide wires}
- 5/6852 {Catheters}
- 5/6853 {with a balloon}
- 5/6855 {with a distal curved tip}
- 5/6856 {with a distal loop}
- 5/6857 {with a distal pigtail shape}
- 5/6858 {with a distal basket, e.g. expandable basket}
- 5/6859 {with multiple distal splines}
- 5/686 {Permanently implanted devices, e.g. pacemakers, other stimulators, biochips ([A61B 5/6861 takes precedence](#))}
- 5/6861 {Capsules, e.g. for swallowing or implanting}
- 5/6862 {Stents}
- 5/6864 {Burr holes}
- 5/6865 {Access ports}
- 5/6866 {Extracorporeal blood circuits, e.g. dialysis circuits}
- 5/6867 . . . {specially adapted to be attached or implanted in a specific body part ([A61B 5/6847 takes precedence](#))}
- 5/6868 {Brain}
- 5/6869 {Heart}
- 5/687 {Oesophagus}
- 5/6871 {Stomach}
- 5/6873 {Intestine}
- 5/6874 {Bladder}
- 5/6875 {Uterus}
- 5/6876 {Blood vessel}
- 5/6877 {Nerve}
- 5/6878 {Bone}
- 5/6879 . . . {Means for maintaining contact with the body ([A61B 5/6847 takes precedence](#))}
- 5/688 {using adhesives}
- 5/6882 {Anchoring means}
- 5/6883 {Sutures}
- 5/6884 {Clamps or clips}
- 5/6885 . . . {Monitoring or controlling sensor contact pressure}
- 5/6886 . . . {Monitoring or controlling distance between sensor and tissue}
- 5/6887 . . {mounted on external non-worn devices, e.g. non-medical devices}
- 5/6888 . . . {Cabins}
- 5/6889 . . . {Rooms}
- 5/6891 . . . {Furniture}
- 5/6892 . . . {Mats}
- 5/6893 . . . {Cars}
- 5/6894 . . . {Wheel chairs}
- 5/6895 . . . {Sport equipment}
- 5/6896 . . . {Toys}
- 5/6897 . . . {Computer input devices, e.g. mice or keyboards}
- 5/6898 . . . {Portable consumer electronic devices, e.g. music players, telephones, tablet computers}
- 5/70 . . {Means for positioning the patient in relation to the detecting, measuring or recording means}
- 5/702 . . {Posture restraints}
- 5/704 . . {Tables}
- 5/706 . . {Indicia not located on the patient, e.g. floor marking}
- 5/708 . . {Breast positioning means}
- 5/72 . . {Signal processing specially adapted for physiological signals or for diagnostic purposes ([pattern recognition G06K 9/00](#))}
- 5/7203 . . {for noise prevention, reduction or removal}
- 5/7207 . . . {of noise induced by motion artifacts}
- 5/721 {using a separate sensor to detect motion or using motion information derived from signals other than the physiological signal to be measured}
- 5/7214 {using signal cancellation, e.g. based on input of two identical physiological sensors spaced apart, or based on two signals derived from the same sensor, for different optical wavelengths}
- 5/7217 . . . {of noise originating from a therapeutic or surgical apparatus, e.g. from a pacemaker}
- 5/7221 . . {Determining signal validity, reliability or quality ([A61B 5/7207](#) and [A61B 5/7217 take precedence](#))}
- 5/7225 . . {Details of analog processing, e.g. isolation amplifier, gain or sensitivity adjustment, filtering, baseline or drift compensation ([A61B 5/04004](#), [A61B 5/04012](#), [A61B 5/0428 take precedence](#); transformers for specific applications [H01F 38/00](#); amplifiers [H03F](#))}
- 5/7228 . . {Signal modulation applied to the input signal sent to patient or subject; demodulation to recover the physiological signal ([modulation H03C](#))}
- 5/7232 . . {involving compression of the physiological signal, e.g. to extend the signal recording period}
- 5/7235 . . {Details of waveform analysis ([A61B 5/0452 takes precedence](#))}
- 5/7239 . . . {using differentiation including higher order derivatives}
- 5/7242 . . . {using integration}
- 5/7246 . . . {using correlation, e.g. template matching or determination of similarity}
- 5/725 . . . {using specific filters therefor, e.g. Kalman or adaptive filters ([A61B 5/04014](#) and [A61B 5/04017 take precedence](#))}
- 5/7253 . . . {characterised by using transforms}
- 5/7257 {using Fourier transforms}
- 5/726 {using Wavelet transforms}
- 5/7264 . . . {Classification of physiological signals or data, e.g. using neural networks, statistical classifiers, expert systems or fuzzy systems ([neural networks per se G01N 3/00](#); expert systems [per se G06N 5/00](#))}
- 5/7267 {involving training the classification device}
- 5/7271 . . {Specific aspects of physiological measurement analysis ([A61B 5/04012](#), [A61B 5/0452](#) and [A61B 5/048 take precedence](#))}
- 5/7275 . . . {Determining trends in physiological measurement data}; Predicting development of a medical condition based on physiological measurements, e.g. determining a risk factor}
- 5/7278 . . . {Artificial waveform generation or derivation, e.g. synthesising signals from measured signals ([A61B 5/04028 takes precedence](#))}

- 5/7282 . . . {Event detection, e.g. detecting unique waveforms indicative of a medical condition ([A61B 5/4094](#), [A61B 5/4818](#), [A61B 5/0452](#), [A61B 5/0823](#) take precedence)}
- 5/7285 . . . {for synchronising or triggering a physiological measurement or image acquisition with a physiological event or waveform, e.g. an ECG signal ([A61B 6/5205](#), [A61B 6/541](#), [A61B 8/5207](#), [A61B 8/543](#) take precedence)}
- 5/7289 {Retrospective gating, i.e. associating measured signals or images with a physiological event after the actual measurement or image acquisition, e.g. by simultaneously recording an additional physiological signal during the measurement or image acquisition}
- 5/7292 {Prospective gating, i.e. predicting the occurrence of a physiological event for use as a synchronisation signal}
- 5/7296 . . . {for compensation of signal variation due to stress unintentionally induced in the patient, e.g. due to the stress of the medical environment or examination ([deliberately inducing physiological or psychological stress A61B 5/4884](#))}
- 5/74 . . {Details of notification to user or communication with user or patient ([indicating measured values G01D 7/00](#)); user input means ([input or output arrangements for computers G06F 3/00](#))}
- 5/7405 . . {using sound}
- 5/741 . . . {using synthesised speech}
- 5/7415 . . . {Sound rendering of measured values, e.g. by pitch or volume variation ([A61B 5/741](#) takes precedence)}
- 5/742 . . {using visual displays ([A61B 5/044](#) takes precedence)}
- 5/7425 . . . {Displaying combinations of multiple images regardless of image source, e.g. displaying a reference anatomical image with a live image ([geometric transforms for image registration G06T 3/0068](#); [enhancement using image fusion G06T 5/50](#); [algorithms for registration of images G06T 7/30](#))}
- 5/743 . . . {Displaying an image simultaneously with additional graphical information, e.g. symbols, charts, function plots}
- 5/7435 . . . {Displaying user selection data, e.g. icons in a graphical user interface}
- 5/744 . . . {Displaying an avatar, e.g. an animated cartoon character}
- 5/7445 . . . {Display arrangements, e.g. multiple display units}
- 5/745 . . . {using a holographic display}
- 5/7455 . . {characterised by tactile indication, e.g. vibration or electrical stimulation}
- 5/746 . . {Alarms related to a physiological condition, e.g. details of setting alarm thresholds or avoiding false alarms ([alarms per se G08B](#))}
- 5/7465 . . {Arrangements for interactive communication between patient and care services, e.g. by using a telephone network ([telemetry of measured physiological signal A61B 5/0002](#))}
- 5/747 . . . {in case of emergency, i.e. alerting emergency services}
- 5/7475 . . {User input or interface means, e.g. keyboard, pointing device, joystick}
- 5/748 . . . {Selection of a region of interest, e.g. using a graphics tablet}
- 5/7485 {Automatic selection of region of interest}
- 5/749 . . . {Voice-controlled interfaces}
- 5/7495 . . . {using a reader or scanner device, e.g. barcode scanner}
- 6/00 Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment** ([analysis of materials using radiation G01N 23/00](#), [detecting hidden objects by radiation G01V 5/0008](#), [radiodiagnostic or X-ray contrast preparations A61K 49/00](#); [radiation therapy per se A61N 5/00](#); [instruments measuring radiation intensity for application in the field of nuclear medicine, e.g. in vivo counting G01T 1/161](#); [apparatus for taking X-ray photographs G03B 42/02](#); [X-ray photographic processes G03C 5/16](#); [irradiation devices G21K](#); [X-ray apparatus or circuits therefor H05G 1/00](#))
- 6/02 . . Devices for diagnosis sequentially in different planes; Stereoscopic radiation diagnosis
- 6/022 . . {Stereoscopic imaging}
- 6/025 . . {Tomosynthesis}
- 6/027 . . {characterised by the use of a particular data acquisition trajectory, e.g. helical or spiral}
- 6/03 . . Computerised tomographs ({[diagnosis by magnetic resonance imaging A61B 5/055](#)}; [echo-tomography A61B 8/14](#))
- 6/032 . . . {Transmission computed tomography [CT]}
- 6/035 {Mechanical aspects of CT}
- 6/037 . . . {Emission tomography ([detector details for PET G01T 1/2985](#), [detector details for SPECT G01T 1/1644](#))}
- 6/04 . . Positioning of patients; Tilttable beds or the like ([operating tables A61G 13/00](#); [operating chairs A61G 15/00](#))
- 6/0407 . . {Tables or beds}
- 6/0414 . . . {Tables or beds with compression means}
- 6/0421 . . . {Tables or beds with immobilising means}
- 6/0428 {Patient cradles}
- 6/0435 . . . {Tables or beds with means for imaging suspended breasts}
- 6/0442 . . . {Tables or beds made from non-metallic materials}
- 6/045 . . . {Tables or beds with heating or cooling means}
- 6/0457 . . {Servo-controlled positioning}
- 6/0464 . . {Supports mounted to ceiling}
- 6/0471 . . {Endless-band supports}
- 6/0478 . . {Patient positioning chairs}
- 6/0485 . . {Inflatable rests for lifting of patients}
- 6/0492 . . {using markers or indicia for aiding patient positioning}
- 6/06 . . Diaphragms {for particular diagnostic applications, e.g. tomography, i.e. not of general applicability ([diaphragms, e.g. variable, or collimators in general G21K 1/02](#))}
- 6/08 . . Auxiliary means for directing the radiation beam to a particular spot, e.g. using light beams
- 6/10 . . Application or adaptation of safety means ([protection against dangerous radiation in general G21F](#))

- 6/102 . . {Protection against mechanical damage, e.g. anti-collision devices}
- 6/105 . . . {Braking or locking devices}
- 6/107 . . {Protection against radiation, e.g. shielding (techniques for handling radiation not otherwise provided for [G21K](#))}
- 6/12 . Devices for detecting or locating foreign bodies ([A61B 6/02](#) takes precedence {; radio-opaque markers [A61B 90/39](#)})
- 6/14 . Applications or adaptations for dentistry
- 6/145 . . {by intraoral means (X-ray tubes having a small cross-section to facilitate introduction into small cavities [H01J 35/32](#))}
- 6/40 . {with arrangements for generating radiation specially adapted for radiation diagnosis (X-ray tubes or details thereof [H01J 35/00](#))}
- 6/4007 . . {characterised by using a plurality of source units (circuit arrangements driving apparatuses comprising more than one X ray tube [H05G 1/70](#))}
- 6/4014 . . . {arranged in multiple source-detector units}
- 6/4021 . . {involving movement of the focal spot}
- 6/4028 . . . {resulting in acquisition of views from substantially different positions, e.g. EBCT}
- 6/4035 . . {the source being combined with a filter or grating (filters for radiation per se [G21K 1/10](#))}
- 6/4042 . . . {K-edge filters}
- 6/405 . . {Source units adapted to modify characteristics of the beam during the data acquisition process ([A61B 6/4021](#), [A61B 6/4035](#) take precedence; arrangements changing the time structure of an already generated radiation beam [G21K 1/043](#))}
- 6/4057 . . {by using a source unit in the interior of the body ([A61B 6/037](#) takes precedence; X-ray tubes with small cross-section [H01J 35/32](#))}
- 6/4064 . . {adapted for producing a particular type of beam}
- 6/4071 . . . {Pencil beams}
- 6/4078 . . . {Fan-beams}
- 6/4085 . . . {Cone-beams}
- 6/4092 . . . {for producing synchrotron radiation}
- 6/42 . {with arrangements for detecting radiation specially adapted for radiation diagnosis (details of radiation detection [G01T 1/00](#))}
- 6/4208 . . {characterised by using a particular type of detector}
- 6/4216 . . . {using storage phosphor screens (details of stimuable phosphor sheets [G01T 1/2012](#))}
- 6/4225 . . . {using image intensifiers}
- 6/4233 . . . {using matrix detectors (for semiconductor radiation detectors [G01T 1/24](#), [G01T 1/2928](#))}
- 6/4241 . . . {using energy resolving detectors, e.g. photon counting (detectors for nuclear medicine [G01T 1/16](#), [G01T 1/29](#))}
- 6/425 . . . {using detectors specifically adapted to be used in the interior of the body (detector details for *in vivo* counting [G01T 1/161](#))}
- 6/4258 . . . {for detecting non x-ray radiation, e.g. gamma radiation ([A61B 6/037](#) takes precedence)}
- 6/4266 . . {characterised by using a plurality of detector units ([A61B 6/4014](#) takes precedence)}
- 6/4275 . . {using a detector unit almost surrounding the patient, e.g. more than 180°}
- 6/4283 . . {characterised by a detector unit being housed in a cassette}
- 6/4291 . . {the detector being combined with a grid or grating}
- 6/44 . {Constructional features of the device for radiation diagnosis}
- 6/4405 . . {the device being mobile or portable, e.g. mounted on a trolley or handheld}
- 6/4411 . . {the device being modular}
- 6/4417 . . {related to combined acquisition of different diagnostic modalities}
- 6/4423 . . {related to hygiene or sterilisation}
- 6/4429 . . {related to the mounting of source units and detector units ([A61B 6/02](#) takes precedence)}
- 6/4435 . . . {the source unit and the detector unit being coupled by a rigid structure}
- 6/4441 {the rigid structure being a C-arm or U-arm}
- 6/4447 {Tiltable gantries}
- 6/4452 . . . {the source unit and the detector unit being able to move relative to each other}
- 6/4458 . . . {the source unit or the detector unit being attached to robotic arms}
- 6/4464 . . . {the source unit or the detector unit being mounted to ceiling}
- 6/447 . . . {the source unit or the detector unit being mounted to counterpoise or springs}
- 6/4476 . . {related to servo controlled movement of the source unit}
- 6/4482 . . . {involving power assist circuits}
- 6/4488 . . {Means for cooling ([A61B 6/045](#) takes precedence)}
- 6/4494 . . {Means for identifying the diagnostic device}
- 6/46 . {with special arrangements for interfacing with the operator or the patient}
- 6/461 . . {Displaying means of special interest}
- 6/462 . . . {characterised by constructional features of the display}
- 6/463 . . . {characterised by displaying multiple images or images and diagnostic data on one display}
- 6/464 . . . {involving a plurality of displays}
- 6/465 . . . {adapted to display user selection data, e.g. icons or menus}
- 6/466 . . . {adapted to display 3D data (3D image rendering [G06T 15/00](#); manipulating 3D models for computer graphics [G06T 19/00](#))}
- 6/467 . . {characterised by special input means}
- 6/468 . . . {allowing annotation or message recording}
- 6/469 . . . {for selecting a region of interest [ROI]}
- 6/48 . {Diagnostic techniques ([A61B 6/022](#), [A61B 6/032](#), [A61B 6/037](#) take precedence)}
- 6/481 . . {involving the use of contrast agents}
- 6/482 . . {involving multiple energy imaging}
- 6/483 . . {involving scattered radiation}
- 6/484 . . {involving phase contrast X-ray imaging}
- 6/485 . . {involving fluorescence X-ray imaging}
- 6/486 . . {involving generating temporal series of image data}
- 6/487 . . . {involving fluoroscopy}
- 6/488 . . {involving pre-scan acquisition}
- 6/50 . {Clinical applications (dentistry [A61B 6/14](#) takes precedence)}
- 6/501 . . {involving diagnosis of head, e.g. neuroimaging, craniography}
- 6/502 . . {involving diagnosis of breast, i.e. mammography}

- 6/503 . . {involving diagnosis of heart}
- 6/504 . . {involving diagnosis of blood vessels, e.g. by angiography}
- 6/505 . . {involving diagnosis of bone}
- 6/506 . . {involving diagnosis of nerves}
- 6/507 . . {involving determination of haemodynamic parameters, e.g. perfusion CT}
- 6/508 . . {for non-human patients}
- 6/52 . {Devices using data or image processing specially adapted for radiation diagnosis ([image processing per se G06T](#))}
- 6/5205 . . {involving processing of raw data to produce diagnostic data}
- 6/5211 . . {involving processing of medical diagnostic data}
- 6/5217 . . . {extracting a diagnostic or physiological parameter from medical diagnostic data ([details of algorithms to analyse biomedical images G06T 7/0012](#))}
- 6/5223 . . . {generating planar views from image data, e.g. extracting a coronal view from a 3D image}
- 6/5229 . . . {combining image data of a patient, e.g. combining a functional image with an anatomical image ([details of algorithms for image registration G06T 7/30](#))}
- 6/5235 {combining images from the same or different radiation imaging techniques, e.g. PET and CT}
- 6/5241 {combining overlapping radiation images, e.g. by stitching}
- 6/5247 {combining images from different diagnostic modalities, e.g. X-ray and ultrasound}
- 6/5252 . . . {removing objects from field of view, e.g. removing patient table from a CT image}
- 6/5258 . . {involving detection or reduction of artifacts or noise ([details of algorithms for image enhancement G06T 7/97](#))}
- 6/5264 . . . {due to motion}
- 6/527 {using data from a motion artifact sensor ([A61B 6/5276 takes precedence](#))}
- 6/5276 {involving measuring table sag}
- 6/5282 . . . {due to scatter}
- 6/5288 . . {involving retrospective matching to a physiological signal}
- 6/5294 . . {involving using additional data, e.g. patient information, image labeling, acquisition parameters}
- 6/54 . {Control of devices for radiation diagnosis}
- 6/541 . . {involving acquisition triggered by a physiological signal}
- 6/542 . . {involving control of exposure}
- 6/544 . . . {dependent on patient size}
- 6/545 . . {involving automatic set-up of acquisition parameters}
- 6/547 . . {involving tracking of position of the device or parts of the device ([using an image of a phantom A61B 6/584](#))}
- 6/548 . . {Remote control of radiation diagnosis devices}
- 6/56 . {Details of data transmission or power supply, e.g. use of slip rings}
- 6/563 . . {involving image data transmission via a network}
- 6/566 . . {involving communication between imaging systems}
- 6/58 . {Testing, adjusting or calibrating devices for radiation diagnosis}
- 6/581 . . {Remote testing of the device}
- 6/582 . . {Calibration}
- 6/583 . . . {using calibration phantoms ([models for medical purposes G09B 23/28](#))}
- 6/584 {determining position of components of the device using images of the phantom}
- 6/585 . . . {Calibration of detector units}
- 6/586 . . {Detection of faults or malfunction of the device}
- 6/587 . . {Alignment of source unit to detector unit}
- 6/588 . . {Setting distance between source unit and detector unit}
- 6/589 . . {Setting distance between source unit and patient}
- 7/00 Instruments for auscultation**
- 7/001 . {Detecting cranial noise, e.g. caused by aneurism}
- 7/003 . {Detecting lung or respiration noise}
- 7/005 . {Detecting noise caused by implants, e.g. cardiac valves}
- 7/006 . {Detecting skeletal, cartilage or muscle noise ([A61B 7/003 and A61B 7/008 take precedence](#))}
- 7/008 . {Detecting noise of gastric tract, e.g. caused by voiding}
- 7/02 . Stethoscopes ([acoustic details thereof G10K 11/00](#))}
- 7/023 . . {for introduction into the body, e.g. into the oesophagus ([oesophageal ECG probes A61B 5/0421](#))}
- 7/026 . . {comprising more than one sound collector}
- 7/04 . . Electric stethoscopes ([microphones, acoustic transducers therefor H04R](#))}
- 7/045 . . . {Detection of Korotkoff sounds ([A61B 5/0225 takes precedence](#); measuring blood pressure [A61B 5/021](#))}
- 8/00 Diagnosis using ultrasonic, sonic or infrasonic waves (imaging of objects using sonar [G01S 15/00](#))**
- 8/02 . Measuring pulse or heart rate
- 8/04 . Measuring blood pressure
- 8/06 . Measuring blood flow ([measuring volume flow in general G01F, e.g. G01F 1/66, G01F 1/72; measuring speed of fluids in general G01P 5/00](#))}
- 8/065 . . {to determine blood output from the heart ([in general A61B 5/029](#))}
- 8/08 . Detecting organic movements or changes, e.g. tumours, cysts, swellings ([A61B 8/02 - A61B 8/06 take precedence](#))}
- 8/0808 . . {for diagnosis of the brain}
- 8/0816 . . . {using echo-encephalography}
- 8/0825 . . {for diagnosis of the breast, e.g. mammography}
- 8/0833 . . {involving detecting or locating foreign bodies or organic structures}
- 8/0841 . . . {for locating instruments}
- 8/085 . . . {for locating body or organic structures, e.g. tumours, calculi, blood vessels, nodules}
- 8/0858 . . {involving measuring tissue layers, e.g. skin, interfaces}
- 8/0866 . . {involving foetal diagnosis; pre-natal or peri-natal diagnosis of the baby}
- 8/0875 . . {for diagnosis of bone ([A61B 5/4504 takes precedence](#))}
- 8/0883 . . {for diagnosis of the heart}

