CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

TRANSPORTING

B63 SHIPS OR OTHER WATERBORNE VESSELS; RELATED EQUIPMENT

B63H MARINE PROPULSION OR STEERING ({arrangement of propulsion or steering means on amphibious vehicles B60F 3/0007; } propulsion of air-cushion vehicles B60V 1/14; peculiar to submarines, other than nuclear propulsion, B63G; peculiar to torpedoes F42B 19/00)

NOTE

In this subclass, the indexing codes B63B 2201/00 - B63B 2241/00 are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means

1/00 **Propulsive elements directly acting on water** (jet propulsion B63H 11/00; attachment of propellers on shafts B63H 23/34)

2001/005 . {using Magnus effect}

1/02 . of rotary type (endless-track type B63H 1/34)

1/04 . . with rotation axis substantially at right angles to propulsive direction

2001/045 . . . {with partially immersed nutating or ondulated disks, e.g. wobble plates}

1/06 . . . with adjustable vanes or blades

1/08 . . . . with cyclic adjustment

1/10 . . . . . of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body

2001/105 . . . . . {with non-mechanical control of individual blades, e.g. electric or hydraulic control}

1/12 . . with rotation axis substantially in propulsive direction

2001/122 . . . {Single or multiple threaded helicoidal screws, or the like, comprising foils extending over a substantial angle; Archimedean screws}

2001/125 . . . . {with helicoidal foils projecting from outside surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}

2001/127 . . . . {with helicoidal foils projecting from inside surfaces of rotating shrouds; Archimedean screws}

1/14 . . . Propellers (pitch changing B63H 3/00)

2001/145 . . . . {comprising blades of two or more different types, e.g. different lengths}

1/15 . . . . having vibration damping means (anti-vibration mounting of propulsion plant B63H 21/30; means for damping vibration in general F16F)

1/16 . . . . having a shrouding ring attached to blades

2001/165 . . . . . {Hubless propellers, e.g. peripherally driven shrouds with blades projecting from the shrouds' inside surfaces}

1/18 . . . . with means for diminishing cavitation, e.g. supercavitation

2001/185 . . . . . {Surfacing propellers, i.e. propellers specially adapted for operation at the water surface, with blades incompletely submerged, or piercing the water surface from above in the course of each revolution}

1/20 . . . . Hubs; Blade connections

1/22 . . . . . the blades being foldable

1/24 . . . . . automatically foldable or unfoldable

1/26 . . . . Blades

1/265 . . . . . {each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop}

1/28 . . . . Other means for improving propeller efficiency (water-guiding elements formed by shape of hull B63H 5/00)

2001/283 . . . . . {Propeller hub caps with fins having a pitch different from pitch of propeller blades, or a helix hand opposed to the propellers' helix hand}

2001/286 . . . . . {Injection of gas into fluid flow to propellers, or around propeller blades}

1/30 . of non-rotary type

1/32 . . Flaps, pistons, or the like, reciprocating in propulsive direction

1/34 . . of endless-track type

2001/342 . . . {with tracks substantially parallel to propulsive direction}

2001/344 . . . . {having paddles mounted in fixed relation to tracks, or to track members}

2001/346 . . . . {having paddles movably mounted on the track or on track members, e.g. articulated, or with means for cyclically controlling the paddles' angular position or orientation}

2001/348 . . . {with tracks oriented transverse to propulsive direction}

1/36 . . swinging sideways, e.g. fishtail type

1/37 . . Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating structure

1/38 . characterised solely by flotation properties, e.g. drums

3/00 **Propeller-blade pitch changing {**(aircraft propellers B64C 11/30; rotors of turbines F01D 7/00; axial wind motors F03D 7/022; axial-flow pumps F04D 29/00)**}**

3/002 . {with individually adjustable blades}

2003/004 . {comprising means for locking blades in position}

2003/006 . {Detecting or transmitting propeller-blade pitch angle}

3/008 . {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}

3/02 . actuated by control element coaxial with propeller shaft, e.g. the control element being rotary {(B63H 3/002 takes precedence, fluid actuated B63H 3/081)}

3/04 . . the control element being reciprocatable

3/06 . characterised by use of non-mechanical actuating means, e.g. electrical (B63H 3/002 takes precedence)