- 8/0891 . . {for diagnosis of blood vessels}
- 8/10 . Eye inspection
- 8/12 . in body cavities or body tracts, e.g. by using catheters ([catheters per se A61M 25/00](#))
- 8/13 . Tomography ([A61B 8/10](#), [A61B 8/12](#) take precedence; tomography for radiation diagnosis [A61B 6/02](#))
- 8/14 . . Echo-tomography
- 8/145 . . . {characterised by scanning multiple planes}
- 8/15 . . Transmission-tomography
- 8/40 . {Positioning of patients, e.g. means for holding or immobilising parts of the patient's body}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/403 . . {using compression means}
- 8/406 . . {using means for diagnosing suspended breasts}
- 8/42 . {Details of probe positioning or probe attachment to the patient}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/4209 . . {by using holders, e.g. positioning frames}
- 8/4218 . . . {characterised by articulated arms}
- 8/4227 . . . {characterised by straps, belts, cuffs or braces}
- 8/4236 . . . {characterised by adhesive patches}
- 8/4245 . . {involving determining the position of the probe, e.g. with respect to an external reference frame or to the patient}
- 8/4254 . . . {using sensors mounted on the probe}
- 8/4263 . . . {using sensors not mounted on the probe, e.g. mounted on an external reference frame}
- 8/4272 . . {involving the acoustic interface between the transducer and the tissue}
- 8/4281 . . . {characterised by sound-transmitting media or devices for coupling the transducer to the tissue}
- 8/429 . . . {characterised by determining or monitoring the contact between the transducer and the tissue}
- 8/44 . {Constructional features of the ultrasonic, sonic or infrasonic diagnostic device}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/4405 . . {Device being mounted on a trolley}
- 8/4411 . . {Device being modular}
- 8/4416 . . {related to combined acquisition of different diagnostic modalities, e.g. combination of ultrasound and X-ray acquisitions}
- 8/4422 . . {related to hygiene or sterilisation}
- 8/4427 . . {Device being portable or laptop-like}
- 8/4433 . . {involving a docking unit}
- 8/4438 . . {Means for identifying the diagnostic device, e.g. barcodes}
- 8/4444 . . {related to the probe}

- 8/445 . . . {Details of catheter construction}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/12](#)

- 8/4455 . . . {Features of the external shape of the probe, e.g. ergonomic aspects}
- 8/4461 . . . {Features of the scanning mechanism, e.g. for moving the transducer within the housing of the probe}
- 8/4466 {involving deflection of the probe}
- 8/4472 . . . {Wireless probes}
- 8/4477 . . {using several separate ultrasound transducers or probes}
- 8/4483 . . {characterised by features of the ultrasound transducer}
- 8/4488 . . . {the transducer being a phased array}
- 8/4494 . . . {characterised by the arrangement of the transducer elements ([devices for short-range imaging using particular transducer elements arrangements under G01S 15/8909](#); arrangements of transducers in generation of mechanical vibrations of infrasonic, sonic or ultrasonic frequency [B06B 1/0607](#))}
- 8/46 . {Ultrasonic, sonic or infrasonic diagnostic devices with special arrangements for interfacing with the operator or the patient}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/461 . . {Displaying means of special interest}
- 8/462 . . . {characterised by constructional features of the display}
- 8/463 . . . {characterised by displaying multiple images or images and diagnostic data on one display ([composite display in devices for short-range imaging with acoustic waves G01S 7/52074](#))}
- 8/464 . . . {involving a plurality of displays}
- 8/465 . . . {adapted to display user selection data, e.g. icons or menus}
- 8/466 . . . {adapted to display 3D data ([3D imaging and stereoscopic displays in devices for short-range imaging with acoustic waves G01S 15/8993](#) and [G01S 7/52068](#), respectively; 3D image rendering [G06T 15/00](#); manipulating 3D models for computer graphics [G06T 19/00](#))}
- 8/467 . . {characterised by special input means}
- 8/468 . . . {allowing annotation or message recording}
- 8/469 . . . {for selection of a region of interest}
- 8/48 . {Diagnostic techniques ([A61B 8/13](#) takes precedence)}
- 8/481 . . {involving the use of contrast agent, e.g. microbubbles introduced into the bloodstream ([analysis of echo signal exploiting properties of a contrast enhancer in devices for short-range imaging with acoustic waves G01S 7/52039](#))}
- 8/483 . . {involving the acquisition of a 3D volume of data}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/08](#)

- 8/485 . . {involving measuring strain or elastic properties}
- 8/486 . . {involving arbitrary m-mode}
- 8/488 . . {involving Doppler signals}
- 8/52 . {Devices using data or image processing specially adapted for diagnosis using ultrasonic, sonic or infrasonic waves ([image processing per se G06T](#))}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/08](#) and [A61B 8/14](#)

- 8/5207 . . {involving processing of raw data to produce diagnostic data, e.g. for generating an image ([reconstruction G06T 11/00](#))}
- 8/5215 . . {involving processing of medical diagnostic data}
- 8/5223 . . . {for extracting a diagnostic or physiological parameter from medical diagnostic data ([for algorithms to analyse biomedical images G06T 7/0012](#))}
- 8/523 . . . {for generating planar views from image data in a user selectable plane not corresponding to the acquisition plane}
- 8/5238 . . . {for combining image data of patient, e.g. merging several images from different acquisition modes into one image ([for image registration algorithms G06T 7/30](#))}
- 8/5246 {combining images from the same or different imaging techniques, e.g. color Doppler and B-mode}
- 8/5253 {combining overlapping images, e.g. spatial compounding}
- 8/5261 {combining images from different diagnostic modalities, e.g. ultrasound and X-ray}
- 8/5269 . . {involving detection or reduction of artifacts ([for image enhancement algorithms G06T 5/00](#))}
- 8/5276 . . . {due to motion}
- 8/5284 . . {involving retrospective matching to a physiological signal}
- 8/5292 . . {using additional data, e.g. patient information, image labeling, acquisition parameters}
- 8/54 . {Control of the diagnostic device}
- 8/543 . . {involving acquisition triggered by a physiological signal}
- 8/546 . . {involving monitoring or regulation of device temperature}
- 8/56 . {Details of data transmission or power supply}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/565 . . {involving data transmission via a network}
- 8/58 . {Testing, adjusting or calibrating the diagnostic device}

WARNING

This subgroup is not complete pending a reorganisation, see [A61B 8/00](#)

- 8/582 . . {Remote testing of the device}
- 8/585 . . {Automatic set-up of the device}
- 8/587 . . {Calibration phantoms ([models for medical purposes G09B 23/28](#))}

9/00 Instruments for examination by percussion; Pleximeters

- 9/005 . {Electric apparatus for detecting reflex action, e.g. monitoring depth of anaesthesia ([detection of movements A61B 5/11](#))}

10/00 Other methods or instruments for diagnosis, e.g. instruments for taking a cell sample, for biopsy, for vaccination diagnosis (vaccination prophylaxis, vaccination therapy [A61B 17/20](#)); Sex determination; Ovulation-period determination (menstruation tables [G06C 3/00](#)); Throat striking implements

NOTE

Attention is drawn to group [A61F 13/15](#) which provides for swabs

- 2010/0003 . {including means for analysis by an unskilled person}
- 2010/0006 . . {involving a colour change}
- 2010/0009 . {Testing for drug or alcohol abuse}
- 10/0012 . {Ovulation-period determination ([for animals A61D 17/002](#))}
- 2010/0016 . . {based on measurement of electric currents, e.g. conductivity tests}
- 2010/0019 . . {based on measurement of temperature}
- 2010/0022 . . {based on measurement of viscosity or visco-elasticity}
- 2010/0025 . . {based on analysis of crystallisation structure}
- 2010/0029 . . {based on time measurement}
- 2010/0032 . . {based on measurement of pH-value}
- 10/0035 . {Vaccination diagnosis other than by injuring the skin, e.g. allergy test patches}
- 10/0038 . {Devices for taking faeces samples; Faecal examination devices ([anal receptacles A61F 5/451](#))}
- 10/0041 . {Detection of breast cancer ([mammography by transillumination A61B 5/0091](#), by X-rays [A61B 6/502](#), by ultrasonic means [A61B 8/0825](#))}
- 10/0045 . {Devices for taking samples of body liquids ([devices for taking blood samples A61B 5/15](#))}
- 10/0048 . . {for taking amniotic fluid samples}
- 10/0051 . . {for taking saliva or sputum samples ([devices for receiving spittle A61J 9/00](#))}
- 2010/0054 . . {Ear liquid}
- 10/0058 . . {for taking sperm samples ([artificial insemination A61B 17/43](#); [for animals A61D 19/021](#); [genital receptacles for the male member A61F 5/453](#); [massage of the genitals A61H 19/00](#))}
- 2010/0061 . . {Alimentary tract secretions, e.g. biliary, gastric, intestinal, pancreatic secretions}
- 10/0064 . . {for taking sweat or sebum samples ([measuring sweat production A61B 5/4266](#))}
- 2010/0067 . . {Tear or lachrymal fluid}
- 10/007 . . {for taking urine samples ([measuring urological functions A61B 5/20](#); [genital receptacles A61F 5/451](#); [urinals for bed-ridden persons A61G 9/006](#))}
- 2010/0074 . . {Vaginal or cervical secretions}
- 2010/0077 . . {Cerebrospinal fluid}
- 2010/008 . . {Interstitial fluid}
- 2010/0083 . {for taking gas samples}
- 2010/0087 . . {Breath samples}
- 2010/009 . {Various features of diagnostic instruments}
- 2010/0093 . . {slide rules}

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|------------|---|------------|--|
| 10/0096 | . {Casings for storing test samples (A61B 10/0038 and A61B 10/0045 take precedence; preservation of living parts of the human or animal body A01N 1/02 ; containers for retaining a material to be analysed B01L 3/50 ; containers for enzymology or microbiology C12M 1/16 ; swab-sampler being part of enzymology or microbiology container C12M 1/30)} | 2017/00048 | {Spectral analysis} |
| | | 2017/00053 | {Mapping} |
| | | 2017/00057 | . . . {Light} |
| | | 2017/00061 | {spectrum} |
| | | 2017/00066 | {intensity} |
| | | 2017/0007 | {Pyrometers} |
| | | 2017/00075 | . . . {Motion} |
| | | 2017/00079 | . . . {Radioactivity} |
| | | 2017/00084 | . . . {Temperature} |
| | | 2017/00088 | {using thermistors} |
| | | 2017/00092 | {using thermocouples} |
| | | 2017/00097 | {one of the thermometric elements being an electrode or the heating element} |
| 2010/0208 | . . {Biopsy devices with actuators, e.g. with triggered spring mechanisms} | 2017/00101 | {using an array of thermosensors} |
| 2010/0216 | . . {Sampling brushes} | 2017/00106 | . . . {ultrasonic} |
| 2010/0225 | . . {for taking multiple samples} | 2017/0011 | {piezo-electric} |
| 10/0233 | . . {Pointed or sharp biopsy instruments} | 2017/00115 | . . {with audible or visual output (with imaging means A61B 90/37, A61B 34/20)} |
| 10/0241 | . . . {for prostate} | 2017/00119 | . . . {alarm; indicating an abnormal situation} |
| 10/025 | . . . {for taking bone, bone marrow or cartilage samples} | 2017/00123 | {and automatic shutdown} |
| 2010/0258 | {Marrow samples} | 2017/00128 | . . . {related to intensity or progress of surgical action} |
| 10/0266 | . . . {means for severing sample} | 2017/00132 | . . {Setting operation time of a device (A61B 2017/00123 takes precedence)} |
| 10/0275 | {with sample notch, e.g. on the side of inner stylet} | 2017/00137 | . . {Details of operation mode} |
| 10/0283 | . . . {with vacuum aspiration, e.g. caused by retractable plunger or by connected syringe (A61B 10/025 , A61B 10/0266 take precedence)} | 2017/00141 | . . . {continuous, e.g. wave} |
| 10/0291 | . . {for uterus (A61B 10/0045 takes precedence)} | 2017/00146 | {with multiple frequencies} |
| 10/04 | . . Endoscopic instruments | 2017/0015 | {applied simultaneously} |
| 2010/045 | . . . {Needles (pointed biopsy devices with vacuum aspiration A61B 10/0283)} | 2017/00154 | . . . {pulsed} |
| 10/06 | . . Biopsy forceps {, e.g. with cup-shaped jaws} | 2017/00159 | {Pulse shapes} |
| 13/00 | Instruments for depressing the tongue (combined with illuminating and viewing instruments A61B 1/24) | 2017/00163 | {starting with a negative pulse} |
| 16/00 | Devices specially adapted for vivisection or autopsy (similar devices for medical purposes, see the relevant groups for such devices {; autopsy tables A61G 13/0027}) | 2017/00168 | {Spike} |
| | | 2017/00172 | {Pulse trains, bursts, intermittent continuous operation} |
| | | 2017/00176 | {Two pulses, e.g. second pulse having an effect different from the first one} |
| | | 2017/00181 | {Means for setting or varying the pulse energy} |
| | | 2017/00185 | {Means for setting or varying the pulse height} |
| | | 2017/0019 | {Means for setting or varying the pulse width} |
| | | 2017/00194 | {Means for setting or varying the repetition rate} |
| | | 2017/00199 | . . {with a console, e.g. a control panel with a display} |
| | | 2017/00203 | . . {with speech control or speech recognition} |
| | | 2017/00207 | . . {with hand gesture control or hand gesture recognition} |
| 2017/00004 | . {(bio)absorbable, (bio)resorbable, resorptive (for implantable prostheses A61F 2210/0004)} | 2017/00212 | . . {using remote controls} |
| 17/00008 | . {Vein tendon strippers (tube strippers A61M 1/0078)} | 2017/00216 | . . {with eye tracking or head position tracking control} |
| 2017/00013 | . . {Cables with a stripper head} | 2017/00221 | . . {with wireless transmission of data, e.g. by infrared radiation or radiowaves} |
| 2017/00017 | . {Electrical control of surgical instruments} | 2017/00225 | . . {Systems for controlling multiple different instruments, e.g. microsurgical systems} |
| 2017/00022 | . . {Sensing or detecting at the treatment site} | 2017/0023 | . {disposable} |
| 2017/00026 | . . . {Conductivity or impedance, e.g. of tissue} | 17/00234 | . {for minimally invasive surgery (A61B 17/0218 , A61B 17/0469 , A61B 17/12013 , A61B 17/1285 , A61B 17/29 , A61B 17/320016 take precedence)} |
| 2017/0003 | {of parts of the instruments} | 2017/00238 | . . {Type of minimally invasive operation (A61B 2017/00805 takes precedence)} |
| 2017/00035 | {pH} | 2017/00243 | . . . {cardiac} |
| 2017/00039 | . . . {Electric or electromagnetic phenomena other than conductivity, e.g. capacity, inductivity, Hall effect} | | |
| 2017/00044 | {Sensing electrocardiography, i.e. ECG} | | |

Surgery

17/00 **Surgical instruments, devices or methods, e.g. tourniquets ([A61B 18/00](#) takes precedence; contraceptive devices, pessaries, or applicators therefor [A61F 6/00](#); eye surgery [A61F 9/007](#); ear surgery [A61F 11/00](#))**

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|------------|--|
| 2017/00004 | . {(bio)absorbable, (bio)resorbable, resorptive (for implantable prostheses A61F 2210/0004)} |
| 17/00008 | . {Vein tendon strippers (tube strippers A61M 1/0078)} |
| 2017/00013 | . . {Cables with a stripper head} |
| 2017/00017 | . {Electrical control of surgical instruments} |
| 2017/00022 | . . {Sensing or detecting at the treatment site} |
| 2017/00026 | . . . {Conductivity or impedance, e.g. of tissue} |
| 2017/0003 | {of parts of the instruments} |
| 2017/00035 | {pH} |
| 2017/00039 | . . . {Electric or electromagnetic phenomena other than conductivity, e.g. capacity, inductivity, Hall effect} |
| 2017/00044 | {Sensing electrocardiography, i.e. ECG} |

- 2017/00247 {Making holes in the wall of the heart, e.g. laser Myocardial revascularization}
- 2017/00252 {for by-pass connections, i.e. connections from heart chamber to blood vessel or from blood vessel to blood vessel}
- 2017/00256 {Creating an electrical block}
- 2017/00261 . . . {Discectomy}
- 2017/00265 . . . {Hand assisted surgery, i.e. minimally invasive surgery with at least part of an assisting hand inside the body}
- 2017/00269 . . . {endoscopic mucosal resection EMR}
- 2017/00274 . . . {Prostate operation, e.g. prostatectomy, turp, bhp treatment}
- 2017/00278 . . . {Transorgan operations, e.g. transgastric}
- 2017/00283 . . . {with a device releasably connected to an inner wall of the abdomen during surgery, e.g. an illumination source}
- 2017/00287 . . {Bags for minimally invasive surgery}
- 2017/00292 . . {mounted on or guided by flexible, e.g. catheter-like, means}
- 2017/00296 . . . {mounted on an endoscope}
- 2017/003 . . . {Steerable}
- 2017/00305 {Constructional details of the flexible means}
- 2017/00309 {Cut-outs or slits}
- 2017/00314 {Separate linked members}
- 2017/00318 {Steering mechanisms}
- 2017/00323 {Cables or rods}
- 2017/00327 {with actuating members moving in opposite directions}
- 2017/00331 {with preformed bends}
- 2017/00336 . . . {with a protective sleeve, e.g. retractable or slidable}
- 2017/0034 . . . {adapted to be inserted through a working channel of an endoscope}
- 2017/00345 . . {Micromachines, nanomachines, microsystems}
- 2017/00349 . . {Needle-like instruments having hook or barb-like gripping means, e.g. for grasping suture or tissue ([A61B 17/06066 takes precedence](#))}
- 2017/00353 . . {one mechanical instrument performing multiple functions, e.g. cutting and grasping ([channel for multiple instruments A61B 2017/3445; instrument channel A61B 2017/22072; replaceable heads A61B 2017/2931; suction A61M 1/00](#))}
- 2017/00358 . . {Snares for grasping}
- 2017/00362 . . {Packages or dispensers for MIS instruments ([A61B 2017/0479 takes precedence](#))}
- 2017/00367 . {Details of actuation of instruments, e.g. relations between pushing buttons, or the like, and activation of the tool, working tip, or the like}
- 2017/00371 . . {Multiple actuation, e.g. pushing of two buttons, or two working tips becoming operational}
- 2017/00376 . . . {Simultaneous actuation of two tools by simultaneously pushing two buttons}
- 2017/0038 . . . {Simultaneous actuation of two tools by pushing one button or the like}
- 2017/00384 . . . {Actuation of one tool by pushing two buttons simultaneously}
- 2017/00389 . . {Button or wheel for performing multiple functions, e.g. rotation of shaft and end effector}
- 2017/00393 . . . {with means for switching between functions}
- 2017/00398 . . {using powered actuators, e.g. stepper motors, solenoids}
- 2017/00402 . . . {Piezo electric actuators}
- 2017/00407 . . {Ratchet means}
- 2017/00411 . . {actuated by application of energy from an energy source outside the body}
- 2017/00415 . . {having power generation near the working tip of the tool}
- 2017/0042 . . {with special provisions for gripping}
- 2017/00424 . . {ergonomic, e.g. fitting in fist}
- 2017/00429 . . {with a roughened portion}
- 2017/00433 . . . {knurled}
- 2017/00438 . . {connectable to a finger}
- 2017/00442 . . {connectable to wrist or forearm}
- 2017/00446 . . {for use only by lefthanded or only by righthanded persons}
- 2017/00451 . . . {by lefthanded persons}
- 2017/00455 . . {Orientation indicators, e.g. recess on the handle}
- 2017/0046 . . {with a releasable handle; with handle and operating part separable ([for prosthetic joint-implanting tools A61F 2/4603](#))}
- 2017/00464 . . {for use with different instruments ([with hole for different instruments A61B 2017/22072](#))}
- 2017/00469 . . {for insertion of instruments, e.g. guide wire, optical fibre}
- 2017/00473 . . {Distal part, e.g. tip or head ([A61B 2017/00464 takes precedence](#))}
- 2017/00477 . . {Coupling ([A61B 2017/0046 takes precedence](#))}
- 2017/00482 . . {with a code}
- 2017/00486 . . {Adaptors for coupling parts with incompatible geometries}
- 17/00491 . . {Surgical glue applicators ([surgical adhesives A61L 24/00; two-component delivery syringes A61M 5/19](#))}
- 2017/00495 . . {for two-component glue}
- 2017/005 . . {hardenable using external energy source, e.g. laser, ultrasound}
- 2017/00504 . . {Tissue welding}
- 2017/00508 . . . {using laser}
- 2017/00513 . . {Tissue soldering}
- 2017/00517 . . . {using laser}
- 2017/00522 . . {Sprayers}
- 2017/00526 . {Methods of manufacturing}
- 2017/0053 . . {Loading magazines or sutures into applying tools}
- 2017/00535 . . {pneumatically or hydraulically operated ([A61B 2017/22051, A61B 2090/401 take precedence](#))}
- 2017/00539 . . {hydraulically}
- 2017/00544 . . {pneumatically}
- 2017/00548 . . . {Gas cartridges therefor}
- 2017/00553 . . {using a turbine}
- 2017/00557 . . {inflatable ([A61B 2017/22051 takes precedence](#))}
- 2017/00561 . . {creating a vacuum}
- 2017/00566 . . . {fixation of form upon application of vacuum}
- 17/0057 . . {Implements for plugging an opening in the wall of a hollow or tubular organ, e.g. for sealing a vessel puncture or closing a cardiac septal defect ([sutures A61B 17/04; closing rectum or urethra near body surface A61F 2/0009](#))}
- 2017/00575 . . {for closure at remote site, e.g. closing atrial septum defects}
- 2017/00579 . . . {Barbed implements}
- 2017/00584 . . . {Clips}