3/08 . . fluid

3/081 . . . {actuated by control element coaxial with the propeller shaft}

3/082 . . . . {the control element being axially reciprocatable}

2003/084 . . . . . {with annular cylinder and piston}

2003/085 . . . . . {the control element having means for preventing rotation together with the propeller}

2003/087 . . . {using gaseous fluids, e.g. steam or air}

2003/088 . . . {characterised by supply of fluid actuating medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}

3/10 . characterised by having pitch control conjoint with propulsion plant control

3/12 . the pitch being adjustable only when propeller is stationary (B63H 3/002 takes precedence)

5/00 **Arrangements on vessels of propulsion elements directly acting on water**

2005/005 . {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}

5/02 . of paddle wheels, e.g. of stern wheels

2005/025 . . {of Voith Schneider type}

5/03 . . movably mounted with respect to the hull, e.g. having means to reposition paddle wheel assembly, or to retract paddle or to change paddle attitude

5/04 . . with stationary water-guiding elements

5/07 . of propellers (forming part of outboard units {or Z-drives} B63H 20/00)

2005/075 . . {using non-azimuthing podded propulsor units, i.e. podded units without means for rotation about a vertical axis, e.g. rigidly connected to the hull}

5/08 . . of more than one propeller

5/10 . . . of coaxial type, e.g. of counter-rotative type

2005/103 . . . . {of co-rotative type, i.e. rotating in the same direction, e.g. twin propellers}

2005/106 . . . . {with drive shafts of second or further propellers co-axially passing through hub of first propeller, e.g. counter-rotating tandem propellers with co-axial drive shafts}

5/125 . . movably mounted with respect to hull, e.g. adjustable in direction {, e.g. podded azimuthing thrusters} ({outboard units or Z-drives B63H 20/00; } movably mounted for steering purposes only, {rudders carrying propellers} B63H 25/42)

5/1252 . . . {the ability to move being conferred by gearing in transmission between prime mover and propeller and the propulsion unit being other than in a "Z" configuration}

2005/1254 . . . {Podded azimuthing thrusters, i.e. podded thruster units arranged inboard for rotation about vertical axis}

2005/1256 . . . . {with mechanical power transmission to propellers}

2005/1258 . . . . {with electric power transmission to propellers, i.e. with integrated electric propeller motors}

5/14 . . characterised by being mounted in non-rotating ducts or rings, e.g. adjustable for steering purpose (shrouding ring attached to blades B63H 1/16; jet propulsion B63H 11/00)

5/15 . . . Nozzles, e.g. Kort-type

5/16 . . characterised by being mounted in recesses; with stationary water-guiding elements; Means to prevent fouling of the propeller, e.g. guards, cages or screens (anti-fouling paints C09D 5/16)

5/165 . . . {Propeller guards, line cutters or other means for protecting propellers or rudders}

5/18 . . of emergency propellers, e.g. arranged at the side of the vessel

5/20 . . . movable from a working position to a non-working position {(movable arrangements of propellers in general B63H 5/125; outboard propulsion units in general B63H 20/00; steering or dynamic anchoring by propellers used therefore only, or by rudders carrying propellers B63H 25/42)}

7/00 **Arrangements of propulsive devices directly acting on air** (jet propulsion B63H 11/00)

7/02 . using propellers (air-screws of aircraft type B64C)

9/00 **Propulsive devices directly acted on by wind; Arrangements thereof** (air driven propellers driving underwater propulsive elements B63H 13/00)

9/02 . using Magnus effect

9/04 . using sails or like wind-catching surfaces (sailing sledges or ice boats B62B 15/00{; masts for sailing boats B63B 15/0083; sail arrangements for wind-driven boards B63B 35/7973})

9/06 . . Construction or types of sails; Arrangements thereof on vessels

9/0607 . . . {Rigid or aerofoil type sails}

9/0614 . . . . {Inflatable aerofoil sails}

2009/0621 . . . . {Rigid sails comprising one or more pivotally supported panels}

2009/0628 . . . . . {the panels being pivotable about horizontal axes}

2009/0635 . . . . . {the panels being pivotable about vertical axes}

9/0642 . . . {Sail battens}

2009/065 . . . . {with variable rigidity, e.g. inflatable}

9/0657 . . . {Construction of sails (sails with detachable sections B63B 35/7983)}