- 2017/00588 . . . {Rigid or stiff implements, e.g. made of several rigid parts linked by hinges}
- 2017/00592 . . . {Elastic or resilient implements}
- 2017/00597 . . . {Implements comprising a membrane}
- 2017/00601 . . . {Implements entirely comprised between the two sides of the opening}
- 2017/00606 . . . {Implements H-shaped in cross-section, i.e. with occluders on both sides of the opening}
- 2017/0061 . . . {Implements located only on one side of the opening}
- 2017/00615 . . . {Implements with an occluder on one side of the opening and holding means therefor on the other}
- 2017/00619 . . . {Locking means for locking the implement in expanded state}
- 2017/00623 . . . {Introducing or retrieving devices therefor}
- 2017/00628 . . . {T-shaped occluders}
- 2017/00632 . . . {Occluding a cavity, i.e. closing a blind opening}
- 2017/00637 . . {for sealing trocar wounds through abdominal wall}
- 2017/00641 . . {for closing fistulae, e.g. anorectal fistulae}
- 2017/00646 . . {Type of implements}
- 2017/0065 . . . {the implement being an adhesive}
- 2017/00654 . . . {entirely comprised between the two sides of the opening}
- 2017/00659 . . . {located only on one side of the opening}
- 2017/00663 . . . {the implement being a suture}
- 2017/00668 . . . {the implement being a tack or a staple}
- 2017/00672 . . {Locating means therefor, e.g. bleed back lumen}
- 2017/00676 . . {promotion of self-sealing of the puncture}
- 2017/00681 . {Aspects not otherwise provided for}
- 2017/00685 . . {Archimedes screw}
- 2017/0069 . . {with universal joint, cardan joint}
- 2017/00694 . . {with means correcting for movement of or for synchronisation with the body}
- 2017/00699 . . . {correcting for movement caused by respiration, e.g. by triggering}
- 2017/00703 . . . {correcting for movement of heart, e.g. ECG-triggered}
- 2017/00707 . . {Dummies, phantoms; Devices simulating patient or parts of patient}
- 2017/00712 . . . {simulating mathematical properties, e.g. for testing of positioning in the isocentre or focus}
- 2017/00716 . . . {simulating physical properties}
- 2017/00721 {using artificial kidney stones for testing purposes}
- 2017/00725 . . {Calibration or performance testing}
- 2017/0073 . . {with means for minimising or preventing pain during treatment}
- 2017/00734 . . {battery operated}
- 2017/00738 . . {part of the tool being offset with respect to a main axis, e.g. for better view for the surgeon}
- 2017/00743 . {Type of operation; Specification of treatment sites [\(A61B 2017/00238 takes precedence\)](#)}
- 2017/00747 . . {Dermatology}
- 2017/00752 . . . {Hair removal or transplantation}
- 2017/00756 . . . {Port wine stains}
- 2017/00761 . . . {Removing layer of skin tissue, e.g. wrinkles, scars or cancerous tissue}
- 2017/00765 . . . {Decreasing the barrier function of skin tissue by radiated energy, e.g. using ultrasound, using laser for skin perforation}
- 2017/00769 . . . {Tattoo removal}
- 2017/00774 . . . {Wart}
- 2017/00778 . . {Operations on blood vessels [\(A61B 2017/22097, A61B 2017/320741 take precedence\)](#)}
- 2017/00783 . . . {Valvuloplasty}
- 2017/00787 . . {Surgery of the ear}
- 2017/00792 . . {Plastic surgery}
- 2017/00796 . . {Breast surgery}
- 2017/008 . . . {Removal of tumors}
- 2017/00805 . . {Treatment of female stress urinary incontinence}
- 2017/00809 . . {Lung operations}
- 2017/00814 . . {Surgery of the tongue, e.g. glossoplasty}
- 2017/00818 . . {Treatment of the gastro-intestinal system}
- 2017/00823 . . . {Appendectomy}
- 2017/00827 . . . {Treatment of gastro-esophageal reflux}
- 2017/00831 . {Material properties}
- 2017/00836 . . {corrosion-resistant [\(A61B 2017/00853 takes precedence; preventing galvanic or electrolytic corrosion in prostheses A61F 2210/0009\)](#)}
- 2017/0084 . . {low friction [\(A61B 2017/00853 takes precedence\)](#)}
- 2017/00845 . . . {of moving parts with respect to each other}
- 2017/00849 . . . {with respect to tissue, e.g. hollow organs}
- 2017/00853 . . {low friction, hydrophobic and corrosion-resistant fluorocarbon resin coating (ptf, ptfe, polytetrafluoroethylene)}
- 2017/00858 . . {high friction, non-slip [\(on handles A61B 2017/00429\)](#)}
- 2017/00862 . . {elastic or resilient [\(for sutures A61B 2017/0618\)](#)}
- 2017/00867 . . {shape memory effect [\(for prostheses A61F 2210/0014\)](#)}
- 2017/00871 . . . {polymeric}
- 2017/00876 . . {magnetic}
- 2017/0088 . . {ceramic}
- 2017/00884 . . {enhancing wound closure}
- 2017/00889 . . {antimicrobial, disinfectant}
- 2017/00893 . . {pharmaceutically effective}
- 2017/00898 . . {expandable upon contact with fluid}
- 2017/00902 . . {transparent or translucent}
- 2017/00907 . . . {for light}
- 2017/00911 . . . {for fields applied by a magnetic resonance imaging system}
- 2017/00915 . . . {for radioactive radiation}
- 2017/0092 {for X-rays}
- 2017/00924 . . . {for ultrasonic waves}
- 2017/00929 . . {isolating electrical current}
- 2017/00933 . . {bone or bone-like}
- 2017/00938 . . {hydrophobic}
- 2017/00942 . . {hydrophilic}
- 2017/00946 . . {malleable}
- 2017/00951 . . {adhesive}
- 2017/00955 . . {thermoplastic}
- 2017/0096 . . {self cleaning, e.g. having lotus effect}
- 2017/00964 . . {composite}
- 2017/00969 . . {used for transplantation}
- 2017/00973 . . {pedal-operated}
- 2017/00977 . . {the depression depth determining the power rate}
- 2017/00982 . {General structural features}
- 2017/00986 . . {Malecots, e.g. slotted tubes, of which the distal end is pulled to deflect side struts}

- 2017/00991 . . {Telescopic means}
- 2017/00995 . . {having a thin film}
- 17/02 . . for holding wounds open; Tractors ({specula [A61B 1/32](#) ; drainage appliances for wounds [A61M 27/00](#))
- 17/0206 . . {with antagonistic arms as supports for retractor elements}
- 2017/0212 . . {Cushions or pads, without holding arms, as tissue retainers, e.g. for retracting viscera}
- 17/0218 . . {for minimally invasive surgery ([A61B 17/0281](#), [A61B 17/0469](#), [A61B 17/12013](#), [A61B 17/1285](#), [A61B 17/29](#), [A61B 17/320016](#) take precedence)}
- 2017/0225 . . . {flexible, e.g. fabrics, meshes, or membranes}
- 17/0231 . . {for eye surgery}
- 2017/0237 . . {for heart surgery (endoscopic heart surgery [A61B 2017/00243](#); endoscopic access devices, i.e. trocars, [A61B 17/34](#))}
- 2017/0243 . . . {for immobilizing local areas of the heart, e.g. while it beats (trocars attached to inner organs or inner body tissue [A61B 2017/3488](#))}
- 17/025 . . {Joint distractors}
- 2017/0256 . . . {for the spine}
- 2017/0262 {with a provision for protecting nerves}
- 2017/0268 . . . {for the knee}
- 2017/0275 . . . {for the hip}
- 17/0281 . . {Abdominal wall lifters}
- 2017/0287 . . {with elastic retracting members connectable to a frame, e.g. hooked elastic wires}
- 17/0293 . . {with ring member to support retractor elements}
- 17/04 . . for suturing wounds; Holders or packages for needles or suture materials (suture materials [A61L 17/00](#))
- 17/0401 . . {Suture anchors, buttons or pledgets, i.e. means for attaching sutures to bone, cartilage or soft tissue; Instruments for applying or removing suture anchors ([A61B 17/0642](#) takes precedence; fixation devices for tendons or ligaments [A61F 2/0811](#))}
- 2017/0403 . . . {Dowels (other bone dowels [A61B 17/68](#); dowels for connecting prosthetic parts [A61F 2002/30433](#))}
- 2017/0404 . . . {Buttons}
- 2017/0406 . . . {Pledgets}
- 2017/0408 . . . {Rivets (other bone rivets [A61B 17/68](#); rivets for connecting prosthetic parts [A61F 2002/30433](#), [A61F 2220/0041](#))}
- 2017/0409 . . . {Instruments for applying suture anchors (for applying suture clamps, clips or locks [A61B 2017/0488](#))}
- 2017/0411 . . . {Instruments for removing suture anchors (for removing suture clamps, clips or locks [A61B 2017/049](#))}
- 2017/0412 . . . {having anchoring barbs or pins extending outwardly from suture anchor body}
- 2017/0414 . . . {having a suture-receiving opening, e.g. lateral opening (lateral eyelet for attaching suture to needle [A61B 2017/06019](#))}
- 2017/0416 . . . {Packages or dispensers for suture anchors or for anchor applicators}
- 2017/0417 . . . {T-fasteners}
- 2017/0419 . . . {H-fasteners}
- 2017/042 . . . {plastically deformed during insertion}
- 2017/0422 {by insertion of a separate member into the body of the anchor}
- 2017/0424 {the separate member staying in the anchor after placement}
- 2017/0425 {the anchor or the separate member comprising threads, e.g. a set screw in the anchor}
- 2017/0427 . . . {having anchoring barbs or pins extending outwardly from the anchor body}
- 2017/0429 {the barbs being expanded by a mechanical mechanism which also locks them in the expanded state}
- 2017/043 {by insertion of a separate spreading member into the anchor}
- 2017/0432 {the separate member staying in the anchor after placement}
- 2017/0433 {the anchor or the separate member comprising threads, e.g. a set screw or a worm gear for moving spreading members}
- 2017/0435 {the barbs being separate elements mechanically linked to the anchor, e.g. by pivots}
- 2017/0437 {the barbs being resilient or spring-like}
- 2017/0438 . . . {slotted, i.e. having a longitudinal slot for enhancing their elasticity}
- 2017/044 . . . {with a threaded shaft, e.g. screws}
- 2017/0441 {the shaft being a rigid coil or spiral}
- 2017/0443 {the shaft being resilient and having a coiled or helical shape in the released state}
- 2017/0445 . . . {cannulated, e.g. with a longitudinal through-hole for passage of an instrument}
- 2017/0446 . . . {Means for attaching and blocking the suture in the suture anchor}
- 2017/0448 {Additional elements on or within the anchor}
- 2017/045 {snug fit within the anchor}
- 2017/0451 {Cams or wedges holding the suture by friction}
- 2017/0453 {threaded elements, e.g. set screws}
- 2017/0454 {the anchor being crimped or clamped on the suture}
- 2017/0456 {Surface features on the anchor, e.g. ribs increasing friction between the suture and the anchor}
- 2017/0458 {Longitudinal through hole, e.g. suture blocked by a distal suture knot}
- 2017/0459 {Multiple holes in the anchor through which the suture extends and locking the suture when tension is applied}
- 2017/0461 {with features cooperating with special features on the suture, e.g. protrusions on the suture}
- 2017/0462 {One way system, i.e. also tensioning the suture}
- 2017/0464 . . . {for soft tissue}
- 17/0466 . . {Suture bridges}
- 17/0467 . . {Instruments for cutting sutures (surgical cutting instruments [A61B 17/32](#))}
- 17/0469 . . {Suturing instruments for use in minimally invasive surgery, e.g. endoscopic surgery}
- 2017/047 . . . {having at least one proximally pointing needle located at the distal end of the instrument, e.g. for suturing trocar puncture wounds starting from inside the body ([J-shaped suture needles A61B 2017/0608](#))}

- 2017/0472 . . . {Multiple-needed, e.g. double-needed, instruments}
- 2017/0474 . . . {Knot pushers}
- 2017/0475 . . . {using sutures having a slip knot}
- 2017/0477 . . . {with pre-tied sutures}
- 2017/0479 . . . {Packages or dispensers for MIS suturing instruments}
- 2017/048 . . . {for reducing heart wall tension, e.g. sutures with a pad on each extremity}
- 17/0482 . . {Needle or suture guides (guides for drills, pins or wire [A61B 17/17](#); for puncturing needles [A61B 17/3403](#))}
- 17/0483 . . {Hand-held instruments for holding sutures ([A61B 17/0469](#) takes precedence; other holders for needles or sutures [A61B 17/06061](#); surgical forceps [A61B 17/28](#); surgical pincettes [A61B 17/30](#))}
- 17/0485 . . {Devices or means, e.g. loops, for capturing the suture thread and threading it through an opening of a suturing instrument or needle eyelet}
- 17/0487 . . {Suture clamps, clips or locks, e.g. for replacing suture knots; Instruments for applying or removing suture clamps, clips or locks (suture anchors [A61B 17/0401](#); wound clamps or clips [A61B 17/08](#); ligaturing clamps or clips [A61B 17/122](#))}
- 2017/0488 . . . {Instruments for applying suture clamps, clips or locks (for applying suture anchors [A61B 2017/0409](#); for applying wound clamps [A61B 17/10](#); for applying ligaturing clamps or clips [A61B 17/128](#))}
- 2017/049 . . . {Instruments for removing suture clamps, clips or locks (for removing suture anchors [A61B 2017/0411](#); for removing wound clamps [A61B 17/10](#); for removing ligaturing clamps or clips [A61B 17/128](#))}
- 17/0491 . . {Sewing machines for surgery}
- 17/0493 . . {Protective devices for suturing, i.e. for protecting the patient's organs or the operator}
- 2017/0495 . . {Reinforcements for suture lines}
- 2017/0496 . . {for tensioning sutures}
- 2017/0498 . . {for advancing a suture filament along a helical path through tissue}
- 17/06 . . Needles {; Sutures; Needle-suture combinations}; Holders or packages for needles or suture materials (puncturing needles [A61B 17/34](#); hypodermic needles [A61M 5/32](#) {; sewing needles [D05B 85/00](#))}
- 17/06004 . . . {Means for attaching suture to needle (tipping [A61B 17/06195](#); connecting wire to other metallic objects [B21F 15/00](#))}
- 2017/06009 {having additional means for releasably clamping the suture to the needle, e.g. actuating rod slideable within the needle}
- 2017/06014 {spring-loaded}
- 2017/06019 {by means of a suture-receiving lateral eyelet machined in the needle (lateral opening for attaching suture to suture anchor [A61B 2017/0414](#))}
- 2017/06023 {Multiple eyelets}
- 2017/06028 {by means of a cylindrical longitudinal blind bore machined at the suture-receiving end of the needle, e.g. opposite to needle tip}
- 2017/06033 {using adhesives (glue applicators [A61B 17/00491](#); for connecting prosthetic parts [A61F 2002/30448](#))}
- 2017/06038 {soldered or brazed or welded (for connecting prosthetic parts [A61F 2002/30451](#), [A61F 2220/0058](#))}
- 2017/06042 {located close to needle tip}
- 2017/06047 {located at the middle of the needle}
- 2017/06052 {Needle-suture combinations in which a suture is extending inside a hollow tubular needle, e.g. over the entire length of the needle (hollow suture needles [A61B 2017/061](#))}
- 2017/06057 {Double-armed sutures, i.e. sutures having a needle attached to each end}
- 17/06061 {Holders for needles or sutures, e.g. racks, stands (hand-held holding instruments [A61B 17/0483](#); holders for articles [A61B 50/20](#); racks for syringes or for hypodermic or infusion needles [A61M 5/008](#))}
- 17/06066 {Needles, e.g. needle tip configurations (making needles [B21G 1/00](#))}
- 2017/06071 {with an abrupt angle formed between two adjacent sections}
- 2017/06076 {helically or spirally coiled (for sutures [A61B 2017/06171](#))}
- 2017/0608 {J-shaped}
- 2017/06085 {having a blunt tip (blunt dissectors [A61B 2017/320044](#))}
- 2017/0609 {having sharp tips at both ends, e.g. shuttle needle alternately retained and released by first and second facing jaws of a suturing instrument (MIS suturing instruments [A61B 17/0469](#); jaws of MIS forceps [A61B 2017/2926](#))}
- 2017/06095 {pliable}
- 2017/061 {hollow or tubular (suture extending inside a hollow needle [A61B 2017/06052](#); hollow sutures [A61B 2017/06185](#))}
- 2017/06104 {interconnected at their distal ends, e.g. two hollow needles forming a loop for passing a suture}
- 17/06109 {Big needles, either gripped by hand or connectable to a handle}
- 17/06114 {Packages or dispensers for needles or sutures (packages for sharps [A61B 50/3001](#); for dental floss [A61C 15/043](#); packages for needles in general [B65D 85/24](#))}
- 17/06119 {of cylindrical shape}
- 17/06123 {Flat cylinders, e.g. including an inner reel}
- 17/06128 {Elongate cylinders, i.e. tubes}
- 17/06133 {of parallelepipedal shape, e.g. made of rectangular or slightly oval panels}
- 17/06138 {including a retainer comprising three or more foldable panels}
- 2017/06142 {having needle- or suture- retaining members, e.g. holding tabs or needle parks}
- 2017/06147 {Foam blocks, e.g. slitted}
- 2017/06152 {containing a suture wound in a figure-8 configuration}
- 2017/06157 {containing a suture wound in a sinusoidal or zigzag configuration}

- 17/06161 . . . {Devices for removing or collecting used needles or sutures ([A61B 17/0467](#) takes precedence; for sharps [A61B 50/362](#))}
- 17/06166 . . . {Sutures (suture materials [A61L 17/00](#); manufacture of artificial threads [D01D](#); treatment of threads [D06M](#))}
- 2017/06171 {helically or spirally coiled (for needles [A61B 2017/06076](#))}
- 2017/06176 {with protrusions, e.g. barbs}
- 2017/0618 {elastic, e.g. stretchable (for prostheses [A61F 2210/0057](#))}
- 2017/06185 {hollow or tubular (hollow suture needles [A61B 2017/061](#))}
- 2017/0619 {thermoplastic, e.g. for bonding, welding, fusing or cutting the suture by melting it (suture cutters [A61B 17/0467](#); ultrasonic cutters [A61B 17/320068](#); electrically heated instruments [A61B 18/08](#))}
- 17/06195 . . . {Apparatus or means for preparing the cut end of the suture thread to be attached to the needle, e.g. tipping to prevent brooming ([A61B 17/06004](#) takes precedence)}
- 17/062 . . . Needle manipulators
- 17/0625 {the needle being specially adapted to interact with the manipulator, e.g. being ridged to snap fit in a hole of the manipulator ([A61B 17/06109](#) takes precedence)}
- 17/064 . Surgical staples, {i.e. penetrating the tissue}
- 2017/0641 . . {having at least three legs as part of one single body}
- 17/0642 . . {for bones, e.g. for osteosynthesis or connecting tendon to bone}
- 17/0643 . . {with separate closing member, e.g. for interlocking with staple}
- 17/0644 . . {penetrating the tissue, deformable to closed position}
- 2017/0645 . . {being elastically deformed for insertion}
- 2017/0646 . . {for insertion into cartilage, e.g. meniscus}
- 2017/0647 . . {having one single leg, e.g. tacks}
- 2017/0648 . . . {threaded, e.g. tacks with a screw thread}
- 2017/0649 . . {Coils or spirals}
- 17/068 . Surgical staplers {, e.g. containing multiple staples or clamps} ({staplers containing only one staple [A61B 17/10](#); magazines or containers for staples [A61B 17/105](#); for performing anastomosis [A61B 17/115](#); {staplers in general [B25C 5/00](#)})
- 17/0682 . . {for applying U-shaped staples or clamps, e.g. without a forming anvil}
- 17/0684 . . . {having a forming anvil staying above the tissue during stapling}
- 17/0686 . . . {having a forming anvil staying below the tissue during stapling}
- 2017/0688 . . {Packages or dispensers for surgical staplers}
- 17/072 . . for applying a row of staples in a single action {, e.g. the staples being applied simultaneously}
- 17/07207 . . . {the staples being applied sequentially}
- 2017/07214 . . . {Stapler heads}
- 2017/07221 {curved}
- 2017/07228 {Arrangement of the staples}
- 2017/07235 {containing different staples, e.g. staples of different shapes, sizes or materials}
- 2017/07242 {achieving different staple heights during the same shot, e.g. using an anvil having different heights or staples of different sizes}
- 2017/0725 {with settable gap between anvil and cartridge, e.g. for different staple heights at different shots}
- 2017/07257 {characterised by its anvil}
- 2017/07264 {characterised by its staple forming cavities, e.g. geometry or material}
- 2017/07271 {characterised by its cartridge}
- 2017/07278 {characterised by its sled or its staple holder}
- 2017/07285 {characterised by its cutter}
- 17/07292 . . . {Reinforcements for staple line, e.g. pledgets}
- 17/076 . for removing surgical staples {or wound clamps}
- 17/08 . Wound clamps {or clips, i.e. not or only partly penetrating the tissue (suture bridges [A61B 17/0466](#)); Devices for bringing together the edges of a wound}
- 2017/081 . . {Tissue approximator ([A61B 2017/1103](#), [A61B 17/8866](#) take precedence)}
- 17/083 . . {Clips, e.g. resilient}
- 17/085 . . {with adhesive layer}
- 2017/086 . . . {having flexible threads, filaments, laces or wires, e.g. parallel threads, extending laterally from a strip, e.g. for tying to opposing threads extending from a similar strip}
- 2017/088 . . {Sliding fasteners}
- 17/10 . for applying or removing wound clamps, {e.g. containing only one clamp or staple ([A61B 17/076](#) takes precedence; containing multiple wound clamps [A61B 17/068](#))}; Wound clamp magazines (containers, packaging elements or packages specially adapted for particular articles or with special means for dispensing contents [B65D 83/00](#), [B65D 85/00](#))
- 17/105 . . {Wound clamp magazines (for packaging sharps [A61B 50/3001](#))}
- 17/11 . for performing anastomosis; Buttons for anastomosis
- 2017/1103 . . {Approximator}
- 2017/1107 . . {for blood vessels}
- 2017/111 . . {with means for removing a constriction after performing anastomosis}
- 17/1114 . . {of the digestive tract, e.g. bowels or oesophagus}
- 2017/1117 . . . {adapted for discharge after necrotisation, e.g. by evacuation, expulsion or excretion}
- 2017/1121 . . {adapted for performing tissue or graft eversion}
- 2017/1125 . . {Forceps, specially adapted for performing or assisting anastomosis}
- 17/1128 . . {of nerves}
- 2017/1132 . . {End-to-end connections}
- 2017/1135 . . {End-to-side connections, e.g. T- or Y-connections (Y-shaped blood vessel prostheses [A61F 2002/065](#))}
- 2017/1139 . . {Side-to-side connections, e.g. shunt or X-connections}
- 2017/1142 . . {Purse-string sutures}
- 17/1146 . . {of tendons}
- 17/115 . . Staplers {for performing anastomosis in a single operation}
- 17/1152 . . . {applying the staples on the outside of the lumen}
- 17/1155 . . . {Circular staplers comprising a plurality of staples}
- 2017/1157 . . . {applying the staples radially}