2009/0664 . . . . {of spinnakers, gennakers, or the like balloon sails}
2009/0671 . . . . {of molded sails, i.e. of sails manufactured by shaping deformable material on molds, e.g. thermoplastic film on heatable molds; Methods of manufacturing molded sails}
2009/0678 . . . . {of laminated sails with oriented fibres, i.e. fibres or filaments arranged along predefined lines substantially parallel to the principal stress trajectories; Methods of manufacturing therefor}
9/0685 . . . {Sails pivotally mounted at a mast-tip; Kite sails (B63B 35/7976 takes precedence)}
2009/0692 . . . . {Methods, or means specially adapted for controlling kite sails, e.g. control bars, harnesses, automated control units, or methods of their use}
9/08 . . Connections of sails to masts, spars, or the like
2009/082 . . . {Booms, or the like}
2009/084 . . . {Gooseneck bearings, i.e. bearings for pivotal support of booms on masts}
2009/086 . . . {by sliders, i.e. by shoes sliding in, or guided by channels, tracks or rails; , for connecting luffs, leeches, battens, or the like to masts, spars or booms}
2009/088 . . . {Means for tensioning sheets, or other running rigging, adapted for being guided on rails, or the like mounted on deck, e.g. travellers or carriages with pulleys}
9/10 . . . Running rigging, e.g. reefing equipment (staying of masts B63B 15/02)
9/1007 . . . . {Trapeze systems (harnesses for windsurfers B63B 35/7993)}
9/1014 . . . . . {with elastic connection to harnesses}
9/1021 . . . . {Reefing}
9/1028 . . . . . {by furling around stays}
9/1035 . . . . . {by furling around or inside the mast}
9/1042 . . . . . {by furling around or inside the boom}
2009/105 . . . . . {using drives for actuating reefing mechanism, e.g. roll reefing drives}
2009/1057 . . . . . {using sheaves being friction driven by endless ropes or by ropes having two free ends}
2009/1064 . . . . . {using drums driven by winding or unwinding single ropes onto or from the drums}
9/1071 . . . . {Spinnaker poles or rigging, e.g. combined with spinnaker handling}
9/1078 . . . . {Boom brakes}
9/1085 . . . . {Boom vangs}
9/1092 . . . . {Means for stowing, or securing sails when not in use (B63H 9/1021 takes precedence)}

11/00 Effecting propulsion by jets, i.e. reaction principle (steering by {auxiliary} jet action, {rudders carrying jets} B63H 25/46; power plant per se, see the relevant classes)

2011/002 . {using Coanda effect, i.e. the tendency of fluid jets to be attracted to nearby surfaces}
2011/004 . {using the eductor or injector pump principle, e.g. jets with by-pass fluid paths}
2011/006 . {with propulsive medium supplied from sources external to propelled vessel, e.g. water from public water supply}
2011/008 . {Arrangements of two or more jet units}
11/01 . having means to prevent foreign material from clogging fluid passage way
11/02 . the propulsive medium being ambient water
11/025 . . {by means of magneto-hydro-dynamic forces}
11/04 . . by means of pumps
2011/043 . . . {with means for adjusting or varying pump inlets, e.g. means for varying inlet cross section area}
2011/046 . . . {comprising means for varying pump characteristics, e.g. rotary pumps with variable pitch impellers, or adjustable stators}
11/06 . . . of reciprocating type
11/08 . . . of rotary type
2011/081 . . . . {with axial flow, i.e. the axis of rotation being parallel to the flow direction}
2011/082 . . . . {with combined or mixed flow, i.e. the flow direction being a combination of centrifugal flow and non-centrifugal flow, e.g. centripetal or axial flow}
2011/084 . . . . {with two or more pump stages}
2011/085 . . . . . {having counter-rotating impellers}
2011/087 . . . . {with radial flow}
2011/088 . . . . {using shear forces, e.g. disc pumps or Tesla pumps}
11/09 . . . by means of pressure pulses applied to a column of liquid, e.g. by ignition of an air/gas or vapour mixture
11/10 . . having means for deflecting jet or influencing cross-section thereof
11/101 . . . {having means for deflecting jet into a propulsive direction substantially parallel to the plane of the pump outlet opening}
11/102 . . . . {the inlet opening and the outlet opening of the pump being substantially coplanar}
11/103 . . . having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided with means to improve the fluid flow
11/107 . . . Direction control of propulsive fluid {(B63H 11/101 takes precedence)}
11/11 . . . . with bucket or clamshell-type reversing means
11/113 . . . . Pivoted outlet
11/117 . . . . Pivoted vane
11/12 . the propulsive medium being steam or other gas
11/14 . . the gas being produced by combustion
11/16 . . the gas being produced by other chemical processes