- 17/12 . . . for ligaturing or otherwise compressing tubular parts of the body, e.g. blood vessels, umbilical cord (specially adapted for vas deferens or fallopian tubes [A61F 6/20](#); materials for ligaturing blood vessels [A61L 17/00](#))
- 2017/12004 . . . {for haemostasis, for prevention of bleeding}
- 17/12009 . . . {Implements for ligaturing other than by clamps or clips, e.g. using a loop with a slip knot}
- 17/12013 . . . {for use in minimally invasive surgery, e.g. endoscopic surgery}
- 2017/12018 . . . {Elastic band ligators}
- 17/12022 . . . {Occluding by internal devices, e.g. balloons or releasable wires (plugging an opening in the wall of an organ [A61B 17/0057](#); occluders for the cervical canal [A61F 6/146](#); vas deferens occluders [A61F 6/20](#))}
- 17/12027 . . . {Type of occlusion ([A61B 17/12113](#) takes precedence)}
- 17/12031 {complete occlusion}
- 17/12036 {partial occlusion}
- 17/1204 {temporary occlusion}
- 17/12045 {double occlusion, e.g. during anastomosis}
- 2017/1205 . . . {Introduction devices}
- 2017/12054 {Details concerning the detachment of the occluding device from the introduction device}
- 2017/12059 {Joint of soluble material}
- 2017/12063 {electrolytically detachable}
- 2017/12068 {detachable by heat}
- 2017/12072 {the heat created by laser light}
- 2017/12077 {Joint changing shape upon application of heat, e.g. bi-metal or reversible thermal memory}
- 2017/12081 {detachable by inflation}
- 2017/12086 {magnetically detachable}
- 2017/1209 {detachable by electrical current or potential, e.g. electroactive polymer}
- 2017/12095 {Threaded connection}
- 17/12099 . . . {characterised by the location of the occluder}
- 17/12104 {in an air passage}
- 17/12109 {in a blood vessel}
- 17/12113 {within an aneurysm}
- 17/12118 {for positioning in conjunction with a stent}
- 17/12122 {within the heart (for closing a cardiac septal defect [A61B 17/0057](#))}
- 2017/12127 . . . {Double occlusion, e.g. for creating blood-free anastomosis site}
- 17/12131 . . . {characterised by the type of occluding device}
- 17/12136 {Balloons}
- 17/1214 {Coils or wires}
- 17/12145 {having a pre-set deployed three-dimensional shape (methods of manufacturing [A61B 2017/00526](#))}
- 17/1215 {comprising additional materials, e.g. thrombogenic, having filaments, having fibers, being coated}
- 17/12154 {having stretch limiting means}
- 17/12159 {Solid plugs; being solid before insertion}
- 17/12163 {having a string of elements connected to each other}
- 17/12168 {having a mesh structure ([A61B 17/1214](#) takes precedence)}
- 17/12172 {having a pre-set deployed three-dimensional shape (methods of manufacturing [A61B 2017/00526](#))}
- 17/12177 {comprising additional materials, e.g. thrombogenic, having filaments, having fibers or being coated}
- 17/12181 {formed by fluidized, gelatinous or cellular remodelable materials, e.g. embolic liquids, foams or extracellular matrices}
- 17/12186 {liquid materials adapted to be injected}
- 17/1219 {expandable in contact with liquids}
- 17/12195 {comprising a curable material}
- 17/122 . . . Clamps or clips {, e.g. for the umbilical cord (for the vas deferens [A61F 6/206](#))}
- 17/1222 . . . {Packages or dispensers therefor (clip magazines incorporated in a clip-applying instrument [A61B 17/128](#); for surgical articles [A61B 50/30](#))}
- 2017/1225 . . . {for clipping and cutting in a single operation}
- 17/1227 . . . {Spring clips}
- 17/128 . . . for applying or removing clamps or clips
- 17/1285 . . . {for minimally invasive surgery}
- 17/132 . . . Tourniquets {(sphygmometers [A61B 5/02](#))}
- 17/1322 . . . {comprising a flexible encircling member ([A61B 17/135](#) takes precedence)}
- 17/1325 {with means for applying local pressure (pressure pads [A61F 5/30](#))}
- 17/1327 {Tensioning clamps}
- 17/135 . . . inflatable (for measuring blood pressure [A61B 5/022](#); inflatable pressure pads [A61F 5/34](#))
- 17/1355 {Automated control means therefor}
- 17/14 . . . Surgical saws ({[A61B 17/1637](#) takes precedence; } tooth saws [A61C 3/12](#)) {; Accessories therefor}
- 17/142 . . . {with reciprocating saw blades, e.g. with cutting edges at the distal end of the saw blades}
- 17/144 . . . {with cutting edges at the side of the saw blades}
- 17/147 . . . {with circularly moving saw blades, i.e. non-reciprocating saw blades}
- 17/149 . . . {Chain, wire or band saws}
- 17/15 . . . Guides therefor {(arrangements for guiding straight saw blades in general [B23D 51/025](#))}
- 17/151 . . . {for corrective osteotomy}
- 17/152 {for removing a wedge-shaped piece of bone}
- 17/154 . . . {for preparing bone for knee prosthesis}
- 17/155 {Cutting femur}
- 17/157 {Cutting tibia}
- 17/158 {Cutting patella}
- 17/16 . . . {Bone cutting, breaking or removal means other than saws, e.g. } Osteoclasts; Drills or chisels for bones; Trepanns {(arthroscopic bone cutters [A61B 17/320016](#); dental implant drills potentially for other surgical use [A61C 8/0089](#); bone grinders [A61F 2/4644](#), [A22C 17/06](#); [A61B 17/1662](#) takes precedence over all other subgroups except [A61B 17/17](#))}
- 2017/1602 . . . {Mills}
- 17/1604 . . . {Chisels; Rongeurs; Punches; Stamps}
- 17/1606 . . . {of forceps type, i.e. having two jaw elements moving relative to each other}

- 17/1608 {the two jaw elements being linked to two elongated shaft elements moving longitudinally relative to each other}
- 17/1611 {the two jaw elements being integral with respective elongate shaft elements}
- 17/1613 . . {Component parts}
- 17/1615 . . . {Drill bits, i.e. rotating tools extending from a handpiece to contact the worked material}
- 17/1617 {with mobile or detachable parts}
- 17/162 . . . {Chucks or tool parts which are to be held in a chuck}
- 17/1622 . . . {Drill handpieces ([A61B 17/1626](#), [A61B 17/1628](#) take precedence)}
- 17/1624 {Drive mechanisms therefor}
- 17/1626 . . . {Control means; Display units}
- 17/1628 . . . {Motors; Power supplies}
- 17/1631 . . . {Special drive shafts, e.g. flexible shafts ([A61B 17/1642](#), [A61B 17/164](#) take precedence)}
- 17/1633 . . . {Sleeves, i.e. non-rotating parts surrounding the bit shaft, e.g. the sleeve forming a single unit with the bit shaft ([A61B 17/1644](#) takes precedence)}
- 17/1635 . . {for grafts, harvesting or transplants}
- 17/1637 . . {Hollow drills or saws producing a curved cut, e.g. cylindrical ([A61B 10/025](#), [A61B 17/1695](#) take precedence)}
- 17/164 . . {intramedullary}
- 17/1642 . . {for producing a curved bore}
- 17/1644 . . {using fluid other than turbine drive fluid}
- 17/1646 . . . {with sealing means}
- 2017/1648 . . . {as cutting jet}
- 2017/1651 . . . {for cooling}
- 2017/1653 . . . {for lubrication}
- 17/1655 . . {for tapping}
- 17/1657 . . {Bone breaking devices}
- 17/1659 . . {Surgical rasps, files, planes, or scrapers}
- 17/1662 . . {for particular parts of the body}
- 17/1664 . . . {for the hip}
- 17/1666 {for the acetabulum}
- 17/1668 {for the upper femur ([A61B 17/164](#) takes precedence)}
- 17/1671 . . . {for the spine}
- 17/1673 . . . {for the jaw}
- 17/1675 . . . {for the knee}
- 17/1677 {for the patella}
- 17/1679 . . . {for the ear}
- 17/1682 . . . {for the foot or ankle}
- 17/1684 . . . {for the shoulder}
- 17/1686 . . . {for the hand or wrist}
- 17/1688 . . . {for the sinus or nose}
- 17/1691 . . . {for the sternum}
- 17/1693 . . . {for the ribs}
- 17/1695 . . {Trepan or craniotomes, i.e. specially adapted for drilling thin bones such as the skull}
- 17/1697 . . {specially adapted for wire insertion}
- 17/17 . . {Guides {or aligning means} for drills {, mills, pins or wires}}
- 17/1703 . . . {using imaging means, e.g. by X-rays}
- 17/1707 . . . {using electromagnetic effects, e.g. with magnet and external sensors}
- 17/171 . . . {for external fixation}
- 17/1714 . . . {for applying tendons or ligaments ([implements for applying tendons or ligaments A61F 2/0805](#))}
- 17/1717 . . . {for applying intramedullary nails or pins}
- 17/1721 . . . {for applying pins along or parallel to the axis of the femoral neck}
- 17/1725 . . . {for applying transverse screws or pins through intramedullary nails or pins}
- 17/1728 . . . {for holes for bone plates or plate screws}
- 17/1732 . . . {for bone breaking devices}
- 17/1735 . . . {for rasps or chisels}
- 17/1739 . . . {specially adapted for particular parts of the body}
- 17/1742 {for the hip}
- 17/1746 {for the acetabulum}
- 17/175 {for preparing the femur for hip prosthesis insertion}
- 17/1753 {for fixing pins through femoral hip prostheses}
- 17/1757 {for the spine}
- 17/176 {for the jaw ([guiding dental drills A61C 1/082](#))}
- 17/1764 {for the knee}
- 17/1767 {for the patella}
- 17/1771 {for the ear}
- 17/1775 {for the foot or ankle}
- 17/1778 {for the shoulder}
- 17/1782 {for the hand or wrist}
- 17/1785 {for the sinus or nose}
- 17/1789 {for the sternum}
- 17/1792 {for the ribs}
- 17/1796 . . . {for holes for sutures or flexible wires}
- 17/20 . . for vaccinating or cleaning the skin previous to the vaccination ([diagnosis by vaccination {other than by injuring the skin A61B 10/0035}](#) ; apparatus for injections [A61M](#))
- NOTE**
Cleaning the skin previous to the vaccination is classified in [A61B 90/80](#)
- 17/205 . . {Vaccinating by means of needles or other puncturing devices}
- 17/22 . . Implements for squeezing-off ulcers or the like on {the inside of} inner organs of the body; Implements for scraping-out cavities of body organs, e.g. bones; Calculus removers; Calculus smashing apparatus; {Apparatus for removing obstructions in blood vessels, not otherwise provided for ([dilators A61M 29/00](#))}
- 2017/22001 . . {Angioplasty, e.g. PCTA}
- 2017/22002 . . . {preventing restenosis}
- 17/22004 . . {using mechanical vibrations, e.g. ultrasonic shock waves ([A61B 17/225](#) takes precedence)}
- 2017/22005 . . . {Effects, e.g. on tissue}
- 2017/22007 {Cavitation or pseudocavitation, i.e. creation of gas bubbles generating a secondary shock wave when collapsing}
- 2017/22008 {used or promoted}
- 2017/22009 {reduced or prevented}
- 2017/22011 {Combined types of vibration, e.g. ultrasonic and electrohydraulic}

- 17/22012 . . . {in direct contact with, or very close to, the obstruction or concrement (for removing obstructions in blood vessels by laser [A61B 18/245](#))}
- 2017/22014 . . . {the ultrasound transducer being outside patient's body; with an ultrasound transmission member; with a wave guide; with a vibrated guide wire (not applied in [A61B 17/22012](#))}
- 2017/22015 . . . {with details of the transmission member}
- 2017/22017 . . . {the ultrasonic transmitting members being fibres}
- 2017/22018 . . . {segmented along its length}
- 17/2202 . . . {the ultrasound transducer being inside patient's body at the distal end of the catheter}
- 2017/22021 . . . {electric leads passing through the catheter}
- 17/22022 . . . {using electric discharge}
- 2017/22024 . . . {with a part reflecting mechanical vibrations, e.g. for focusing}
- 2017/22025 . . . {applying a shock wave ([A61B 2017/22091](#) takes precedence)}
- 2017/22027 . . . {Features of transducers}
- 2017/22028 . . . {arrays, e.g. phased arrays}
- 17/22029 . . . {Means for measuring shock waves}
- 17/22031 . . . {Gripping instruments, e.g. forceps, for removing or smashing calculi ([A61B 17/221](#) takes precedence)}
- 17/22032 . . . {having inflatable gripping elements (balloon catheters [A61M 25/10](#))}
- 2017/22034 . . . {for gripping the obstruction or the tissue part from inside}
- 2017/22035 . . . {for retrieving or repositioning foreign objects}
- 2017/22037 . . . {Fecal impaction removal}
- 2017/22038 . . . {with a guide wire}
- 2017/22039 . . . {eccentric}
- 2017/22041 . . . {outside the catheter}
- 2017/22042 . . . {Details of the tip of the guide wire}
- 2017/22044 . . . {with a pointed tip}
- 2017/22045 . . . {fixed to the catheter; guiding tip}
- 2017/22047 . . . {Means for immobilising the guide wire in the patient}
- 2017/22048 . . . {Balloons}
- 2017/22049 . . . {Means for locking the guide wire in the catheter}
- 2017/22051 . . . {with an inflatable part, e.g. balloon, for positioning, blocking, or immobilisation ([A61B 2017/22048](#), [A61B 2017/3486](#) take precedence)}
- 2017/22052 . . . {eccentric}
- 2017/22054 . . . {with two balloons}
- 2017/22055 . . . {with three or more balloons}
- 2017/22057 . . . {Optical properties}
- 2017/22058 . . . {reflective}
- 2017/22059 . . . {transparent}
- 2017/22061 . . . {for spreading elements apart}
- 2017/22062 . . . {to be filled with liquid}
- 2017/22064 . . . {transparent liquid}
- 2017/22065 . . . {Functions of balloons (dilating [A61M 29/02](#))}
- 2017/22067 . . . {Blocking; Occlusion ([A61B 2017/22054](#) takes precedence)}
- 2017/22068 . . . {Centering}
- 2017/22069 . . . {Immobilising; Stabilising}
- 2017/22071 . . . {Steering}
- 2017/22072 . . . {with an instrument channel, e.g. for replacing one instrument by the other (in cannulas [A61B 17/3417](#))}
- 2017/22074 . . . {the instrument being only slidable in a channel, e.g. advancing optical fibre through a channel}
- 2017/22075 . . . {with motorized advancing or retracting means}
- 2017/22077 . . . {with a part piercing the tissue ([A61B 2017/22044](#) takes precedence)}
- 2017/22078 . . . {for rotating the instrument within a channel, e.g. an optical fibre}
- 2017/22079 . . . {with suction of debris}
- 2017/22081 . . . {Treatment of vulnerable plaque}
- 2017/22082 . . . {after introduction of a substance}
- 2017/22084 . . . {stone- or thrombus-dissolving}
- 2017/22085 . . . {light-absorbing ([A61B 2017/22087](#) takes precedence)}
- 2017/22087 . . . {photodynamic}
- 2017/22088 . . . {ultrasound absorbing, drug activated by ultrasound}
- 2017/22089 . . . {Gas-bubbles}
- 2017/22091 . . . {Explosive}
- 2017/22092 . . . {Lubricant}
- 2017/22094 . . . {for crossing total occlusions, i.e. piercing}
- 2017/22095 . . . {accessing a blood vessel true lumen from the sub-intimal space}
- 2017/22097 . . . {Valve removal in veins}
- 2017/22098 . . . {Decalcification of valves}
- 17/221 . . . Gripping devices in the form of loops or baskets {for gripping calculi or similar types of obstructions (surgical snare instruments [A61B 17/32056](#))}
- 2017/2212 . . . {having a closed distal end, e.g. a loop}
- 2017/2215 . . . {having an open distal end}
- 2017/2217 . . . {single wire changing shape to a gripping configuration}
- 17/225 . . . for extracorporeal shock wave lithotripsy [ESWL], e.g. by using ultrasonic waves
- 17/2251 . . . {characterised by coupling elements between the apparatus, e.g. shock wave apparatus or locating means, and the patient, e.g. details of bags, pressure control of bag on patient}
- 2017/2253 . . . {using a coupling gel or liquid}
- 17/2255 . . . {Means for positioning patient, shock wave apparatus or locating means, e.g. mechanical aspects, patient beds, support arms, aiming means (positioning of patients for radiation diagnosis [A61B 6/04](#); positioning of locating means inside shock wave apparatus [A61B 17/2256](#))}
- 17/2256 . . . {with means for locating or checking the concrement, e.g. X-ray apparatus, imaging means ([A61B 17/2255](#) takes precedence)}
- 17/2258 . . . {integrated in a central portion of the shock wave apparatus}
- 17/24 . . . for use in the oral cavity, larynx, bronchial passages or nose (for medical inspection of cavities or tubes in the body [A61B 1/00](#)); Tongue scrapers
- 2017/242 . . . {for bronchial passages}
- 17/244 . . . {for cleaning of the tongue}
- 2017/246 . . . {for cleaning of the nose}

- 2017/248 . . {Operations for treatment of snoring, e.g. uvulopalatoplasty}
- 17/26 . . Tonsillotomes, with or without means for stopping bleeding
- 17/28 . Surgical forceps ([{for holding suture needles or materials A61B 17/0483; for removing or smashing calculi A61B 17/221; surgical scissors A61B 17/3201}](#) ; obstetrical forceps [A61B 17/44; for inserting intraocular lenses A61F 2/1662; hand-held gripping tools in general B25B 7/00](#))
- 17/2804 . . {with two or more pivotal connections ([A61B 17/29 takes precedence](#))}
- 2017/2808 . . {Clamp, e.g. towel clamp}
- 17/2812 . . {with a single pivotal connection ([A61B 17/29 takes precedence](#))}
- 17/2816 . . . {Pivots}
- 17/282 . . . {Jaws}
- 2017/2825 {Inserts of different material in jaws}
- 2017/2829 {with a removable cover}
- 17/2833 . . . {Locking means}
- 2017/2837 {with a locking ratchet}
- 17/2841 . . . {Handles}
- 2017/2845 {with a spring pushing the handle back}
- 17/285 . . combined with cutting implements
- 17/29 . . Forceps for use in minimally invasive surgery
- 2017/2901 . . . {Details of shaft}
- 2017/2902 {characterized by features of the actuating rod}
- 2017/2903 {transferring rotary motion}
- 2017/2904 {curved, but rigid}
- 2017/2905 {flexible}
- 2017/2906 {Multiple forceps}
- 2017/2908 {Multiple segments connected by articulations}
- 17/2909 . . . {Handles}
- 2017/291 {the position of the handle being adjustable with respect to the shaft}
- 2017/2911 {rings}
- 2017/2912 {transmission of forces to actuating rod or piston}
- 2017/2913 {cams or guiding means}
- 2017/2915 {arcuate shaped guiding means}
- 2017/2916 {pins in guiding slots}
- 2017/2917 {with flexible part}
- 2017/2918 {flexible handles}
- 2017/2919 {details of linkages or pivot points}
- 2017/292 {connection of actuating rod to handle, e.g. ball end in recess}
- 2017/2922 {toggle linkages}
- 2017/2923 {Toothed members, e.g. rack and pinion}
- 2017/2924 {Translation movement of handle without rotating movement}
- 2017/2925 {Pistol grips}
- 2017/2926 . . . {Details of heads or jaws}
- 2017/2927 {the angular position of the head being adjustable with respect to the shaft}
- 2017/2929 {with a head rotatable about the longitudinal axis of the shaft}
- 2017/293 {with means preventing relative rotation between the shaft and the actuating rod}
- 2017/2931 {with releasable head}
- 2017/2932 {Transmission of forces to jaw members}
- 2017/2933 {camming or guiding means}
- 2017/2934 {arcuate shaped guiding means}
- 2017/2936 {Pins in guiding slots}
- 2017/2937 {with flexible part}
- 2017/2938 {Independently actuatable jaw members, e.g. two actuating rods}
- 2017/2939 {Details of linkages or pivot points}
- 2017/294 {Connection of actuating rod to jaw, e.g. releasable}
- 2017/2941 {Toggle linkages}
- 2017/2943 {Toothed members, e.g. rack and pinion}
- 2017/2944 {Translation of jaw members}
- 2017/2945 {Curved jaws}
- 2017/2946 . . . {Locking means}
- 2017/2947 . . . {Pivots}
- 2017/2948 . . . {Sealing means, e.g. for sealing the interior from fluid entry}
- 17/295 . . . combined with cutting implements
- 17/30 . Surgical pincettes {without pivotal connections} ([{for holding suture needles or materials A61B 17/0483; } wound clamps A61B 17/08](#) ; hand-held gripping tools without pivotal connections in general [B25B 9/02](#))}
- 2017/301 . . {with three legs}
- 2017/303 . . {with four or more legs}
- 2017/305 . . {Tweezer like handles with tubular extensions, inner slidable actuating members and distal tools, e.g. microsurgical instruments}
- 2017/306 . . {holding by means of suction}
- 2017/308 . . . {with suction cups}
- 17/32 . Surgical cutting instruments ([{A61B 18/042 takes precedence; suture cutters A61B 17/0467; instruments for ligaturing or cutting A61B 17/128; instruments for rupturing the amniotic membrane A61B 17/4208; specially adapted knives for eye surgery A61F 9/0133}](#))}
- 2017/320004 . . {abrasive}
- 2017/320008 . . . {Scrapers}
- 2017/320012 . . . {Brushes}
- 17/320016 . . {Endoscopic cutting instruments, e.g. arthroscopes, resectoscopes ([A61B 10/0233, A61B 17/29, A61B 17/3207 take precedence](#))}
- 17/32002 . . . {with continuously rotating, oscillating or reciprocating cutting instruments}
- 2017/320024 {Morcellators, e.g. having a hollow cutting tube with an annular cutter for morcellating and removing tissue}
- 2017/320028 {with reciprocating movements}
- 2017/320032 {Details of the rotating or oscillating shaft, e.g. using a flexible shaft}
- 17/320036 . . . {adapted for use within the carpal tunnel}
- 2017/32004 . . . {having a laterally movable cutting member at its most distal end which remains within the contours of said end}
- 2017/320044 . . {Blunt dissectors ([blunt suture needles A61B 2017/06085](#))}
- 2017/320048 . . . {Balloon dissectors}
- 2017/320052 . . {Guides for cutting instruments ([by marking A61B 2090/395](#))}
- 2017/320056 . . {Tunnelers}
- 2017/32006 . . {with a cutting strip, band or chain, e.g. like a chainsaw}
- 2017/320064 . . {with tissue or sample retaining means}

17/320068 . . . {using mechanical vibrations, e.g. ultrasonic
([A61B 17/22012](#) takes precedence; dental tooth
drilling devices operated by vibration [A61C 3/03](#);
removing intra-ocular material using mechanical
vibrations [A61F 9/00745](#))}

WARNING

Group [A61B 17/320068](#) is impacted
by reclassification into groups
[A61B 2017/320069](#), [A61B 2017/32007](#),
[A61B 2017/320071](#), and [A61B 2017/320082](#),
[A61B 2017/320089](#), and [A61B 2017/32009](#).

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

2017/320069 . . . {for ablating tissue}

WARNING

Group [A61B 2017/320069](#) is incomplete
pending reclassification of documents from
group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and
[A61B 2017/320069](#) should be considered in
order to perform a complete search.

2017/32007 . . . {with suction or vacuum means}

WARNING

Group [A61B 2017/32007](#) is incomplete
pending reclassification of documents from
group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and
[A61B 2017/32007](#) should be considered in
order to perform a complete search.

2017/320071 . . . {with articulating means for working tip}

WARNING

Group [A61B 2017/320071](#) is incomplete
pending reclassification of documents from
group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and
[A61B 2017/320071](#) should be considered in
order to perform a complete search.

2017/320072 . . . {Working tips with special features, e.g.
extending parts}

WARNING

Group [A61B 2017/320072](#) is
impacted by reclassification
into groups [A61B 2017/320073](#),
[A61B 2017/320074](#), [A61B 2017/320075](#),
and [A61B 2017/320077](#).

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

2017/320073 {probe}

WARNING

Group [A61B 2017/320073](#) is incomplete
pending reclassification of documents
from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and
[A61B 2017/320073](#) should be considered
in order to perform a complete search.

2017/320074 {blade}

WARNING

Group [A61B 2017/320074](#) is incomplete
pending reclassification of documents
from group [A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and
[A61B 2017/320074](#) should be considered
in order to perform a complete search.

2017/320075 {single edge blade, e.g. for cutting}

WARNING

Group [A61B 2017/320075](#) is
incomplete pending reclassification
of documents from group
[A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and
[A61B 2017/320075](#) should be
considered in order to perform a
complete search.

2017/320077 {double edge blade, e.g. reciprocating}

WARNING

Group [A61B 2017/320077](#) is
incomplete pending reclassification
of documents from group
[A61B 2017/320072](#).

Groups [A61B 2017/320072](#) and
[A61B 2017/320077](#) should be
considered in order to perform a
complete search.

2017/320078 {Tissue manipulating surface}

2017/32008 {preventing clogging of suction channel}

2017/320082 . . . {for incising tissue}

WARNING

Group [A61B 2017/320082](#) is incomplete
pending reclassification of documents from
group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and
[A61B 2017/320082](#) should be considered in
order to perform a complete search.

2017/320084 . . . {Irrigation sleeves}

2017/320088 . . . {with acoustic insulation, e.g. elements
for damping vibrations between horn and
surrounding sheath}

2017/320089 . . . {node location}

WARNING

Group [A61B 2017/320089](#) is incomplete pending reclassification of documents from group [A61B 2017/320088](#).

Groups [A61B 2017/320088](#) and [A61B 2017/320089](#) should be considered in order to perform a complete search.

2017/32009 {node at distal end of cutting means}

WARNING

Group [A61B 2017/32009](#) is incomplete pending reclassification of documents from group [A61B 17/320068](#).

Groups [A61B 17/320068](#) and [A61B 2017/32009](#) should be considered in order to perform a complete search.

17/320092 {with additional movable means for clamping or cutting tissue, e.g. with a pivoting jaw}

WARNING

Group [A61B 17/320092](#) is impacted by reclassification into groups [A61B 2017/320093](#), [A61B 2017/320094](#), [A61B 2017/320095](#), and [A61B 2017/320097](#).

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

2017/320093 {additional movable means performing cutting operation}

WARNING

Group [A61B 2017/320093](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320093](#) should be considered in order to perform a complete search.

2017/320094 {additional movable means performing clamping operation}

WARNING

Group [A61B 2017/320094](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320094](#) should be considered in order to perform a complete search.

2017/320095 {with sealing or cauterizing means}

WARNING

Group [A61B 2017/320095](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320095](#) should be considered in order to perform a complete search.

2017/320097 {with stapling means}

WARNING

Group [A61B 2017/320097](#) is incomplete pending reclassification of documents from group [A61B 17/320092](#).

Groups [A61B 17/320092](#) and [A61B 2017/320097](#) should be considered in order to perform a complete search.

2017/320098 {with transverse or torsional motion}

17/3201 . . . Scissors ([for biopsy A61B 10/02](#))

17/3203 . . . Fluid jet cutting instruments

2017/32032 . . . {using cavitation of the fluid}

2017/32035 . . . {with gas or air}

17/32037 . . . {for removing obstructions from inner organs or blood vessels, e.g. for atherectomy}

17/3205 . . . Excision instruments

17/32053 . . . {Punch like cutting instruments, e.g. using a cylindrical or oval knife ([A61B 17/326 takes precedence](#); [trepan A61B 17/1695](#); [for use on the cornea A61F 9/007](#))}

17/32056 . . . {Surgical snare instruments ([for removing or smashing calculi A61B 2017/2212](#); [tonsillotomes A61B 17/26](#))}

17/3207 . . . Atherectomy devices {working by cutting or abrading; Similar devices specially adapted for non-vascular obstructions ([A61B 17/32037 takes precedence](#); [endoscopic cutting instruments A61B 17/320016](#))}

17/320708 . . . {Curettes, e.g. hollow scraping instruments}

2017/320716 . . . {comprising means for preventing embolism by dislodged material}

17/320725 . . . {with radially expandable cutting or abrading elements ([A61B 17/32075 takes precedence](#))}

2017/320733 . . . {with a flexible cutting or scraping element, e.g. with a whip-like distal filament member}

2017/320741 . . . {for stripping the intima or the internal plaque from a blood vessel, e.g. for endarterectomy}

17/32075 . . . {Pullback cutting; combined forward and pullback cutting, e.g. with cutters at both sides of the plaque}

17/320758 . . . {with a rotating cutting instrument, e.g. motor driven ([A61B 17/320725](#), [A61B 17/32075](#) and [A61B 17/320783 take precedence](#); [for removing intra-ocular material A61F 9/00763](#); [endoscopic rotatable cutting instruments A61B 17/32002](#))}

2017/320766 . . . {eccentric}

2017/320775 . . . {Morcellators, impeller or propeller like means}

17/320783 . . . {through side-hole, e.g. sliding or rotating cutter inside catheter}

2017/320791 . . . {with cutter extending outside the cutting window}

17/3209 . . . Incision instruments

17/32093 . . . {for skin incisions}

2017/32096 . . . {for slowly cutting through tissue, e.g. stent like temporary implants having sharp edges}

17/3211 . . . Surgical scalpels, knives; Accessories therefor

2017/32113 . . . {with extendable or retractable guard or blade}

- 2017/32116 {with means for improving the rigidity of the blade, e.g. with a reinforcing rib}
- 17/3213 with detachable blades
- 17/3215 Packages or dispensers for scalpel blades {for sharps [A61B 50/3001](#)}
- 17/3217 Devices for removing or collecting used scalpel blades {for sharps [A61B 50/362](#)}
- 17/322 . . Skin grafting apparatus
- 2017/3225 . . . {with processing of harvested tissue}
- 17/326 . . Circumcision apparatus
- 17/34 . . Trocars; Puncturing needles {(pointed biopsy instruments [A61B 10/0233](#); devices for piercing the ear-lobes [A44C 7/001](#); seals or hemostasis valves [A61M 39/06](#))}
- 17/3401 . . {Puncturing needles for the peridural or subarachnoid space or the plexus, e.g. for anaesthesia (local anaesthesia [A61M 19/00](#))}
- 17/3403 . . {Needle locating or guiding means (guides for suture needles [A61B 17/0482](#); guiding or tracking by nuclear magnetic resonance [G01R 33/285](#))}
- 2017/3405 . . . {using mechanical guide means}
- 2017/3407 {including a base for support on the body}
- 2017/3409 {including needle or instrument drives}
- 2017/3411 {with a plurality of holes, e.g. holes in matrix arrangement}
- 2017/3413 . . . {guided by ultrasound}
- 17/3415 . . {for introducing tubes or catheters, e.g. gastrostomy tubes, drain catheters ([A61B 17/3417](#) takes precedence; body piercing catheter guide needles [A61M 25/06](#))}
- 17/3417 . . {Details of tips or shafts, e.g. grooves, expandable, bendable; Multiple coaxial sliding cannulas, e.g. for dilating (syringe needles [A61M 5/32](#); dilators [A61M 29/00](#))}
- 2017/3419 . . . {Sealing means between cannula and body}
- 17/3421 . . . {Cannulas}
- 17/3423 {Access ports, e.g. toroid shape introducers for instruments or hands (access sites for liquids [A61M 39/0247](#))}
- 2017/3425 {for internal organs, e.g. heart ports}
- 2017/3427 {for intercostal space}
- 2017/3429 {having a unitary compressible body, e.g. made of silicone or foam}
- 17/3431 {being collapsible, e.g. made of thin flexible material ([A61B 17/3423](#) takes precedence)}
- 2017/3433 {with different outer diameters of the cannula}
- 2017/3435 {using everted sleeves}
- 2017/3437 {with means for removing or absorbing fluid, e.g. wicks or absorbent pads}
- 17/3439 {with means for changing the inner diameter of the cannula, e.g. expandable ([A61B 17/3423](#), [A61B 17/3431](#) take precedence; catheters [A61M 25/0662](#))}
- 2017/3441 {with distal sealing means}
- 2017/3443 {with means for adjusting the length of a cannula}
- 2017/3445 {used as instrument channel for multiple instruments (catheters [A61B 2017/22072](#))}
- 2017/3447 {Linked multiple cannulas}
- 2017/3449 {whereby the instrument channels merge into one single channel}
- 2017/345 {for introduction into a natural body opening}
- 2017/3452 {for the rectum, e.g. for hemorrhoid surgery}
- 2017/3454 . . . {Details of tips}
- 2017/3456 {blunt}
- 2017/3458 {threaded}
- 2017/346 {with wings}
- 17/3462 . . {with means for changing the diameter or the orientation of the entrance port of the cannula, e.g. for use with different-sized instruments, reduction ports, adapter seals (expandable cannulas [A61B 17/3417](#))}
- 2017/3464 . . . {with means acting on inner surface of valve or seal for expanding or protecting, e.g. inner pivoting fingers}
- 2017/3466 . . . {for simultaneous sealing of multiple instruments}
- 17/3468 . . {for implanting or removing devices, e.g. prostheses, implants, seeds, wires (devices for implanting seeds [A61M 37/0069](#))}
- 2017/347 . . {Locking means, e.g. for locking instrument in cannula}
- 17/3472 . . {for bones, e.g. intraosseus injections}
- 17/3474 . . {Insufflating needles, e.g. Veress needles}
- 17/3476 . . {Powered trocars, e.g. electrosurgical cutting, lasers, powered knives}
- 17/3478 . . {Endoscopic needles, e.g. for infusion (biopsy needles [A61B 10/0233](#); catheters with injection needles [A61M 25/0067](#))}
- 2017/348 . . {Means for supporting the trocar against the body or retaining the trocar inside the body}
- 2017/3482 . . . {inside}
- 2017/3484 {Anchoring means, e.g. spreading-out umbrella-like structure}
- 2017/3486 {Balloon}
- 2017/3488 {Fixation to inner organ or inner body tissue}
- 2017/349 {Trocar with thread on outside}
- 2017/3492 . . . {against the outside of the body}
- 17/3494 . . {with safety means for protection against accidental cutting or pricking, e.g. limiting insertion depth, pressure sensors (for the peridural space [A61B 17/3401](#))}
- 17/3496 . . . {Protecting sleeves or inner probes; Retractable tips (for protecting body piercing guide needles [A61M 25/0612](#))}
- 17/3498 . . {Valves therefor, e.g. flapper valves, slide valves (haemostasis valves [A61M 39/06](#); check valves [A61M 39/24](#))}
- 17/42 . . Gynaecological or obstetrical instruments or methods ({ligaturing clamps or clips for the umbilical cord [A61B 17/122](#); curettage [A61B 17/3207](#) ; dilators [A61M 29/00](#))}
- 17/4208 . . {Instruments for rupturing the amniotic membrane}
- 2017/4216 . . {Operations on uterus, e.g. endometrium}
- 2017/4225 . . . {Cervix uteri}
- 2017/4233 . . {Operations on Fallopian tubes, e.g. sterilization ([A61B 2017/1125](#) takes precedence)}
- 17/4241 . . {Instruments for manoeuvring or retracting the uterus, e.g. during laparoscopic surgery}
- 17/425 . . for reproduction or fertilisation (specially adapted for use with animals [A61D 19/00](#))}
- 17/43 . . . for artificial insemination
- 17/435 . . . for embryo {or ova} transplantation

- 17/44 . . Obstetrical forceps
- 17/442 . . . {without pivotal connections, e.g. using vacuum}
- 2017/445 . . . {with force indication}
- 2017/447 . . . {with force limitation}
- 17/46 . . Embryotomes ([for animals A61D 1/10](#))
- 17/48 . . Bags for midwives
- 17/50 . . Instruments, other than pincettes or toothpicks, for removing foreign bodies from the human body ([locating otherwise A61B 5/06; locating by radiation A61B 6/00; {removing calculi A61B 17/22; from the eyes A61F 9/00709}](#))
- 2017/505 . . {Parasite, e.g. tick, removers}
- 17/52 . . Magnets
- 17/54 . . Chiropractors' instruments {, e.g. pedicure ([chiropractic devices A61H 1/008](#))}
- 17/545 . . {using a stream or spray of abrasive particles}
- 17/56 . . Surgical instruments or methods for treatment of bones or joints; Devices specially adapted therefor ([orthopaedic methods or devices for non-surgical treatment of bones or joints A61F 5/00](#))
- NOTES**
1. Documents concerning exclusively surgical methods are classified only in this group.
 2. Surgical instruments or devices are classified only in the relevant subgroups
- 2017/561 . . {Implants with special means for releasing a drug}
- 17/562 . . {Implants for placement in joint gaps without restricting joint motion, e.g. to reduce arthritic pain}
- 2017/564 . . {Methods for bone or joint treatment}
- 2017/565 . . . {for surgical correction of axial deviation, e.g. hallux valgus or genu valgus}
- 2017/567 . . {Joint mechanisms or joint supports in addition to the natural joints and outside the joint gaps}
- 2017/568 . . {produced with shape and dimensions specific for an individual patient}
- 17/58 . . for osteosynthesis, e.g. bone plates, screws, {setting implements} or the like ([A61B 17/14, A61B 17/16 take precedence; {splints A61B 5/01; traction bandages A61F 13/10}](#))
- 17/60 . . . for external osteosynthesis, e.g. distractors, contractors
- 2017/603 {with three points of contact, e.g. tripod}
- 2017/606 {with resilient spring element}
- 17/62 Ring frames, i.e. devices extending around the bones to be positioned ([{A61B 17/6433} , A61B 17/66 take precedence](#))
- 17/64 Devices extending alongside the bones to be positioned
- 17/6408 {Devices not permitting mobility, e.g. fixed to bed, with or without means for traction or reduction ([without surgery A61F 5/04](#))}
- 17/6416 {with non-continuous, e.g. hinged, pin-clamp connecting element ([A61B 17/6425, A61B 17/6441 take precedence](#))}
- 17/6425 {specially adapted to be fitted across a bone joint}
- 17/6433 {specially adapted for use on body parts other than limbs, e.g. trunk or head}
- 17/6441 {Bilateral fixators, i.e. with both ends of pins or wires clamped}
- 17/645 {comprising a framework ([A61B 17/6425, A61B 17/6441 take precedence](#))}
- 17/6458 {with pin-clamps fixed at ends of connecting element}
- 17/6466 {with pin-clamps movable along a solid connecting rod}
- 17/6475 {the connecting rod being threaded}
- 17/6483 {the connecting rod having a non-circular section}
- 17/6491 {allowing small-scale motion of bone ends}
- 17/66 {Alignment}, compression or distraction mechanisms
- 17/663 {for jaw bones, e.g. subcutaneous distractors with external access ([periodontal bone regeneration A61C 8/0006](#))}
- 17/666 {for alveolar distraction}
- 17/68 Internal fixation devices {, including fasteners and spinal fixators, even if a part thereof projects from the skin ([bone staples A61B 17/0642; dental regeneration membranes A61C 8/0006](#))}
- 2017/681 {Alignment, compression, or distraction mechanisms}
- 17/683 {comprising bone transfixation elements, e.g. bolt with a distal cooperating element such as a nut}
- 17/685 {Elements to be fitted on the end of screws or wires, e.g. protective caps}
- 17/686 {Plugs, i.e. elements forming interface between bone hole and implant or fastener, e.g. screw}
- 17/688 {for reattaching pieces of the skull}
- 17/70 Spinal positioners or stabilisers {; Bone stabilisers comprising fluid filler in an implant}
- 17/7001 {Screws or hooks combined with longitudinal elements which do not contact vertebrae ([A61B 17/7058 takes precedence](#))}
- 17/7002 {Longitudinal elements, e.g. rods}
- 17/7004 {with a cross-section which varies along its length ([A61B 17/7019 takes precedence](#))}
- 17/7005 {Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit in the screw or hook heads}
- 17/7007 {Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit around the screw or hook heads}
- 17/7008 {with parts of, or attached to, the longitudinal elements, bearing against an outside of the screw or hook heads, e.g. nuts on threaded rods ([A61B 17/7007 takes precedence](#))}
- 17/701 {Longitudinal elements with a non-circular, e.g. rectangular, cross-section ([A61B 17/7005, A61B 17/7007 take precedence](#))}

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| 17/7011 | | {Longitudinal element being non-straight, e.g. curved, angled or branched (adjustable length longitudinal elements A61B 17/7014 ; A61B 17/7019 takes precedence, e.g. coil springs)} | 17/7049 | | {Connectors, not bearing on the vertebrae, for linking longitudinal elements together (A61B 17/7055 , A61B 17/7053 , A61B 17/7019 take precedence)} |
| 17/7013 | | {the shape of the element being adjustable before use (adjustable length plates A61B 17/7014)} | 17/705 | | {for linking adjacent ends of longitudinal elements} |
| 17/7014 | | {with means for adjusting the distance between two screws or hooks} | 17/7052 | | {of variable angle or length} |
| 17/7016 | | {electric or electromagnetic means} | 17/7053 | | {with parts attached to bones or to each other by flexible wires, straps, sutures or cables} |
| 17/7017 | | {pneumatic or hydraulic means} | 17/7055 | | {connected to sacrum, pelvis or skull} |
| 17/7019 | | {Longitudinal elements having flexible parts, or parts connected together, such that after implantation the elements can move relative to each other} | 17/7056 | | {Hooks with specially-designed bone-contacting part} |
| 17/702 | | {having a core or insert, and a sleeve, whereby a screw or hook can move along the core or in the sleeve} | 17/7058 | | {Plates mounted on top of bone anchor heads or shoulders} |
| 17/7022 | | {Tethers, i.e. longitudinal elements capable of transmitting tension only, e.g. straps, sutures or cables (A61B 17/702 takes precedence)} | 17/7059 | | {Cortical plates} |
| 17/7023 | | {with a pivot joint} | 17/7061 | | {for stabilising vertebrae or discs by improving the condition of their tissues, e.g. using implanted medication or fluid exchange (intraosseous injection devices A61B 17/3472)} |
| 17/7025 | | {with a sliding joint} | 17/7062 | | {Devices acting on, attached to, or simulating the effect of, vertebral processes, vertebral facets or ribs (rib fixation devices A61B 17/8076); Tools for such devices} |
| 17/7026 | | {with a part that is flexible due to its form} | 17/7064 | | {Devices acting on, attached to, or simulating the effect of, vertebral facets; Tools therefor} |
| 17/7028 | | {the flexible part being a coil spring} | 17/7065 | | {Devices with changeable shape, e.g. collapsible or having retractable arms to aid implantation; Tools therefor} |
| 17/7029 | | {the entire longitudinal element being flexible} | 17/7067 | | {Devices bearing against one or more spinous processes and also attached to another part of the spine; Tools therefor} |
| 17/7031 | | {made wholly or partly of flexible material} | 17/7068 | | {Devices comprising separate rigid parts, assembled <i>in situ</i> , to bear on each side of spinous processes; Tools therefor} |
| 17/7032 | | {Screws or hooks with U-shaped head or back through which longitudinal rods pass} | 17/707 | | {Devices acting on, or attached to, a transverse process or rib; Tools therefor} |
| 17/7034 | | {characterised by a lateral opening} | 17/7071 | | {Implants for expanding or repairing the vertebral arch or wedged between laminae or pedicles; Tools therefor} |
| 17/7035 | | {Screws or hooks, wherein a rod-clamping part and a bone-anchoring part can pivot relative to each other} | 2017/7073 | | {with intervertebral connecting element crossing an imaginary spinal median surface} |
| 17/7037 | | {wherein pivoting is blocked when the rod is clamped} | 17/7074 | | {Tools specially adapted for spinal fixation operations other than for bone removal or filler handling (A61B 17/7062 , A61B 17/808 , A61B 17/8858 take precedence; for spinal image producing devices A61B 90/36 , A61B 34/20 ; markers A61B 90/39)} |
| 17/7038 | | {to a different extent in different directions, e.g. within one plane only} | 17/7076 | | {for driving, positioning or assembling spinal clamps or bone anchors specially adapted for spinal fixation} |
| 17/704 | | {the longitudinal element passing through a ball-joint in the screw head} | 17/7077 | | {for moving bone anchors attached to vertebrae, thereby displacing the vertebrae} |
| 17/7041 | | {with single longitudinal rod offset laterally from single row of screws or hooks (A61B 17/7044 takes precedence)} | | | |
| 17/7043 | | {with a longitudinal element fixed to one or more transverse elements which connect multiple screws or hooks} | | | |
| 17/7044 | | {also having plates, staples or washers bearing on the vertebrae} | | | |
| 17/7046 | | {the screws or hooks being mobile in use relative to the longitudinal element (A61B 17/702 , A61B 17/7035 take precedence)} | | | |
| 17/7047 | | {Clamps comprising opposed elements which grasp one vertebra between them} | | | |