13/00 Effecting propulsion by wind motors driving water-engaging propulsive elements

15/00 Effecting propulsion by use of vessel-mounted driving mechanisms co-operating with anchored chains or the like

16/00 Effecting propulsion by muscle power (swimming frameworks, {i.e. apparatus fixed to or held by the swimmer or diver} with swimmer-operated driving mechanisms A63B 35/00; land-based training equipment for rowing or sculling A63B 69/06)

2016/005 . {used on vessels dynamically supported, or lifted out of the water by hydrofoils}
16/02 . Movable thwarts; Footrests
16/04 . Oars; Sculls; Paddles; Poles

2016/043 . . {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}

2016/046 . . {Oars for single-oar sculling, i.e. for propelling boats by swinging single stern-mounted oars from side to side; Use or arrangements thereof on boats}

16/06 . Rowlocks; Mountings therefor

2016/063 . . {Rowlocks mounted on movable support structures}

16/067 . . Rowlocks mounted on a structure extending beyond the gunwale of the vessel

16/073 . . having oar shaft restraining means

16/08 . Other apparatus for converting muscle power into propulsive effort (general features of propulsion elements, see the relevant groups)

2016/085 . . {comprising means for transmitting muscular power applied in oscillatory or rotary manner to a rotary input shaft of a reversing transmission, e.g. alternatively allowing for ahead or astern propulsion}

16/10 . . for bow-facing rowing

16/102 . . . {by using an inverting mechanism between the handgrip and the blade, e.g. a toothed transmission}

16/105 . . . . {the mechanism having articulated rods}

16/107 . . . {by placing the fulcrum outside the segment defined by handgrip and blade}

16/12 . . {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted pedal cycles}

WARNING

This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups B63H 16/16 - B63H 16/20

16/14 . . . {for propelled drive}

WARNING

This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups B63H 16/16 - B63H 16/20

16/16 . . using reciprocating pull cable, i.e. a strand-like member movable alternately backward and forward

2016/165 . . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}

16/18 . . using sliding {or pivoting} handle or pedal, i.e. the motive force being transmitted to a propelling means by means of a lever operated by the hand or foot of the occupant

2016/185 . . . {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}

16/20 . . using rotary cranking arm

2016/202 . . . {specially adapted or arranged for being actuated by the feet of the user, e.g. using bicycle-like pedals}

2016/205 . . . . {making use of standard bicycles}

2016/207 . . . . . {without wheels}

19/00 Effecting propulsion of vessels, not otherwise provided for

19/02 . by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels

19/04 . . propelled by water current

19/06 . by discharging gas into ambient water (with jet action B63H 11/12; for reducing surface friction B63B 1/38)

19/08 . by direct engagement with water-bed or ground

20/00 Outboard propulsion units, i.e. propulsion units having a substantially vertical power leg mounted outboard of a hull and terminating in a propulsion element, e.g. "outboard motors", Z-drives {with level bridging shaft arranged substantially outboard} (power plants per se, see the relevant classes)**; Arrangements thereof on vessels {**(transom panels for outboard motors on inflatable boats B63B 7/087; tug-type floating propeller units B63B 35/665; rudders carrying propellers B63H 25/42; rudders carrying jets B63H 25/46; engines of outboard propulsion units F02B 61/045)**}**

20/001 . {Arrangements, apparatus and methods for handling fluids used in outboard drives (for handling exhaust gas B63H 20/24; for handling cooling-water B63H 20/28; cooling outboard marine engines F01P 3/202; air intakes for outboard marine engines F02M 35/167)}

20/002 . . {for handling lubrication liquids (in engines, e.g. outboard marine engines, F01M)}

2020/003 . {Arrangements of two, or more outboard propulsion units}

2020/005 . {Arrangements of two or more propellers, or the like on single outboard propulsion units}

2020/006 . . {of coaxial type, e.g. of counter-rotative type}

20/007 . {Trolling propulsion units (trolling plates for slowing down B63H 25/50; dynamo-electric machines of trolling units H02K)}

2020/008 . {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}

20/02 . Mounting of propulsion units (B63H 20/08 takes precedence)

2020/025 . . {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g. for transom penetrations}

20/04 . . in a well

20/06 . . on an intermediate support

20/08 . Means enabling movement of the position of the propulsion element, e.g. for trim, tilt, or steering (transmissions allowing movement of the propulsion element B63H 20/14); Control of trim or tilt (initiating means for steering B63H 25/02)

20/10 . . Means enabling trim or tilt, or lifting of the propulsion element when an obstruction is hit; Control of trim or tilt

2020/103 . . . {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}

20/106 . . . {Means enabling lifting of the propulsion element in a substantially vertical, linearly sliding movement}

20/12 . . Means enabling steering

20/14 . Transmission between propulsion power unit and propulsion element

2020/145 . . {comprising means for permitting telescoping movement of components of the outboard propulsion unit, e.g. telescoping movement of power leg}

20/16 . . allowing movement of the propulsion element in a horizontal plane only, e.g. for steering

20/18 . . allowing movement of the propulsion element about a longitudinal axis, e.g. the through transom shaft (B63H 20/22 takes precedence)

20/20 . . with provision for reverse drive

20/22 . . allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal joints

20/24 . {Arrangements, apparatus and methods for handling exhaust gas in outboard drives, e.g.} exhaust gas outlets {(in engines, e.g. outboard marine engines, F01N)}

20/245 . . {Exhaust gas outlets (B63H 20/26 takes precedence)}

20/26 . . {Exhaust gas outlets} passing through the propeller or its hub

20/28 . {Arrangements, apparatus and methods for handling cooling-water in outboard drives, e.g.} cooling-water intakes {(cooling circuits for outboard marine engines F01P 3/202)}

20/285 . . {Cooling-water intakes (B63H 20/28 takes precedence)}

20/30 . . {Cooling-water intakes} for flushing {(circuits for flushing outboard marine engines F01P 3/205)}

20/32 . Housings {(air intakes for outboard engines F02M 35/167)}

2020/323 . . {Gear cases}

2020/326 . . . {having a dividing plane substantially in plane with the axes of the transmission shafts}

20/34 . . comprising stabilising fins{, foils, anticavitation plates, splash plates, or rudders (rudders carrying propellers B63H 25/42; rudders carrying jets B63H 25/46)}

20/36 . Transporting or testing stands {(hand carts for transporting outboard units B62B; measuring torque G01L 3/00, measuring thrust of propellers G01L 5/133, testing in general G01M); Use of outboard propulsion units as pumps}; Protection of power legs {, e.g. when not in use}

21/00 Use of propulsion power plant or units on vessels (use of outboard propulsion units B63H 20/00; hull reinforcements for carrying propulsion power plant or units B63B 3/70; {propulsion of submarines B63G 8/08; } propulsion power plant or units per se, see the relevant classes)

NOTE

This group comprises arrangements of propulsion power plant or units on vessels and to some extent it includes adaptations of such plant or units to facilitate such arrangements

2021/003 . {the power plant using fuel cells for energy supply or accumulation, e.g. for buffering photovoltaic energy}

2021/006 . {the vessel being driven by hot gas positive-displacement engine plants of closed-cycle type, e.g. Stirling engines}

21/02 . the vessels being steam-driven (B63H 21/18 takes precedence)

21/04 . . relating to positive-displacement steam engines

21/06 . . relating to steam turbines

21/08 . . relating to steam boilers

21/10 . . relating to condensers or engine-cooling fluid heat-exchangers

21/12 . the vessels being motor-driven (B63H 21/175, B63H 21/18 take precedence; {cooling circuits with liquid-to-liquid heat-exchange relative to marine vessels F01P 3/207})