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| 17/7079 | | {Tools requiring anchors to be already mounted on an implanted longitudinal or transverse element, e.g. where said element guides the anchor motion} | 17/725 | | {with locking pins or screws of special form} |
| 17/708 | | {with tubular extensions coaxially mounted on the bone anchors} | 17/7258 | | {with laterally expanding parts, e.g. for gripping the bone} |
| 17/7082 | | {for driving, i.e. rotating, screws or screw parts specially adapted for spinal fixation, e.g. for driving polyaxial or tulip-headed screws (driving other bone screws A61B 17/8875)} | 17/7266 | | {with fingers moving radially outwardly} |
| 17/7083 | | {Tools for guidance or insertion of tethers, rod-to-anchor connectors, rod-to-rod connectors, or longitudinal elements} | 17/7275 | | {with expanding cylindrical parts} |
| 17/7085 | | {for insertion of a longitudinal element down one or more hollow screw or hook extensions, i.e. at least a part of the element within an extension has a component of movement parallel to the extension's axis} | 17/7283 | | {with special cross-section of the nail} |
| 17/7086 | | {Rod reducers, i.e. devices providing a mechanical advantage to allow a user to force a rod into or onto an anchor head other than by means of a rod-to-bone anchor locking element; rod removers} | 17/7291 | | {for small bones, e.g. in the foot, ankle, hand or wrist} |
| 17/7088 | | {wherein the rod is moved transverse to the axis of the bone anchor} | 17/74 | | Devices for the head {or neck or trochanter} of the femur {(trochanteric devices connected to the proximal part of an endoprosthetic femoral shaft A61F 2/30739 ; endoprosthetic internal fixation devices for the head or neck of the femur A61F 2/3601)} |
| 17/7089 | | {wherein insertion is along an arcuate path} | 17/742 | | {having one or more longitudinal elements oriented along or parallel to the axis of the neck} |
| 17/7091 | | {for applying, tightening or removing longitudinal element-to-bone anchor locking elements, e.g. caps, set screws, nuts or wedges} | 17/744 | | {the longitudinal elements coupled to an intramedullary nail} |
| 17/7092 | | {for checking pedicle hole has correct depth or has an intact wall (pedicle drill depth limiters A61B 17/1626)} | 17/746 | | {the longitudinal elements coupled to a plate opposite the femoral head} |
| 17/7094 | | {Solid vertebral fillers; devices for inserting such fillers} | 17/748 | | {with means for adapting the angle between the longitudinal elements and the shaft axis of the femur} |
| 17/7095 | | {the filler comprising unlinked macroscopic particles} | 17/80 | | Cortical plates {, i.e. bone plates; Instruments for holding or positioning cortical plates, or for compressing bones attached to cortical plates} |
| 17/7097 | | {Stabilisers comprising fluid filler in an implant, e.g. balloon; devices for inserting or filling such implants (disc prostheses made of inflatable chambers or pockets filled with fluid A61F 2/441 ; replacing the nucleus pulposus A61F 2002/444)} | 17/8004 | | {with means for extending or compressing the bone or bones} |
| 17/7098 | | {wherein the implant is permeable or has openings, e.g. fenestrated screw (hollow surgical screws A61B 17/864)} | 17/8009 | | {the plate having a ratchet} |
| 17/72 | | Intramedullary {pins, nails or other} devices {(A61B 17/744 takes precedence)} | 17/8014 | | {the extension or compression force being caused by interaction of the plate hole and the screws} |
| 17/7208 | | {Flexible pins, e.g. ENDER pins} | 17/8019 | | {where the means are a separate tool rather than being part of the plate} |
| 17/7216 | | {for bone lengthening or compression (A61B 17/7258 takes precedence)} | 17/8023 | | {Variable length plates} |
| 17/7225 | | {for bone compression} | 17/8028 | | {Cushions, i.e. elements forming interface between bone plate and bone} |
| 17/7233 | | {with special means of locking the nail to the bone} | 17/8033 | | {having indirect contact with screw heads, or having contact with screw heads maintained with the aid of additional components, e.g. nuts, wedges or head covers} |
| 17/7241 | | {the nail having separate elements through which screws pass} | 17/8038 | | {the additional component being inserted in the screw head} |
| | | | 17/8042 | | {the additional component being a cover over the screw head} |
| | | | 17/8047 | | {wherein the additional element surrounds the screw head in the plate hole} |
| | | | 17/8052 | | {immobilised relative to screws by interlocking form of the heads and plate holes, e.g. conical or threaded} |
| | | | 17/8057 | | {the interlocking form comprising a thread} |
| | | | 17/8061 | | {specially adapted for particular bones (A61B 17/70 and A61B 17/74 take precedence)} |
| | | | 17/8066 | | {for pelvic reconstruction} |
| | | | 17/8071 | | {for the jaw (prostheses for mandibular reconstruction A61F 2/2803)} |

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| 17/8076 | | {for the ribs or the sternum} | 2017/868 | | {self-locking due to part of nut being deformed upon tightening} |
| 17/808 | | {Instruments for holding or positioning bone plates, or for adjusting screw-to-plate locking mechanisms} | 17/8685 | | {comprising multiple separate parts} |
| 17/8085 | | {with pliable or malleable elements or having a mesh-like structure, e.g. small strips for craniofacial surgery (A61B 17/8071 , A61B 17/8076 take precedence; connecting prostheses with the body A61F 2/00)} | 17/869 | | {characterised by an open form, e.g. wire helix} |
| 17/809 | | {with bone-penetrating elements, e.g. blades or prongs (bone staples A61B 17/0642)} | 17/8695 | | {Washers (surrounding screw head in plate hole A61B 17/8047 , between bone plate and bone A61B 17/8028)} |
| 17/8095 | | {Wedge osteotomy devices} | 17/88 | | {Osteosynthesis instruments;} Methods or means for implanting or extracting internal {or external} fixation devices {(A61B 17/7074 takes precedence)} |
| 17/82 | | for bone cerclage {(apparatus for manipulating wires or straps A61B 17/8861 ; wires, bands or straps other than cerclage A61B 17/842)} | 17/8802 | | {Equipment for handling bone cement or other fluid fillers (plugs or restrictors for bone cement A61F 2/30723)} |
| 17/823 | | {for the sternum} | 17/8805 | | {for introducing fluid filler into bone or extracting it (A61B 17/7097 , A61B 17/8833 take precedence; for introducing bone graft A61F 2/4601)} |
| 17/826 | | {Nets or webs} | 17/8808 | | {with sealing collar for bone cavity} |
| 17/84 | | Fasteners therefor {or fasteners being internal fixation devices} | 17/8811 | | {characterised by the introducer tip, i.e. the part inserted into or onto the bone} |
| 17/842 | | {Flexible wires, bands or straps (A61B 17/72 , A61B 17/82 , A61B 17/86 take precedence)} | 2017/8813 | | {Discharging means for excessively introduced fluid fillers, e.g. discharging excess cement} |
| 17/844 | | {with expandable anchors or anchors having movable parts} | 17/8816 | | {characterised by the conduit, e.g. tube, along which fluid flows into the body or by conduit connections} |
| 17/846 | | {Nails or pins, i.e. anchors without movable parts, holding by friction only, with or without structured surface (A61B 17/72 , A61B 17/86 take precedence)} | 17/8819 | | {characterised by the introducer proximal part, e.g. cannula handle, or by parts which are inserted inside each other, e.g. stylet and cannula (A61B 17/8825 takes precedence)} |
| 17/848 | | {Kirschner wires, i.e. thin, long nails} | 17/8822 | | {characterised by means facilitating expulsion of fluid from the introducer, e.g. a screw pump plunger, hydraulic force transmissions, application of vibrations or a vacuum} |
| 17/86 | | {Threaded wires}, pins or screws; {Nuts therefor (A61B 17/72 , A61B 17/74 , A61F 2/4455 take precedence)} | 17/8825 | | {characterised by syringe details (A61B 17/8822 , A61B 17/8827 take precedence)} |
| 17/8605 | | {Heads, i.e. proximal ends projecting from bone} | 17/8827 | | {with filtering, degassing, venting or pressure relief means} |
| 17/861 | | {specially shaped for gripping driver} | 2017/883 | | {Means for indicating hardening of bone cement} |
| 17/8615 | | {at the central region of the screw head} | 17/8833 | | {Tools for preparing, e.g. curing, cement or other fluid fillers (B01F takes precedence); Means for supplying cement or other fluid fillers to an introducing tool, e.g. cartridge handling means} |
| 17/862 | | {at the periphery of the screw head} | 17/8836 | | {for heating, cooling or curing the filler} |
| 17/8625 | | {Shanks, i.e. parts contacting bone tissue (screw-in dental implants A61C 8/0018)} | 2017/8838 | | {for mixing, with or without means for supplying the mixed filler to an injecting tool} |
| 17/863 | | {with thread interrupted or changing its form along shank, other than constant taper} | 17/8841 | | {Tools specially adapted to engage a prosthesis} |
| 17/8635 | | {Tips of screws} | 2017/8844 | | {Means for determining the viscosity of bone cement} |
| 17/864 | | {hollow, e.g. with socket or cannulated} | 17/8847 | | {for removing cement from a bone cavity (using surgical bone chisels, drills, mills, rasps, reamers or scrapers A61B 17/16 ; using laser A61B 18/20 ; using ultrasonic surgical instruments A61N 7/00)} |
| 17/8645 | | {Headless screws, e.g. ligament interference screws} | | | |
| 17/865 | | {Packages or dispensers for bone screws or threaded wires} | | | |
| 2017/8655 | | {with special features for locking in the bone} | | | |
| 17/866 | | {Material or manufacture} | | | |
| 17/8665 | | {Nuts} | | | |
| 2017/867 | | {with integral locking or clamping means} | | | |
| 2017/8675 | | {clamping effect due to tapering, e.g. conical thread} | | | |

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| 17/885 | {Tools for expanding or compacting bones or discs or cavities therein (A61B 17/8805 , A61B 17/7097 take precedence)} | 2018/00089 | {Thermal conductivity} |
| 17/8852 | {capable of being assembled or enlarged, or changing shape, inside the bone or disc} | 2018/00095 | {high, i.e. heat conducting} |
| 17/8855 | {inflatable, e.g. kyphoplasty balloons} | 2018/00101 | {low, i.e. thermally insulating} |
| 17/8858 | {laterally or radially expansible (inflatable A61B 17/8855)} | 2018/00107 | . . {Coatings on the energy applicator} |
| 17/8861 | {Apparatus for manipulating flexible wires or straps} | 2018/00113 | . . . {with foam} |
| 17/8863 | {Apparatus for shaping or cutting osteosynthetic equipment} | 2018/00119 | . . . {with metal oxide nitride} |
| 17/8866 | {for gripping or pushing bones, e.g. approximators} | 2018/00125 | . . . {with nanostructure} |
| 17/8869 | {Tensioning devices} | 2018/0013 | . . . {non-sticking} |
| 17/8872 | {Instruments for putting said fixation devices against or away from the bone (A61B 17/7074 , A61B 17/808 take precedence)} | 2018/00136 | . . . {with polymer} |
| 17/8875 | {Screwdrivers, spanners or wrenches} | 2018/00142 | . . . {lubricating} |
| 17/8877 | {characterised by the cross-section of the driver bit} | 2018/00148 | . . . {with metal} |
| 17/888 | {the driver bit acting on the central region of the screw head} | 2018/00154 | . . . {containing and delivering drugs} |
| 17/8883 | {the driver bit acting on the periphery of the screw head} | 2018/0016 | . . {Energy applicators arranged in a two- or three dimensional array} |
| 17/8886 | {holding the screw head} | 2018/00166 | . . {Multiple lumina} |
| 17/8888 | {at its central region} | 2018/00172 | . . {Connectors and adapters therefor} |
| 17/8891 | {at its periphery} | 2018/00178 | . . . {Electrical connectors} |
| 17/8894 | {holding the implant into or through which the screw is to be inserted (A61B 17/7082 , A61B 17/7091 take precedence)} | 2018/00184 | . . {Moving parts} |
| 17/8897 | {Guide wires or guide pins} | 2018/0019 | . . . {vibrating} |
| 2017/90 | {Guides therefor} | 2018/00196 | . . . {reciprocating lengthwise} |
| 17/92 | Impactors or extractors, e.g. for removing intramedullary devices {(insertion or extraction of artificial joints A61F 2/4603)} | 2018/00202 | . . . {rotating} |
| 17/921 | {for intramedullary devices} | 2018/00208 | {actively driven, e.g. by a motor} |
| 2017/922 | {Devices for impaction, impact element} | 2018/00214 | . . {Expandable means emitting energy, e.g. by elements carried thereon} |
| 2017/924 | {Impact element driving means} | 2018/0022 | . . . {Balloons} |
| 2017/925 | {a spring} | 2018/00226 | {extending from a surface, i.e. Blisters} |
| 2017/927 | {Returning means} | 2018/00232 | {having an irregular shape} |
| 2017/928 | {a spring} | 2018/00238 | {porous} |
| 18/00 | Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body (eye surgery A61F 9/007; ear surgery A61F 11/00) | 2018/00244 | {adapted to separate target tissue from other tissue} |
| 2018/00005 | . {Cooling or heating of the probe or tissue immediately surrounding the probe} | 2018/0025 | {Multiple balloons} |
| 2018/00011 | . . {with fluids} | 2018/00255 | {arranged one inside another} |
| 2018/00017 | . . . {with gas} | 2018/00261 | {arranged in a line} |
| 2018/00023 | . . . {closed, i.e. without wound contact by the fluid} | 2018/00267 | . . . {having a basket shaped structure} |
| 2018/00029 | . . . {open} | 2018/00273 | . . {Anchoring means for temporary attachment of a device to tissue} |
| 2018/00035 | {with return means} | 2018/00279 | . . . {deployable} |
| 2018/00041 | . . {Heating, e.g. defrosting} | 2018/00285 | {Balloons} |
| 2018/00047 | . . {using Peltier effect} | 2018/00291 | . . . {using suction} |
| 2018/00053 | . {Mechanical features of the instrument of device} | 2018/00297 | . . {Means for providing haptic feedback} |
| 2018/00059 | . . {Material properties} | 2018/00303 | . . . {active, e.g. with a motor creating vibrations} |
| 2018/00065 | . . . {porous} | 2018/00309 | . . . {passive, e.g. palpable click when activating a button} |
| 2018/00071 | . . . {Electrical conductivity} | 2018/00315 | . {for treatment of particular body parts} |
| 2018/00077 | {high, i.e. electrically conducting} | 2018/00321 | . . {Head or parts thereof} |
| 2018/00083 | {low, i.e. electrically insulating} | 2018/00327 | . . . {Ear, nose or throat} |
| | | 2018/00333 | . . {Breast} |
| | | 2018/00339 | . . {Spine, e.g. intervertebral disc} |
| | | 2018/00345 | . . {Vascular system} |
| | | 2018/00351 | . . . {Heart} |
| | | 2018/00357 | {Endocardium} |
| | | 2018/00363 | {Epicardium} |
| | | 2018/00369 | {Heart valves} |
| | | 2018/00375 | {Ostium, e.g. ostium of pulmonary vein or artery} |
| | | 2018/0038 | {Foramen ovale} |
| | | 2018/00386 | {Coronary vessels} |
| | | 2018/00392 | {Transmyocardial revascularisation} |
| | | 2018/00398 | . . . {Blood} |
| | | 2018/00404 | . . . {Blood vessels other than those in or around the heart} |
| | | 2018/0041 | {Removal of thrombosis} |

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| 2018/00416 | {Treatment of aneurisms} | 2018/0075 | . . . {Phase} |
| 2018/00422 | {Angioplasty} | 2018/00755 | . . . {Resistance or impedance} |
| 2018/00428 | {Severing} | 2018/00761 | . . . {Duration} |
| 2018/00434 | . . {Neural system} | 2018/00767 | . . . {Voltage} |
| 2018/0044 | . . . {Spinal cord} | 2018/00773 | . . {Sensed parameters} |
| 2018/00446 | . . . {Brain} | 2018/00779 | . . . {Power or energy} |
| 2018/00452 | . . {Skin} | 2018/00785 | {Reflected power} |
| 2018/00458 | . . . {Deeper parts of the skin, e.g. treatment of vascular disorders or port wine stains} | 2018/00791 | . . . {Temperature} |
| 2018/00464 | {Subcutaneous fat, e.g. liposuction, lipolysis} | 2018/00797 | {measured by multiple temperature sensors} |
| 2018/0047 | . . . {Upper parts of the skin, e.g. skin peeling or treatment of wrinkles} | 2018/00803 | {with temperature prediction} |
| 2018/00476 | . . . {Hair follicles} | 2018/00809 | {measured thermochromatically} |
| 2018/00482 | . . {Digestive system} | 2018/00815 | {measured by a thermistor} |
| 2018/00488 | . . . {Esophagus} | 2018/00821 | {measured by a thermocouple} |
| 2018/00494 | . . . {Stomach, intestines or bowel} | 2018/00827 | . . . {Current} |
| 2018/005 | . . . {Rectum} | 2018/00833 | {Differential current} |
| 2018/00505 | . . {Urinary tract} | 2018/00839 | . . . {Bioelectrical parameters, e.g. ECG, EEG} |
| 2018/00511 | . . . {Kidney} | 2018/00845 | . . . {Frequency} |
| 2018/00517 | . . . {Urinary bladder or urethra} | 2018/00851 | {fundamental} |
| 2018/00523 | . . . {Treatment of incontinence} | 2018/00857 | {harmonic} |
| 2018/00529 | . . {Liver} | 2018/00863 | . . . {Fluid flow} |
| 2018/00535 | . . . {Biliary tract} | 2018/00869 | . . . {Phase} |
| 2018/00541 | . . {Lung or bronchi} | 2018/00875 | . . . {Resistance or impedance} |
| 2018/00547 | . . {Prostate} | 2018/0088 | . . . {Vibration} |
| 2018/00553 | . . {Sphincter} | 2018/00886 | . . . {Duration} |
| 2018/00559 | . . {Female reproductive organs} | 2018/00892 | . . . {Voltage} |
| 2018/00565 | . . {Bone} | 2018/00898 | . . {Alarms or notifications created in response to an abnormal condition} |
| 2018/00571 | . {for achieving a particular surgical effect} | 2018/00904 | . . {Automatic detection of target tissue} |
| 2018/00577 | . . {Ablation} | 2018/0091 | . {Handpieces of the surgical instrument or device} |
| 2018/00583 | . . . {Coblation, i.e. ablation using a cold plasma} | 2018/00916 | . . {with means for switching or controlling the main function of the instrument or device} |
| 2018/00589 | . . {Coagulation} | 2018/00922 | . . . {by switching or controlling the treatment energy directly within the hand-piece} |
| 2018/00595 | . . {Cauterization} | 2018/00928 | . . . {by sending a signal to an external energy source} |
| 2018/00601 | . . {Cutting} | 2018/00934 | {the signal being non electric, e.g. pneumatic, hydraulic, optical} |
| 2018/00607 | . . {Coagulation and cutting with the same instrument} | 2018/0094 | . . . {Types of switches or controllers} |
| 2018/00613 | . . {Irreversible electroporation (reversible electroporation A61N 1/327)} | 2018/00946 | {slidable} |
| 2018/00619 | . . {Welding} | 2018/00952 | {rotatable} |
| 2018/00625 | . . {Vaporization} | 2018/00958 | . . . {for switching between different working modes of the main function} |
| 2018/0063 | . . {Sealing} | 2018/00964 | . {Features of probes} |
| 2018/00636 | . {Sensing and controlling the application of energy} | 2018/0097 | . . {Cleaning probe surfaces} |
| 2018/00642 | . . {with feedback, i.e. closed loop control} | 2018/00976 | . . . {with scraping means} |
| 2018/00648 | . . . {using more than one sensed parameter} | 2018/00982 | . {combined with or comprising means for visual or photographic inspections inside the body, e.g. endoscopes} |
| 2018/00654 | . . . {with individual control of each of a plurality of energy emitting elements} | 2018/00988 | . {Means for storing information, e.g. calibration constants, or for preventing excessive use, e.g. usage, service life counter} |
| 2018/0066 | . . {without feedback, i.e. open loop control} | 2018/00994 | . {combining two or more different kinds of non-mechanical energy or combining one or more non-mechanical energies with ultrasound} |
| 2018/00666 | . . {using a threshold value} | 18/02 | . by cooling, e.g. cryogenic techniques (devices for cooling specific reflex points of the body within cell-life limits A61H 39/06) |
| 2018/00672 | . . . {lower} | 18/0206 | . . {ultrasonic, e.g. for destroying tissue or enhancing freezing} |
| 2018/00678 | . . . {upper} | 2018/0212 | . . {using an instrument inserted into a body lumen, e.g. catheter} |
| 2018/00684 | . . {using lookup tables} | | |
| 2018/0069 | . . {using fuzzy logic} | | |
| 2018/00696 | . . {Controlled or regulated parameters} | | |
| 2018/00702 | . . . {Power or energy} | | |
| 2018/00708 | {switching the power on or off} | | |
| 2018/00714 | . . . {Temperature} | | |
| 2018/0072 | . . . {Current} | | |
| 2018/00726 | . . . {Duty cycle} | | |
| 2018/00732 | . . . {Frequency} | | |
| 2018/00738 | . . . {Depth, e.g. depth of ablation} | | |
| 2018/00744 | . . . {Fluid flow} | | |