WARNING

Group B63H 21/12 is no longer used for classification of vessels being motor-driven by electric motor, powered by land vehicle supported by vessel, and powered by nuclear energy. These documents are in the process of being reorganised to groups B63H 21/17, B63H 21/175, and B63H 21/18 respectively

21/14 . . relating to internal-combustion engines {(of outboard type B63H 20/00)}

21/16 . . relating to gas turbines

21/165 . . by hydraulic fluid motor, i.e. wherein a liquid under pressure is utilised to rotate the propelling means {(transmission from power plant or unit to propeller using fluid gearing per se B63H 23/26)}

21/17 . . by electric motor (electrically-propelled vehicles B60L{; Transmitting power from propulsion power plant to propulsive elements with electric gearing B63H 23/24})

2021/171 . . . {making use of photovoltaic energy conversion, e.g. using solar panels}

2021/173 . . . {making use of superconductivity}

21/175 . the vessel being powered by land vehicle supported by vessel

21/18 . the vessels being powered by nuclear energy

21/20 . the vessels being powered by combinations of different types of propulsion units

2021/202 . . {of hybrid electric type}

2021/205 . . . {the second power unit being of the internal combustion engine type, or the like, e.g. a Diesel engine}

2021/207 . . . {the second power unit being a gas turbine}

21/21 . Control means for engine or transmission, specially adapted for use on marine vessels

21/213 . . {Levers or the like for controlling the engine or the transmission, e.g. single hand control levers}

2021/216 . . {using electric control means}

21/22 . the propulsion power units being controlled from exterior of engine room, e.g. from navigation bridge; Arrangements of order telegraphs ({conjoint control of specific features of internal combustion engines and of propelling elements F02D} ; order telegraphs per se G08B 9/00)

21/24 . {the vessels being small craft, e.g. racing boats}

21/26 . . {of outboard type; Outboard propulsion power units movably installed for steering, reversing, tilting, or the like (transom panels for outboard motors for inflatable boats B63B 7/087; floating propeller units B63B 35/665)}

WARNING

Group B63H 21/26 and subgroups are no longer used for classification. Documents are in the process of being reorganised to B63H 5/125, and subgroups, to B63H 20/00, and subgroups, and to B63H 25/42

21/265 . . . {Steering or control devices for outboards (steering by rudders B63H 25/06; control handles for boats B63H 21/213)}

21/28 . . . {Arrangements of transmission between propulsion power unit and propulsive element}

21/30 . Mounting of propulsion plant or unit, e.g. for anti-vibration purposes (hull reinforcements therefor B63B 3/70; {of outboard propulsion units B63H 20/02; } vibration in systems F16F; engine beds F16M)

21/302 . . {with active vibration damping}

21/305 . . {with passive vibration damping}

2021/307 . . {Arrangements, or mountings of propulsion power plant elements in modular propulsion power units, e.g. using containers}

21/32 . Arrangements of propulsion-unit exhaust uptakes; Funnels peculiar to vessels; {Small watercraft exhaust arrangements, e.g. under-water}, (engine exhausts in general F01N; flue devices for furnaces in general F23J; {exhaust gas outlets forming part of outboard propulsion units or Z-drives B63H 20/24})

WARNING

Group B63H 21/32 is no longer used for classification of documents dealing with gas exhaust outlets forming part of outboard propulsion units or Z-drives. Respective documents are in the process of being reorganised to groups B63H 20/24 and B63H 20/26

21/34 . . having exhaust-gas deflecting means

21/36 . Covers or casing arranged to protect plant or unit from marine environment ({Housings of outboard propulsion units B63H 20/32} hull construction B63B 3/00)

21/38 . Apparatus or methods specially adapted for use on marine vessels, for handling power plant or unit liquids, e.g. lubricants, coolants, fuels or the like ({in outboard drives B63H 20/001; } lubricating or cooling machines or engines in general F01 - F04)

WARNING

This group and its subgroups are

- systematically used for classification of documents published from 01.06.2010 onwards

- not complete; for documents published before 01.06.2010, see B63B 2770/00

21/383 . . {for handling cooling-water (in outboard drives B63H 20/28; in machines or engines in general F01P 3/00)}

21/386 . . {for handling lubrication liquids (in machines or engines in general F01M)}

23/00 Transmitting power from propulsion power plant to propulsive elements (changing pitch or propellers B63H 3/00; adaptation of transmission to allow adjustment in location or direction of propellers B63H 5/125; transmission between wind motors and propulsive elements B63H 13/00; in outboard propulsion units B63H 20/14; adaptation of transmission to allow adjustment of location of propellers B63H 20/08; {adaptations of transmissions to allow steering or dynamic anchoring by propellers carried on rudders B63H 25/42; } for vehicles in general B60K; driving auxiliary machinery B63J; transmission elements per se F16)

2023/005 . {using a drive acting on the periphery of a rotating propulsive element, e.g. on a dented circumferential ring on a propeller, or a propeller acting as rotor of an electric motor}

23/02 . with mechanical gearing

2023/0208 . . {by means of endless flexible members}

2023/0216 . . . {by means of belts, or the like}

2023/0225 . . . . {of grooved belts, i.e. with one or more grooves in longitudinal direction of the belt}

2023/0233 . . . . {of belts having a toothed contact surface, or regularly spaced bosses, or hollows for slip-less or nearly slip-less meshing with complementary profiled contact surface of a pulley}

2023/0241 . . . . {of V-belts, i.e. belts of tapered cross section}

2023/025 . . . {by means of chains}

2023/0258 . . {comprising gearings with variable gear ratio, other than reversing drives or trolling drives}

2023/0266 . . . {comprising gearings with automatically variable gear ratio, other than continuously variable transmissions or trolling drives}

2023/0275 . . . {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}

2023/0283 . . {using gears having orbital motion}

2023/0291 . . {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}

23/04 . . the main transmitting element, e.g. shaft, being substantially vertical

23/06 . . for transmitting drive from a single propulsion power unit

2023/062 . . . {comprising means for simultaneously driving two or more main transmitting elements, e.g. drive shafts}

2023/065 . . . . {having means for differentially varying the speed of the main transmitting elements, e.g. of the drive shafts}

2023/067 . . . . {the elements being formed by two or more coaxial shafts, e.g. counter-rotating shafts}

23/08 . . with provision for reversing drive

23/10 . . for transmitting drive from more than one propulsion power unit (for synchronisation of propulsive elements B63H 23/28)

23/12 . . . allowing combined use of the propulsion power units

23/14 . . . . with unidirectional drive or where reversal is immaterial
23/16 . . . . characterised by provision of reverse drive
23/18 . . . for alternative use of the propulsion power units
23/20 . . . . with separate forward and astern propulsion power units, e.g. turbines
23/22 . with non-mechanical gearing
23/24 . . electric {(dynamo-electric machines H02K)}
2023/245 . . . {with two or more electric motors directly acting on a single drive shaft, e.g. plurality of electric rotors mounted on one common shaft, or plurality of electric motors arranged coaxially one behind the other with rotor shafts coupled together}
23/26 . . fluid
23/28 . with synchronisation of propulsive elements
23/30 . characterised by use of clutches
2023/305 . . {using fluid or semifluid as power transmitting means}
23/32 . Other parts
23/321 . . {Bearings or seals specially adapted for propeller shafts}
2023/322 . . . {Intermediate propeller shaft bearings, e.g. with provisions for shaft alignment}
2023/323 . . . {Bearings for coaxial propeller shafts, e.g. for driving propellers of the counter-rotative type}
2023/325 . . . {Thrust bearings, i.e. axial bearings for propeller shafts}
23/326 . . . {Water lubricated bearings}
2023/327 . . . {Sealings specially adapted for propeller shafts or stern tubes}
2023/328 . . {Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes therefor}
23/34 . . Propeller shafts; Paddle-wheel shafts; Attachment of propellers on shafts (shafts in general F16C; attachment of a member on a shaft in general F16D 1/06)
2023/342 . . . {comprising couplings, e.g. resilient couplings; Couplings therefor}
2023/344 . . . {comprising flexible shafts members}
2023/346 . . . {comprising hollow shaft members}
2023/348 . . . {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}
23/35 . . . Shaft braking or locking, i.e. means to slow or stop the rotation of the propeller shaft or to prevent the shaft from initial rotation
23/36 . . Shaft tubes (propeller-shaft tunnels B63B 11/06; shaft-tube seals F16J)