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| 18/0218 | . . {with open-end cryogenic probe, e.g. for spraying fluid directly on tissue or via a tissue-contacting porous tip} | 2018/1412 | {Blade} |
| 2018/0225 | . . {using an instrument for clamping tissue, e.g. forceps} | 2018/1415 | {multiple blades} |
| 2018/0231 | . . {Characteristics of handpieces or probes} | 2018/1417 | {Ball} |
| 2018/0237 | . . . {with a thermoelectric element in the probe for cooling purposes} | 2018/142 | {at least partly surrounding the target, e.g. concave, curved or in the form of a cave} |
| 2018/0243 | {cooling of the hot side of the junction, e.g. heat sink} | 2018/1422 | {Hook} |
| 2018/025 | {by circulating liquid} | 2018/1425 | {Needle} |
| 2018/0256 | {by circulating gas, e.g. air} | 2018/1427 | {with a beveled end} |
| 2018/0262 | . . . {using a circulating cryogenic fluid} | 2018/143 | {multiple needles} |
| 2018/0268 | {with restriction of flow} | 2018/1432 | {curved} |
| 2018/0275 | {using porous elements} | 2018/1435 | {Spiral} |
| 2018/0281 | {using a tortuous path, e.g. formed by fins or ribs} | 2018/1437 | {whereby the windings of the spiral touch each other such as to create a continuous surface} |
| 2018/0287 | {the fluid flowing through a long thin tube with spiral shape} | 2018/144 | {Wire} |
| 2018/0293 | . . {using an instrument interstitially inserted into the body, e.g. needle} | 18/1442 | {Probes having pivoting end effectors, e.g. forceps} |
| 18/04 | . by heating (by applying electromagnetic radiation A61B 18/18 ; hyperthermia using electric or magnetic fields, radiation or ultrasound A61N) | 18/1445 | {at the distal end of a shaft, e.g. forceps or scissors at the end of a rigid rod} |
| 18/042 | . . {using additional gas becoming plasma} | 18/1447 | {wherein sliding surfaces cause opening/closing of the end effectors} |
| 2018/044 | . . {the surgical action being effected by a circulating hot fluid} | 2018/145 | {wherein the effectors remain parallel during closing and opening} |
| 2018/046 | . . . {in liquid form} | 2018/1452 | {including means for cutting (A61B 2018/146 takes precedence)} |
| 2018/048 | . . . {in gaseous form} | 2018/1455 | {having a moving blade for cutting tissue grasped by the jaws} |
| 18/06 | . . caused by chemical reaction {, e.g. moxaburners} | 2018/1457 | {having opposing blades cutting tissue grasped by the jaws, i.e. combined scissors and pliers} |
| 2018/062 | . . . {one of the reactants being oxygen} | 2018/146 | {Scissors} |
| 2018/064 | {Moxaburners} | 2018/1462 | {Tweezers} |
| 2018/066 | . . . {one of the reactants being oxygen not from the air} | 2018/1465 | {Deformable electrodes} |
| 2018/068 | . . . {none of the reactants being oxygen} | 2018/1467 | {using more than two electrodes on a single probe} |
| 18/08 | . . by means of electrically-heated probes | 2018/147 | {Electrodes transferring energy by capacitive coupling, i.e. with a dielectricum between electrode and target tissue} |
| 18/082 | . . . {Probes or electrodes therefor} | 2018/1472 | {for use with liquid electrolyte, e.g. virtual electrodes} |
| 18/085 | {Forceps, scissors} | 2018/1475 | {Electrodes retractable in or deployable from a housing} |
| 2018/087 | {using semiconductors as heating element} | 18/1477 | {Needle-like probes} |
| 18/10 | . . . Power sources therefor | 18/148 | {having a short, rigid shaft for accessing the inner body transcutaneously, e.g. for neurosurgery or arthroscopy} |
| 18/12 | . . by passing a current through the tissue to be heated, e.g. high-frequency current | 18/1482 | {having a long rigid shaft for accessing the inner body transcutaneously in minimal invasive surgery, e.g. laparoscopy} |
| 18/1206 | . . . {Generators therefor} | 18/1485 | {having a short rigid shaft for accessing the inner body through natural openings} |
| 2018/1213 | {creating an arc} | 18/1487 | {Trocarr-like, i.e. devices producing an enlarged transcutaneous opening} |
| 2018/122 | {ionizing, with corona} | 18/149 | {bow shaped or with rotatable body at cantilever end, e.g. for resectoscopes, or coagulating rollers} |
| 2018/1226 | {powered by a battery} | 18/1492 | {having a flexible, catheter-like structure, e.g. for heart ablation (A61B 18/1477 takes precedence)} |
| 18/1233 | {with circuits for assuring patient safety} | 2018/1495 | {Electrodes being detachable from a support structure} |
| 2018/124 | {switching the output to different electrodes, e.g. sequentially} | 2018/1497 | {Electrodes covering only part of the probe circumference} |
| 2018/1246 | {characterised by the output polarity} | | |
| 2018/1253 | {monopolar} | | |
| 2018/126 | {bipolar} | | |
| 2018/1266 | {with DC current output} | | |
| 2018/1273 | {including multiple generators in one device} | | |
| 2018/128 | {generating two or more frequencies} | | |
| 2018/1286 | {having a specific transformer} | | |
| 2018/1293 | {having means to prevent interference} | | |
| 18/14 | . . . Probes or electrodes therefor | | |
| 18/1402 | {Probes for open surgery} | | |
| 2018/1405 | {Electrodes having a specific shape} | | |
| 2018/1407 | {Loop} | | |
| 2018/141 | {Snare} | | |

- 18/16 Indifferent or passive electrodes for grounding
- 2018/162 {located on the probe body}
- 2018/165 {Multiple indifferent electrodes}
- 2018/167 {Passive electrodes capacitively coupled to the skin}
- 18/18 . by applying electromagnetic radiation, e.g. microwaves ([radiation therapy A61N 5/00](#))
- 2018/1807 . . {using light other than laser radiation}
- 18/1815 . . {using microwaves}
- 2018/1823 . . . {Generators therefor}
- 2018/183 . . . {characterised by the type of antenna}
- 2018/1838 {Dipole antennas}
- 2018/1846 {Helical antennas}
- 2018/1853 {Monopole antennas}
- 2018/1861 . . . {with an instrument inserted into a body lumen or cavity, e.g. a catheter}
- 2018/1869 . . . {with an instrument interstitially inserted into the body, e.g. needles}
- 2018/1876 . . . {with multiple frequencies}
- 2018/1884 . . . {with non-uniform emissions}
- 2018/1892 . . . {Details of electrical isolations of the antenna}
- 18/20 . . using laser
- 2018/2005 . . . {with beam delivery through an interstitially insertable device, e.g. needle}
- 18/201 . . . {with beam delivery through a hollow tube, e.g. forming an articulated arm ([through a flexible conduit A61B 18/22](#)); Hand-pieces therefor}
- 2018/2015 . . . {Miscellaneous features}
- 2018/202 {Laser enclosed in a hand-piece}

WARNING

Group [A61B 2018/202](#) is impacted by reclassification into group [A61B 2018/2023](#).

Groups [A61B 2018/202](#) and [A61B 2018/2023](#) should be considered in order to perform a complete search.

- 2018/2023 {Self-contained devices, i.e. with power supply in the hand-piece}

WARNING

Group [A61B 2018/2023](#) is incomplete pending reclassification of documents from group [A61B 2018/202](#).

Groups [A61B 2018/202](#) and [A61B 2018/2023](#) should be considered in order to perform a complete search.

- 2018/2025 {with a pilot laser}
- 18/203 . . . {applying laser energy to the outside of the body}

- 2018/2035 {Beam shaping or redirecting; Optical components therefor ([A61B 2018/2255](#) takes precedence)}

WARNING

Group [A61B 2018/2035](#) is impacted by reclassification into groups [A61B 2018/20361](#), [A61B 2018/20553](#), [A61B 2018/20554](#), [A61B 2018/205545](#), and [A61B 2018/205547](#).

Groups [A61B 2018/2035](#), [A61B 2018/20361](#), [A61B 2018/20553](#), [A61B 2018/20554](#), [A61B 2018/205545](#), and [A61B 2018/205547](#) should be considered in order to perform a complete search.

- 2018/20351 {Scanning mechanisms}

WARNING

Group [A61B 2018/20351](#) is impacted by reclassification into groups [A61B 2018/20353](#) and [A61B 2018/20355](#).

Groups [A61B 2018/20351](#), [A61B 2018/20353](#) and [A61B 2018/20355](#) should be considered in order to perform a complete search.

- 2018/20353 {Scanning in three dimensions [3D]}

WARNING

Group [A61B 2018/20353](#) is incomplete pending reclassification of documents from group [A61B 2018/20351](#).

Groups [A61B 2018/20353](#) and [A61B 2018/20351](#) should be considered in order to perform a complete search.

- 2018/20355 {Special scanning path or conditions, e.g. spiral, raster or providing spot overlap}

WARNING

Group [A61B 2018/20355](#) is incomplete pending reclassification of documents from group [A61B 2018/20351](#).

Groups [A61B 2018/20355](#) and [A61B 2018/20351](#) should be considered in order to perform a complete search.

- 2018/20357 {by movable optical fibre end}
- 2018/20359 {by movable mirrors, e.g. galvanometric}
- 2018/20361 {with redirecting based on sensed condition, e.g. tissue analysis or tissue movement}

WARNING

Group [A61B 2018/20361](#) is incomplete pending reclassification of documents from group [A61B 2018/2035](#).

Groups [A61B 2018/20361](#) and [A61B 2018/2035](#) should be considered in order to perform a complete search.

- 2018/204 {Attenuators}
- 2018/2045 {Choppers}
- 2018/205 {with electronic means, e.g. acousto-optic}

2018/2055 {with mechanical means}
 2018/20553 {with special lens or reflector arrangement
 ([A61B 2018/2255](#), [A61B 2018/2261](#),
[A61B 2018/2266](#), [A61B 2018/2272](#),
[A61B 2018/2277](#), [A61B 2018/2283](#) take
 precedence)}

WARNING

Group [A61B 2018/20553](#) is incomplete
 pending reclassification of documents
 from group [A61B 2018/2035](#).

Groups [A61B 2018/20553](#) and
[A61B 2018/2035](#) should be considered in
 order to perform a complete search.

2018/20554 {Arrangements for particular intensity
 distribution, e.g. tophat}

WARNING

Group [A61B 2018/20554](#) is incomplete
 pending reclassification of documents
 from group [A61B 2018/2035](#).

Groups [A61B 2018/20554](#) and
[A61B 2018/2035](#) should be considered in
 order to perform a complete search.

2018/205545 {Arrangements for particular spot shape, e.g.
 square or annular}

WARNING

Group [A61B 2018/205545](#) is incomplete
 pending reclassification of documents
 from group [A61B 2018/2035](#).

Groups [A61B 2018/205545](#) and
[A61B 2018/2035](#) should be considered in
 order to perform a complete search.

2018/205547 {Controller with specific architecture or
 programmatic algorithm for directing scan
 path, spot size or shape, or spot intensity,
 fluence or irradiance}

WARNING

Group [A61B 2018/205547](#) is incomplete
 pending reclassification of documents
 from group [A61B 2018/2035](#).

Groups [A61B 2018/205547](#) and
[A61B 2018/2035](#) should be considered in
 order to perform a complete search.

2018/206 {the laser light passing along a liquid-filled
 conduit}

2018/2065 {Multiwave; Wavelength mixing, e.g.
 using four or more wavelengths (pilot laser
[A61B 2018/2025](#))}

2018/207 {mixing two wavelengths}

2018/2075 {mixing three wavelengths}

2018/208 {with multiple treatment beams not sharing a
 common path, e.g. non-axial or parallel}

18/22 the beam being directed along or through
 a flexible conduit, e.g. an optical fibre;
 {Couplings or} hand-pieces therefor

WARNING

Group [A61B 18/22](#) is impacted by
 reclassification into groups [A61B 18/22](#) and
[A61B 2018/2247](#).

Groups [A61B 18/22](#) and [A61B 2018/2247](#)
 should be considered in order to perform a
 complete search.

2018/2205 {Characteristics of fibres}

2018/2211 {Plurality of fibres}

2018/2216 {Braided or helically wound}

2018/2222 {Fibre material or composition}

2018/2227 {Hollow fibres}

2018/2233 {Solid transparent for far infrared light}

2018/2238 {with means for selectively laterally
 deflecting the tip of the fibre}

2018/2244 {Features of optical fibre cables, e.g.
 claddings}

2018/2247 {Fibre breakage detection}

WARNING

Group [A61B 2018/2247](#) is incomplete
 pending reclassification of documents
 from group [A61B 18/22](#).

Groups [A61B 18/22](#) and [A61B 2018/2247](#)
 should be considered in order to perform
 a complete search.

2018/225 {Features of hand-pieces ([A61B 2018/2255](#)
 takes precedence)}

WARNING

Group [A61B 2018/225](#) is impacted
 by reclassification into group
[A61B 2018/2253](#).

Groups [A61B 2018/225](#) and
[A61B 2018/2253](#) should be considered in
 order to perform a complete search.

2018/2253 {characterised by additional functions, e.g.
 surface cooling or detecting pathological
 tissue}

WARNING

Group [A61B 2018/2253](#) is incomplete
 pending reclassification of documents
 from group [A61B 2018/225](#).

Groups [A61B 2018/2253](#) and
[A61B 2018/225](#) should be considered
 in order to perform a complete search.

2018/2255 {Optical elements at the distal end of probe
 tips}

WARNING

Group [A61B 2018/2255](#) is impacted
 by reclassification into groups
[A61B 2018/2285](#) and [A61B 2018/22853](#).

Groups [A61B 2018/2255](#),
[A61B 2018/2285](#) and [A61B 2018/22853](#)
 should be considered in order to perform
 a complete search.

- 2018/2261 {with scattering, diffusion or dispersion of light}
- 2018/2266 {with a lens, e.g. ball tipped}
- 2018/2272 {with reflective or refractive surfaces for deflecting the beam ([A61B 2018/2261](#), [A61B 2018/2266](#) take precedence)}
- 2018/2277 {with refractive surfaces}
- 2018/2283 {with pivotable mirrors}
- 2018/2285 {with removable, replacable, or exchangeable tips}
- WARNING**
- Group [A61B 2018/2285](#) is incomplete pending reclassification of documents from group [A61B 2018/2255](#).
- Groups [A61B 2018/2285](#) and [A61B 2018/2255](#) should be considered in order to perform a complete search.
- 2018/22853 {Means to identify tip configuration}
- WARNING**
- Group [A61B 2018/22853](#) is incomplete pending reclassification of documents from group [A61B 2018/2255](#).
- Groups [A61B 2018/22853](#) and [A61B 2018/2255](#) should be considered in order to perform a complete search.
- 2018/2288 {the optical fibre cable having a curved distal end}
- 2018/2294 {with a diffraction grating}
- 18/24 with a catheter ([A61B 18/26](#), [A61B 18/28](#) take precedence)
- 18/245 {for removing obstructions in blood vessels or calculi}
- 18/26 for producing a shock wave, e.g. laser lithotripsy
- 2018/263 {the conversion of laser energy into mechanical shockwaves taking place in a liquid}
- 2018/266 {the conversion of laser energy into mechanical shockwaves taking place in a part of the probe}
- 18/28 for heating a thermal probe or absorber
- 34/00 Computer-aided surgery; Manipulators or robots specially adapted for use in surgery**
- 34/10 Computer-aided planning, simulation or modelling of surgical operations
- 2034/101 {Computer-aided simulation of surgical operations}
- 2034/102 {Modelling of surgical devices, implants or prosthesis}
- 2034/104 {Modelling the effect of the tool, e.g. the effect of an implanted prosthesis or for predicting the effect of ablation or burring}
- 2034/105 {Modelling of the patient, e.g. for ligaments or bones}
- 2034/107 {Visualisation of planned trajectories or target regions}
- 2034/108 {Computer aided selection or customisation of medical implants or cutting guides}
- 34/20 Surgical navigation systems; Devices for tracking or guiding surgical instruments, e.g. for frameless stereotaxis
- 2034/2046 {Tracking techniques}
- 2034/2048 {using an accelerometer or inertia sensor}
- 2034/2051 {Electromagnetic tracking systems}
- 2034/2053 {Tracking an applied voltage gradient}
- 2034/2055 {Optical tracking systems}
- 2034/2057 {Details of tracking cameras}
- 2034/2059 {Mechanical position encoders}
- 2034/2061 {using shape-sensors, e.g. fiber shape sensors with Bragg gratings}
- 2034/2063 {Acoustic tracking systems, e.g. using ultrasound}
- 2034/2065 {Tracking using image or pattern recognition}
- 2034/2068 {using pointers, e.g. pointers having reference marks for determining coordinates of body points}
- 2034/207 {Divots for calibration}
- 2034/2072 {Reference field transducer attached to an instrument or patient}
- 2034/2074 {Interface software}
- 34/25 {User interfaces for surgical systems}
- 2034/252 {indicating steps of a surgical procedure}
- 2034/254 {being adapted depending on the stage of the surgical procedure}
- 2034/256 {having a database of accessory information, e.g. including context sensitive help or scientific articles}
- 2034/258 {providing specific settings for specific users}
- 34/30 Surgical robots
- 2034/301 {for introducing or steering flexible instruments inserted into the body, e.g. catheters or endoscopes}
- 2034/302 {specifically adapted for manipulations within body cavities, e.g. within abdominal or thoracic cavities}
- 2034/303 {specifically adapted for manipulations within body lumens, e.g. within lumen of gut, spine, or blood vessels}
- 2034/304 {including a freely orientable platform, e.g. so called 'Stewart platforms'}
- 2034/305 {Details of wrist mechanisms at distal ends of robotic arms}
- 2034/306 {Wrists with multiple vertebrae}
- 34/32 operating autonomously
- 34/35 for telesurgery
- 34/37 Master-slave robots ([A61B 34/35](#) takes precedence)
- 34/70 {Manipulators specially adapted for use in surgery}
- 34/71 {Manipulators operated by drive cable mechanisms}
- 2034/715 {Cable tensioning mechanisms for removing slack}
- 34/72 {Micromanipulators}
- 34/73 {Manipulators for magnetic surgery}
- 2034/731 {Arrangement of the coils or magnets}
- 2034/732 {arranged around the patient, e.g. in a gantry}
- 2034/733 {arranged only on one side of the patient, e.g. under a table}
- 34/74 {Manipulators with manual electric input means}
- 2034/741 {Glove like input devices, e.g. "data gloves"}

| | | | |
|--------------|---|-----------|--|
| 2034/742 | . . . {Joysticks} | 2050/0052 | . . . {of two concentric cylinders with corresponding lateral openings, about their common longitudinal axis} |
| 2034/743 | . . . {Keyboards} | 2050/0053 | . . . {of two concentric parallelepipeds about a common longitudinal axis} |
| 2034/744 | . . . {Mouse} | 2050/0054 | . . . {about the central longitudinal axis perpendicular to the lid plane} |
| 34/75 | . . {Manipulators having means for prevention or compensation of hand tremors} | 2050/0055 | . . . {about a lateral axis perpendicular to the lid plane} |
| 34/76 | . . {Manipulators having means for providing feel, e.g. force or tactile feedback} | 2050/0056 | . . . {about a lateral axis in the lid plane} |
| 34/77 | . . {Manipulators with motion or force scaling} | 2050/0057 | . . . {about a transverse axis in the lid plane} |
| 42/00 | Surgical gloves; Finger-stalls specially adapted for surgery; Devices for handling or treatment thereof | 2050/0058 | . . {closable by translation} |
| | WARNING | 2050/0059 | . . . {parallel to the lid plane} |
| | Group A61B 42/00 is impacted by reclassification into group A61B 42/10 . | 2050/006 | . . . {perpendicular to the lid plane, e.g. by a downward movement} |
| | Groups A61B 42/00 and A61B 42/10 should be considered in order to perform a complete search. | 2050/0061 | {the height of the lid being adjustable with respect to the casing sidewalls} |
| 42/10 | . Surgical gloves | 2050/0062 | . . {closable by a combination of rotation and translation} |
| | WARNING | 2050/0063 | . . . {Bayonet coupling} |
| | Group A61B 42/10 is incomplete pending reclassification of documents from group A61B 42/00 . | 2050/0064 | . . . {by screwing} |
| | Groups A61B 42/00 and A61B 42/10 should be considered in order to perform a complete search. | 2050/0065 | . . {Peelable cover} |
| 42/20 | . Finger-stalls specially adapted for surgery | 2050/0066 | . . {with additional sealing means, e.g. O-ring} |
| 42/30 | . Devices for detecting perforations, leaks or tears | 2050/0067 | . . {Types of closures or fasteners} |
| 42/40 | . Packages or dispensers | 2050/0068 | . . . {Cooperating dimples} |
| 42/50 | . Devices for putting-on or removing | 2050/0069 | . . . {Press-buttons} |
| 42/60 | . Devices for cleaning, washing, drying or powdering | 2050/007 | . . . {Locking clamps} |
| 46/00 | Surgical drapes | 2050/0071 | . . . {Draw-strings} |
| 46/10 | . specially adapted for instruments{, e.g. microscopes} | 2050/0072 | . . . {Plugs, e.g. rubber plugs} |
| 46/13 | . . the drapes entering the patient's body | 2050/0073 | . . . {Ties} |
| 46/17 | . . . closed at the distal end | 2050/0074 | . . . {Toggle latches or clamps} |
| 46/20 | . specially adapted for patients | 2050/0075 | . . . {Swingable wire bails or handles} |
| 2046/201 | . . {for extremities, e.g. having collection pouch} | 2050/0076 | . . . {having additional locking means} |
| 2046/205 | . . {Adhesive drapes} | 2050/0078 | . . . {having additional unlocking means} |
| 46/23 | . . with means to retain or hold surgical implements | 2050/0079 | . . . {Magnetic closures} |
| 2046/234 | . . . {with means for retaining a catheter} | 2050/008 | . . . {Pegs inserted, e.g. forced, into openings} |
| 2046/236 | . . . {with means for collecting drain fluid, e.g. drain tubes} | 2050/0081 | . . . {Pins cooperating with slots of a slideable locking bar} |
| 46/27 | . . tubular, e.g. for arms or legs (A61B 46/13 takes precedence) | 2050/0082 | . . . {Rib-and-groove connection} |
| 46/30 | . {for surgery through the lower body openings, e.g. urology, gynaecology} | 2050/0083 | . . . {Snap connection} |
| 46/40 | . {Drape material, e.g. laminates; Manufacture thereof} | 2050/0084 | . . . {Tabs inserted into slots} |
| 50/00 | Containers, covers, furniture or holders specially adapted for surgical or diagnostic appliances or instruments, e.g. sterile covers (drapes specially adapted for instruments A61B 46/10) | 2050/0085 | . . . {Hook and loop} |
| 2050/001 | . {Temperature-modifying means} | 2050/0086 | . . . {closed by or under vacuum} |
| 2050/0014 | . . {Cooling means} | 2050/0087 | . . . {closed in two steps} |
| 2050/0016 | . . {Heating means} | 2050/0088 | . . . {Zip} |
| 2050/0017 | . . . {Chemical heating} | 2050/0089 | . . {having permanent closure means} |
| 2050/0018 | . . . {Electric heating} | 2050/009 | . . . {having additional means for temporarily preventing said permanent closure} |
| 2050/002 | . {having adhesive means, e.g. an adhesive strip} | 50/10 | . Furniture specially adapted for surgical or diagnostic appliances or instruments |
| 2050/005 | . {with a lid or cover} | 2050/105 | . . {Cabinets} |
| 2050/0051 | . . {closable by rotation} | 50/13 | . . Trolleys{, e.g. carts} |
| | | 50/15 | . . Mayo stands; Tables |
| | | 2050/155 | . . . {Mayo stands} |
| | | 50/18 | . . Cupboards; Drawers therefor |
| | | 2050/185 | . . . {Drawers} |
| | | 50/20 | . Holders specially adapted for surgical or diagnostic appliances or instruments (drapes with means to hold surgical instruments A61B 46/23; for catheters A61M 25/02) |
| | | 2050/21 | . . {Magnetic holders} |
| | | 50/22 | . . Racks |