25/00 Steering; Slowing-down otherwise than by use of propulsive elements (using adjustably-mounted propeller ducts or rings for steering B63H 5/14; using movably-installed outboard propulsion units B63H 20/00)**; Dynamic anchoring, i.e. positioning vessels by means of main or auxiliary propulsive elements** (anchoring, other than dynamic B63B 21/00; equipment to decrease pitch, roll or like unwanted vessel movements by auxiliary jets or propellers B63B 39/08; {systems for waterborne vessel position control G05, e.g. G05D 1/00})

2025/005 . {Steering specially adapted for towing trains, tug-barge systems, or the like; Equipment or accessories therefor}
25/02 . Initiating means for steering{, for slowing down, otherwise than by use of propulsive elements, or for dynamic anchoring}
2025/022 . . {Steering wheels; Posts for steering wheels}
2025/024 . . {Handle-bars; Posts for supporting handle-bars, e.g. adjustable posts}
2025/026 . . {using multi-axis control levers, or the like, e.g. joysticks, wherein at least one degree of freedom is employed for steering, slowing down, or dynamic anchoring}
2025/028 . . {using remote control means, e.g. wireless control; Equipment or accessories therefor}
25/04 . . automatic, e.g. reacting to compass
2025/045 . . . {making use of satellite radio beacon positioning systems, e.g. the Global Positioning System [GPS]}
25/06 . Steering by rudders (by rudders carrying propellers B63H 25/42)
2025/063 . . {Arrangements of rudders forward of the propeller position, e.g. of backing rudders; Arrangements of rudders on the forebody of the hull; Steering gear therefor}
2025/066 . . {Arrangements of two or more rudders; Steering gear therefor}
25/08 . . Steering gear
25/10 . . . with mechanical transmission
25/12 . . . with fluid transmission
25/14 . . . power assisted; power driven, i.e. using steering engine
25/16 . . . . with alternative muscle or power operated steering
25/18 . . . . Transmitting of movement of initiating means to steering engine
25/20 . . . . . by mechanical means
25/22 . . . . . by fluid means
25/24 . . . . . by electrical means
25/26 . . . . Steering engines
25/28 . . . . . of fluid type
25/30 . . . . . hydraulic
25/32 . . . . . steam
25/34 . . . . Transmitting of movement of engine to rudder, e.g. using quadrants, brakes
25/36 . . Rudder-position indicators
25/38 . . Rudders (stern posts B63B 3/40{; rudders mounted on housing of outboard motors B63H 20/34; rudders carrying propellers B63H 25/42; rudders carrying jets B63H 25/46})
25/381 . . . {with flaps}
25/382 . . . {movable otherwise than for steering purposes; Changing geometry}
25/383 . . . . {with deflecting means able to reverse the water stream direction}
2025/384 . . . . {with means for retracting or lifting}
2025/385 . . . . . {by pivoting}
2025/386 . . . . . {by sliding, e.g. telescopic}
2025/387 . . . {comprising two or more rigidly interconnected mutually spaced blades pivotable about a common rudder shaft, e.g. parallel twin blades mounted on a pivotable supporting frame}
2025/388 . . . {with varying angle of attack over the height of the rudder blade, e.g. twisted rudders}

25/40 . . . using Magnus effect

25/42 . Steering or dynamic anchoring by propulsive elements (by jets B63H 25/46); Steering or dynamic anchoring by propellers used therefor only; Steering or dynamic anchoring by rudders carrying propellers

2025/425 . . {Propulsive elements, other than jets, substantially used for steering or dynamic anchoring only, with means for retracting, or otherwise moving to a rest position outside the water flow around the hull}

25/44 . Steering or slowing-down by extensible flaps or the like

25/46 . Steering or dynamic anchoring by jets {or by rudders carrying jets (steering or dynamic anchoring by deflecting or directing main propulsion jets B63H 11/00)}

2025/465 . . {Jets or thrusters substantially used for steering or dynamic anchoring only, with means for retracting, or otherwise moving to a rest position outside the water flow around the hull}

25/48 . Steering or slowing-down by deflection of propeller slipstream otherwise than by rudder

25/50 . Slowing-down means not otherwise provided for

25/52 . Parts for steering not otherwise provided for