| | | | |
|-----------|--|--------------|--|
| 50/24 | . . . Stands (Mayo stands A61B 50/15) | 50/362 | . . . {for sharps} |
| | WARNING | 2050/364 | . . . {having additional means for destroying used sharps} |
| | Group A61B 50/24 is impacted by reclassification into groups A61B 50/26 and A61B 50/28 . | 50/37 | . . . for absorbent articles, e.g. bandages, garments, swabs or towels |
| | Groups A61B 50/24 , A61B 50/26 and A61B 50/28 should be considered in order to perform a complete search. | 2050/375 | . . . {for sponges} |
| 50/26 | . . . floor-based | 50/39 | . . . the containers containing antimicrobial, antiviral or disinfectant agents |
| | WARNING | 90/00 | Instruments, implements or accessories specially adapted for surgery or diagnosis and not covered by any of the groups A61B 1/00 - A61B 50/00, e.g. for luxation treatment or for protecting wound edges (protective face masks A41D 13/11; surgeon's or patient's gowns or dresses A41D 13/12; devices for carrying-off, for treatment of, or for carrying-over, body liquids A61M 1/00) |
| | Group A61B 50/26 is incomplete pending reclassification of documents from group A61B 50/24 . | 90/02 | . {Devices for expanding tissue, e.g. skin tissue (implements for holding wounds open, surgical tractors A61B 17/02 ; implantable mammary prosthesis A61F 2/12 ; dilators A61M 29/00)} |
| | Groups A61B 50/24 , A61B 50/26 and A61B 50/28 should be considered in order to perform a complete search. | 90/03 | . {Automatic limiting or abutting means, e.g. for safety} |
| 50/28 | . . . suspended from the ceiling | 2090/031 | . . {torque limiting} |
| | WARNING | 2090/032 | . . {pressure limiting, e.g. hydrostatic} |
| | Group A61B 50/28 is incomplete pending reclassification of documents from group A61B 50/24 . | 2090/033 | . . {Abutting means, stops, e.g. abutting on tissue or skin} |
| | Groups A61B 50/24 , A61B 50/26 and A61B 50/28 should be considered in order to perform a complete search. | 2090/034 | . . . {abutting on parts of the device itself} |
| 50/30 | . Containers specially adapted for packaging, protecting, dispensing, collecting or disposing of surgical or diagnostic appliances or instruments (for wound clamps A61B 17/10 ; for ligaturing clips A61B 17/122 ; packages or dispensers for surgical gloves or finger-stalls A61B 42/40) | 2090/035 | . . . {preventing further rotation} |
| 50/3001 | . . {for sharps} | 2090/036 | . . . {abutting on tissue or skin} |
| 2050/3002 | . . . {including foam blocks for retaining sharps} | 2090/037 | . . {with a frangible part, e.g. by reduced diameter} |
| 2050/3004 | . . {containing desiccant means, e.g. desiccant pouches} | 2090/038 | . . {during shipment} |
| 2050/3005 | . . {containing a preservative liquid, e.g. an antiseptic liquid} | 90/04 | . {Protection of tissue around surgical sites against effects of non-mechanical surgery, e.g. laser surgery (protection of eyes against laser radiation A61F 9/022)} |
| 2050/3006 | . . {Nested casings} | 2090/0409 | . . {Specification of type of protection measures} |
| 2050/3007 | . . {Stackable casings} | 2090/0418 | . . . {Compensation} |
| 2050/3008 | . . {having multiple compartments} | 2090/0427 | . . . {Prevention of contact} |
| 2050/3009 | . . {having means for connecting similar adjacent containers} | 2090/0436 | . . . {Shielding} |
| 2050/301 | . . {carried on the medical practitioner's clothing or back} | 2090/0445 | {by absorption} |
| 2050/3011 | . . {having carrying handles} | 2090/0454 | {by reflection} |
| 2050/3012 | . . . {Wrist hangers} | 2090/0463 | . . {against cooling or freezing} |
| 2050/3013 | . . {having means for automatically ejecting the stored article} | 2090/0472 | . . {against ultrasound energy} |
| 2050/3014 | . . {waterproof} | 2090/0481 | . . {against EM radiation, e.g. microwave} |
| 2050/3015 | . . {transparent} | 2090/049 | . . {against light, e.g. laser} |
| 50/31 | . . Carrying cases or bags, e.g. doctors' bags | 90/05 | . {Splash shields for protection of the surgeon, e.g. splash guards connected to the apparatus (A41D 13/11 takes precedence)} |
| 2050/311 | . . . {Cases} | 90/06 | . {Measuring instruments not otherwise provided for} |
| 50/312 | . . . {Doctors' or nurses' bags} | 2090/061 | . . {for measuring dimensions, e.g. length} |
| 2050/314 | . . {Flexible bags or pouches} | 2090/062 | . . {penetration depth} |
| 2050/316 | . . . {double- or multiple-walled} | 2090/063 | . . {for measuring volume} |
| 2050/318 | . . . {Multi-pouches, e.g. strips of side-by-side pouches} | 2090/064 | . . {for measuring force, pressure or mechanical tension} |
| 50/33 | . . Trays | 2090/065 | . . . {for measuring contact or contact pressure} |
| 50/34 | . . Baskets | 2090/066 | . . . {for measuring torque} |
| 50/36 | . . for collecting or disposing of used articles | 2090/067 | . . {for measuring angles} |
| | | 2090/068 | . . . {with a bubble level} |
| | | 2090/069 | . . . {using a plummet or weight} |
| | | 90/08 | . {Accessories or related features not otherwise provided for} |
| | | 2090/0801 | . . {Prevention of accidental cutting or pricking} |
| | | 2090/08021 | . . . {of the patient or his organs} |

- 2090/0803 . . {Counting the number of times an instrument is used}
- 2090/0804 . . {Counting number of instruments used; Instrument detectors}
- 2090/0805 . . . {automatically, e.g. by means of magnetic, optical or photoelectric detectors}
- 2090/0806 . . . {Instrument detectors with a removable part, e.g. working tip}
- 2090/0807 . . {Indication means}
- 2090/0808 . . . {for indicating correct assembly of components, e.g. of the surgical apparatus}
- 2090/0809 . . . {Indication of cracks or breakages}
- 2090/081 . . . {for contamination or dirt}
- 2090/0811 . . . {for the position of a particular part of an instrument with respect to the rest of the instrument, e.g. position of the anvil of a stapling instrument}
- 2090/0812 {indicating loosening or shifting of parts of an instrument, signaling maladjustment of parts}
- 2090/0813 . . {Accessories designed for easy sterilising, i.e. reusable}
- 2090/0814 . . {Preventing re-use}
- 2090/0815 . . {Implantable devices for insertion in between organs or other soft tissues}
- 2090/0816 . . . {for preventing adhesion}
- 2090/0817 . . {Spatulas or spatula like extensions}
- 2090/0818 . . {Redundant systems, e.g. using two independent measuring systems and comparing the signals}
- 90/10 . for stereotaxic surgery, e.g. frame-based stereotaxis
- 2090/101 . . {for stereotaxic radiosurgery}
- 2090/103 . . {Cranial plugs for access to brain}
- 90/11 . . with guides for needles or instruments, e.g. arcuate slides or ball joints
- 90/13 . . . guided by light, e.g. laser pointers
- 90/14 . . Fixators for body parts, e.g. skull clamps; Constructional details of fixators, e.g. pins
- 90/16 . . . Bite blocks
- 90/17 . . . for soft tissue, e.g. breast-holding devices
- 90/18 . . . Retaining sheets, e.g. immobilising masks {made from a thermoplastic material}
- 90/20 . Surgical microscopes characterised by non-optical aspects

WARNING

Group [A61B 90/20](#) is impacted by reclassification into group [A61B 90/25](#).

Groups [A61B 90/20](#) and [A61B 90/25](#) should be considered in order to perform a complete search.

- 90/25 . . Supports therefor

WARNING

Group [A61B 90/25](#) is incomplete pending reclassification of documents from group [A61B 90/20](#).

Groups [A61B 90/20](#) and [A61B 90/25](#) should be considered in order to perform a complete search.

- 90/30 . Devices for illuminating a surgical field, the devices having an interrelation with other surgical devices or with a surgical procedure

WARNING

Group [A61B 90/30](#) is impacted by reclassification into group [A61B 90/35](#).

Groups [A61B 90/30](#) and [A61B 90/35](#) should be considered in order to perform a complete search.

- 2090/304 . . {using chemi-luminescent materials}
- 2090/306 . . {using optical fibres}
- 2090/308 . . {Lamp handles}
- 2090/309 . . {using white LEDs}
- 90/35 . . Supports therefor

WARNING

Group [A61B 90/35](#) is incomplete pending reclassification of documents from group [A61B 90/30](#).

Groups [A61B 90/30](#) and [A61B 90/35](#) should be considered in order to perform a complete search.

- 90/36 . {Image-producing devices or illumination devices not otherwise provided for}
- 90/361 . . {Image-producing devices, e.g. surgical cameras}
- 2090/3612 . . . {with images taken automatically}
- 2090/3614 . . . {using optical fibre}
- 2090/3616 . . . {Magnifying glass}
- 2090/3618 . . . {with a mirror}
- 2090/363 . . {Use of fiducial points}
- 2090/364 . . {Correlation of different images or relation of image positions in respect to the body}
- 2090/365 . . . {augmented reality, i.e. correlating a live optical image with another image}
- 2090/366 . . . {using projection of images directly onto the body}
- 2090/367 . . . {creating a 3D dataset from 2D images using position information}
- 2090/368 . . . {changing the image on a display according to the operator's position}
- 90/37 . . {Surgical systems with images on a monitor during operation}
- 2090/371 . . . {with simultaneous use of two cameras}
- 2090/372 . . . {Details of monitor hardware}
- 2090/373 . . . {using light, e.g. by using optical scanners}
- 2090/3735 {Optical coherence tomography [OCT]}
- 2090/374 . . . {NMR or MRI}
- 2090/376 . . . {using X-rays, e.g. fluoroscopy}
- 2090/3762 {using computed tomography systems [CT]}
- 2090/3764 {with a rotating C-arm having a cone beam emitting source}
- 2090/378 . . . {using ultrasound}
- 2090/3782 {transmitter or receiver in catheter or minimal invasive instrument}
- 2090/3784 {both receiver and transmitter being in the instrument or receiver being also transmitter}
- 2090/3786 {receiver only}
- 2090/3788 {transmitter only}
- 90/39 . {Markers, e.g. radio-opaque or breast lesions markers}

| | |
|-----------|--|
| 2090/3904 | . . {specially adapted for marking specified tissue} |
| 2090/3908 | . . . {Soft tissue, e.g. breast tissue} |
| 2090/3912 | . . . {Body cavities} |
| 2090/3916 | . . . {Bone tissue} |
| 2090/392 | . . {Radioactive markers} |
| 2090/3925 | . . {ultrasonic} |
| 2090/3929 | . . . {Active markers} |
| 2090/3933 | . . {Liquid markers} |
| 2090/3937 | . . {Visible markers} |
| 2090/3941 | . . . {Photoluminescent markers} |
| 2090/3945 | . . . {Active visible markers, e.g. light emitting diodes} |
| 2090/395 | . . . {with marking agent for marking skin or other tissue} |
| 2090/3954 | . . {magnetic, e.g. NMR or MRI} |
| 2090/3958 | . . . {emitting a signal} |
| 2090/3962 | . . {palpable} |
| 2090/3966 | . . {Radiopaque markers visible in an X-ray image} |
| 2090/397 | . . {electromagnetic other than visible, e.g. microwave} |
| 2090/3975 | . . . {active} |
| 2090/3979 | {infrared} |
| 2090/3983 | . . {Reference marker arrangements for use with image guided surgery} |
| 2090/3987 | . . {Applicators for implanting markers} |
| 2090/3991 | . . {having specific anchoring means to fixate the marker to the tissue, e.g. hooks} |
| 2090/3995 | . . {Multi-modality markers} |
| 90/40 | . Apparatus fixed or close to patients specially adapted for providing an aseptic surgical environment |
| 2090/401 | . . {using air flow} |
| 90/50 | . Supports for surgical instruments, e.g. articulated arms |
| 2090/502 | . . {Headgear, e.g. helmet, spectacles} |
| 2090/5025 | . . {with a counter-balancing mechanism} |
| 2090/504 | . . . {with a counterweight} |
| 2090/506 | . . {using a parallelogram linkage, e.g. pantograph} |
| 2090/508 | . . {with releasable brake mechanisms} |
| 90/53 | . . connected to the surgeon's body, e.g. by a belt |
| 90/57 | . . Accessory clamps |
| 2090/571 | . . . {for clamping a support arm to a bed or other supports} |
| 90/60 | . Supports for surgeons, e.g. chairs or hand supports (seats for dentists or surgeons associated with dental chairs or operating chairs A61G 15/00) |
| 90/70 | . Cleaning devices specially adapted for surgical instruments |
| 2090/701 | . . {for flexible tubular instruments, e.g. endoscopes} |
| 2090/702 | . . {Devices for testing the cleaning process, e.g. test soils} |
| 90/80 | . Implements for cleaning or washing the skin of surgeons or patients |
| 90/90 | . Identification means for patients or instruments, e.g. tags |
| 90/92 | . . coded with colour |
| 90/94 | . . coded with symbols, e.g. text |
| 90/96 | . . . using barcodes |
| 90/98 | . . using electromagnetic means, e.g. transponders |

2217/00 General characteristics of surgical instruments

- 2217/002 . Auxiliary appliance
- 2217/005 . . with suction drainage system
- 2217/007 . . with irrigation system

Diagnosis; Psycho-physical tests**2218/00 Details of surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body**

- 2218/001 . having means for irrigation and/or aspiration of substances to and/or from the surgical site ([A61B 2018/00029](#) and [A61B 2018/1472](#) take precedence)
- 2218/002 . . Irrigation
- 2218/003 . . . using a spray or a foam
- 2218/005 . . . using gas or vapor, e.g. for protection or purging
- 2218/006 . . . for smoke evacuation
- 2218/007 . . Aspiration
- 2218/008 . . . for smoke evacuation

2503/00 Evaluating a particular growth phase or type of persons or animals

- 2503/02 . Foetus
- 2503/04 . Babies, e.g. for SIDS detection
- 2503/045 . . Newborns, e.g. premature baby monitoring
- 2503/06 . Children, e.g. for attention deficit diagnosis
- 2503/08 . Elderly
- 2503/10 . Athletes
- 2503/12 . Healthy persons not otherwise provided for, e.g. subjects of a marketing survey
- 2503/20 . Workers
- 2503/22 . . Motor vehicles operators, e.g. drivers, pilots, captains
- 2503/24 . . Computer workstation operators
- 2503/40 . Animals
- 2503/42 . for laboratory research

2505/00 Evaluating, monitoring or diagnosing in the context of a particular type of medical care

- 2505/01 . Emergency care
- 2505/03 . Intensive care
- 2505/05 . Surgical care
- 2505/07 . Home care
- 2505/09 . Rehabilitation or training

2560/00 Constructional details of operational features of apparatus; Accessories for medical measuring apparatus

- 2560/02 . Operational features
- 2560/0204 . . of power management
- 2560/0209 . . . adapted for power saving
- 2560/0214 . . . of power generation or supply
- 2560/0219 of externally powered implanted units
- 2560/0223 . . of calibration, e.g. protocols for calibrating sensors
- 2560/0228 using calibration standards
- 2560/0233 Optical standards
- 2560/0238 . . . Means for recording calibration data
- 2560/0242 . . adapted to measure environmental factors, e.g. temperature, pollution
- 2560/0247 . . . for compensation or correction of the measured physiological value
- 2560/0252 using ambient temperature

- 2560/0257 using atmospheric pressure
- 2560/0261 using hydrostatic pressure
- 2560/0266 . . for monitoring or limiting apparatus function
- 2560/0271 . . . using a remote monitoring unit
- 2560/0276 . . . Determining malfunction
- 2560/028 . . . Arrangements to prevent overuse, e.g. by counting the number of uses
- 2560/0285 Apparatus for single use
- 2560/029 . . adapted for auto-initiation
- 2560/0295 . . adapted for recording user messages or annotations
- 2560/04 . . Constructional details of apparatus
- 2560/0406 . . specially shaped apparatus housings
- 2560/0412 . . . Low-profile patch shaped housings
- 2560/0418 . . . Pen-shaped housings
- 2560/0425 . . . Ergonomically shaped housings
([A61B 2560/0418](#) takes precedence)
- 2560/0431 . . Portable apparatus, e.g. comprising a handle or case
- 2560/0437 . . Trolley or cart-type apparatus
- 2560/0443 . . Modular apparatus
- 2560/045 . . . with a separable interface unit, e.g. for communication
- 2560/0456 . . Apparatus provided with a docking unit
- 2560/0462 . . Apparatus with built-in sensors
- 2560/0468 . . . Built-in electrodes
- 2560/0475 . . Special features of memory means, e.g. removable memory cards
- 2560/0481 . . . in implanted apparatus
- 2560/0487 . . Special user inputs or interfaces
- 2560/0493 . . . controlled by voice
- 2560/06 . . Accessories for medical measuring apparatus
- 2560/063 . . Devices specially adapted for delivering implantable medical measuring apparatus
- 2560/066 . . . catheters therefor
- 2562/00 Details of sensors; Constructional details of sensor housings or probes; Accessories for sensors**
- 2562/02 . . Details of sensors specially adapted for in-vivo measurements
- 2562/0204 . . Acoustic sensors
- 2562/0209 . . Special features of electrodes classified in [A61B 5/04001](#), [A61B 5/0408](#), [A61B 5/042](#), [A61B 5/0478](#), [A61B 5/0492](#) or [A61B 5/053](#)

WARNING

Group [A61B 2562/0209](#) is impacted by reclassification into groups [A61B 2562/0215](#) and [A61B 2562/0217](#).

Groups [A61B 2562/0209](#), [A61B 2562/0215](#), and [A61B 2562/0217](#) should be considered in order to perform a complete search.

- 2562/0214 . . . Capacitive electrodes
- 2562/0215 . . . Silver or silver chloride containing

WARNING

Group [A61B 2562/0215](#) is incomplete pending reclassification of documents from group [A61B 2562/0209](#).

Groups [A61B 2562/0209](#) and [A61B 2562/0215](#) should be considered in order to perform a complete search.

- 2562/0217 . . . Electrolyte containing

WARNING

Group [A61B 2562/0217](#) is incomplete pending reclassification of documents from group [A61B 2562/0209](#).

Groups [A61B 2562/0209](#) and [A61B 2562/0217](#) should be considered in order to perform a complete search.

- 2562/0219 . . Inertial sensors, e.g. accelerometers, gyroscopes, tilt switches
- 2562/0223 . . Magnetic field sensors
- 2562/0228 . . Microwave sensors
- 2562/0233 . . Special features of optical sensors or probes classified in [A61B 5/00](#)
- 2562/0238 . . . Optical sensor arrangements for performing transmission measurements on body tissue
- 2562/0242 . . . for varying or adjusting the optical path length in the tissue
- 2562/0247 . . Pressure sensors
- 2562/0252 . . Load cells
- 2562/0257 . . Proximity sensors
- 2562/0261 . . Strain gauges
- 2562/0266 . . . Optical strain gauges
- 2562/0271 . . Thermal or temperature sensors
- 2562/0276 . . . comprising a thermosensitive compound
- 2562/028 . . Microscale sensors, e.g. electromechanical sensors [MEMS]
- 2562/0285 . . Nanoscale sensors
- 2562/029 . . Humidity sensors
- 2562/0295 . . Strip shaped analyte sensors for apparatus classified in [A61B 5/145](#) or [A61B 5/157](#) (disposable multilayered or laminated electrodes [G01N 27/307](#); details of handling chemical test elements [G01N 33/4875](#))
- 2562/04 . . Arrangements of multiple sensors of the same type
- 2562/043 . . in a linear array
- 2562/046 . . in a matrix array
- 2562/06 . . Arrangements of multiple sensors of different types
- 2562/063 . . in a linear array
- 2562/066 . . in a matrix array
- 2562/08 . . Sensors provided with means for identification, e.g. barcodes or memory chips
- 2562/085 . . combined with means for recording calibration data
- 2562/12 . . Manufacturing methods specially adapted for producing sensors for in-vivo measurements
- 2562/125 . . characterised by the manufacture of electrodes
- 2562/14 . . Coupling media or elements to improve sensor contact with skin or tissue
- 2562/143 . . for coupling microwaves
- 2562/146 . . for optical coupling
- 2562/16 . . Details of sensor housings or probes; Details of structural supports for sensors ([A61B 2560/0462](#) takes precedence)

WARNING

Group [A61B 2562/16](#) is impacted by reclassification into group [A61B 2562/17](#).

Groups [A61B 2562/16](#) and [A61B 2562/17](#) should be considered in order to perform a complete search.

- 2562/162 . . Capsule shaped sensor housings, e.g. for swallowing or implantation
- 2562/164 . . the sensor is mounted in or on a conformable substrate or carrier
- 2562/166 . . the sensor is mounted on a specially adapted printed circuit board
- 2562/168 . . Fluid filled sensor housings
- 2562/17 . . Comprising radiolucent components

WARNING

Group [A61B 2562/17](#) is incomplete pending reclassification of documents from group [A61B 2562/16](#).

Groups [A61B 2562/16](#) and [A61B 2562/17](#) should be considered in order to perform a complete search.

- 2562/18 . Shielding or protection of sensors from environmental influences, e.g. protection from mechanical damage
- 2562/182 . . Electrical shielding, e.g. using a Faraday cage
- 2562/185 . . Optical shielding, e.g. baffles
- 2562/187 . . Strain relief means
- 2562/22 . Arrangements of medical sensors with cables or leads; Connectors or couplings specifically adapted for medical sensors
- 2562/221 . . Arrangements of sensors with cables or leads, e.g. cable harnesses
- 2562/222 . . . Electrical cables or leads therefor, e.g. coaxial cables or ribbon cables
- 2562/223 . . . Optical cables therefor
- 2562/224 . . . Cables for conducting fluids therefor
- 2562/225 . . Connectors or couplings
- 2562/226 . . . comprising means for identifying the connector, e.g. to prevent incorrect connection to socket
- 2562/227 . . . Sensors with electrical connectors
- 2562/228 . . . Sensors with optical connectors
- 2562/24 . Hygienic packaging for medical sensors; Maintaining apparatus for sensor hygiene
- 2562/242 . . Packaging, i.e. for packaging the sensor or apparatus before use
- 2562/245 . . Means for cleaning the sensor in-situ or during use, e.g. hygienic wipes
- 2562/247 . . Hygienic covers, i.e. for covering the sensor or apparatus during use

2576/00 Medical imaging apparatus involving image processing or analysis ([A61B 1/00009](#), [A61B 6/52](#) and [A61B 8/52](#) take precedence; image processing *per se* [G06T](#); details of algorithms for analysing medical images [G06T 7/0012](#))

- 2576/02 . specially adapted for a particular organ or body part
- 2576/023 . . for the heart
- 2576/026 . . for the brain