

CPC**COOPERATIVE PATENT CLASSIFICATION****B63C**

**LAUNCHING, HAULING-OUT, OR DRY-DOCKING OF VESSELS ;
LIFE-SAVING IN WATER ; EQUIPMENT FOR DWELLING OR
WORKING UNDER WATER ; MEANS FOR SALVAGING OR
SEARCHING FOR UNDERWATER OBJECTS** (floating nets, floating slipways,
or the like for recovering aircraft from the water [B63B 35/52](#))

NOTE

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

Guidance heading:**B63C 1/00**

Dry-docking of vessels or flying-boats (storing of vessels on land otherwise than by dry-docking [B63C 15/00](#) ; mooring of vessels [B63B 21/00](#) ; hydraulic-engineering aspects [E02B](#))

B63C 1/02

- . Floating docks ({ externally attached cofferdams and the like [B63B 17/0018](#) ; } ship transporters with adjustable draught [B63B 35/42](#))

B63C 1/04

- .. self docking

B63C 1/06

- .. Arrangements of pumping or filling equipment for raising or lowering docks

B63C 1/08

- . Graving docks (locks [E02C 1/00](#))

B63C 1/10

- . Centring devices

B63C 1/12

- . Docks adapted for special vessels, e.g. submarines

B63C 3/00

Launching or hauling-out by land-borne slipways ; Slipways (ship-borne guides for handling lifeboats or the like [B63B 23/30](#) ; cranes winches, or the like [B66](#) ; ship lifting for adapting to different water levels [E02C](#))

B63C 3/02

- . by longitudinal movement of vessel

B63C 3/04

- . by sideways movement of vessel

B63C 3/06

- . by vertical movement of vessel, i.e. by crane

B63C 3/08

- . Tracks on slipways

B63C 3/10

- . using releasing devices

B63C 3/12

- . using cradles (vehicles in general for transporting boats or the like [B60P](#))

B63C 3/14

- . using braking means

B63C 5/00 **Equipment usable both on slipways and in dry docks**

- B63C 5/02 . Stagings ; Scaffolding ; Shores or struts
- B63C 5/04 . . Bilge or keel blocks

B63C 7/00 **Salvaging of disabled, stranded, or sunken vessels ; Salvaging of vessel parts or furnishings, e.g. of safes ; salvaging of other underwater objects (means for searching for underwater objects [B63C 11/48](#))****NOTE**

- in this group the following indexing codes are used:
[B63B 2702/02](#) , [B63B 2738/00](#) , [B63B 2738/04](#)

WARNING

this group is pending a reorganisation; also documents covered by groups
[B63C 7/006](#) are within this group

- B63C 7/003 . { Righting capsized vessels, e.g. sailing vessels (self-righting life boats, life rafts or the like [B63C 9/02](#)) }
- B63C 7/006 . { Emptying the contents of sunken, stranded, or disabled vessels, e.g. by engaging the vessel, or collecting underwater buoyant, e.g. liquid or particulate, or gaseous contents escaping from sunken vessels, e.g. using funnels, or tents for recovery of escaping hydrocarbons (Cleaning or keeping clear the surface of open water in general [E02B 15/00](#)) }

WARNING

[B63C 7/006](#) is not complete pending a reclassification; see also groups
[B63C 7/00](#) and [B63C 7/16](#)

- B63C 7/02 . in which the lifting is done by hauling
- B63C 7/04 . . using pontoons or the like
- B63C 7/06 . in which lifting action is generated in or adjacent to vessels or objects
- B63C 7/08 . . using rigid floats
- B63C 7/10 . . using inflatable floats external to vessels or objects
- B63C 7/12 . . by bringing air or floating bodies or material into vessels or objects
- B63C 7/14 . using freezing for closing holes or for strengthening the vessel or the like
- B63C 7/16 . Apparatus engaging vessels or objects { ([B63C 7/006](#) takes precedence) }
- B63C 7/18 . . Using nets
- B63C 7/20 . . using grabs { (cable grapnels with grabs [B63C 11/50](#)) }
- B63C 7/22 . . using electromagnets or suction devices
- B63C 7/24 . Apparatus for passing chains or the like under vessels or objects

B63C 7/26 . Means for indicating the location of underwater objects, e.g. sunken vessels (means for searching for underwater objects [B63C 11/48](#) ; buoys in general [B63B 22/00](#))

B63C 7/28 . Refloating stranded vessels

B63C 7/30 . Floatable safes (safes in general [E05G](#))

B63C 9/00 **Life-saving in water** (life-saving in general [A62B](#) ; arrangement or adaptation of signalling or lighting devices for ships, other waterborne vessels or for equipment for shipping [B63B 45/00](#) ; rescue equipment specially adapted for submarine personnel [B63G 8/40](#))

NOTE

- in this group the following indexing code is used: [B63B 2729/00](#)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

B63C 9/0005 . { by means of alarm devices for persons falling into the water, e.g. by signalling, by controlling the propulsion or manoeuvring means of the boat (Alarms responsive to presence of persons in a body of water in general [G08B 21/08](#)) }

B63C 9/0011 . . { enabling persons in the water to control the propulsion or manoeuvring means of the boat }

B63C 9/01 . Air-sea rescue devices, i.e. equipment carried by, and capable of being dropped from, an aircraft (inflatable vessels [B63B 7/00](#) ; inflatable buoys [B63B 22/22](#))

WARNING

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63C 9/00](#)

B63C 9/02 . Lifeboats, life-rafts or the like, specially adapted for life-saving (floatable furniture [B63C 9/30](#) ; boats in general [B63B](#) ; inflatable vessels [B63B 7/00](#) ; equipment for handling lifeboats or the like [B63B 23/00](#) ; rafts [B63B 35/58](#))

NOTE

- in this group the following indexing code is used: [B63B 2728/00](#)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

B63C 9/03 . . enclosed

WARNING

This group is not complete pending a reclassification; for documents

published before 01.01.2012, see also group [B63C 9/02](#)

[B63C 9/04](#)

.. Life-rafts

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

[B63C 9/05](#)

.. Shark screens, e.g. buoyant means combined with means to surround or otherwise enclose the user ([B63C 9/06](#) takes precedence)

WARNING

This group is not complete pending a reclassification; for documents published before 01.01.2012 see also group [B63C 9/00](#)

[B63C 9/06](#)

. Floatable closed containers with accommodation for one or more persons inside ([B63C 9/01](#) takes precedence)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

[B63C 9/065](#)

.. { for one person }

WARNING

[B63C 9/065](#) is not complete pending a reorganisation; see also groups [B63C 9/00](#) , [B63C 9/02](#) , [B63C 9/04](#) and [B63C 9/06](#)

[B63C 9/08](#)

. Life-buoys, e.g. rings ; Life-belts, jackets, suits, or the like ({ non-sinkable swimsuits, drawers or trunks [A41D 7/001](#) } ; equipment for swimming [A63B](#) , e.g. swimming aids { other than life-buoys or life-belts } [A63B 31/00](#) , { teaching frames for swimming, swimming boards [A63B 69/14](#) })

[B63C 9/081](#)

.. { having compartments comprising elements which are filled with gas by deployment, e.g. sponge-like elements }

[B63C 9/082](#)

.. { Annular or U-shaped life-buoys intended to be thrown to persons }

[B63C 9/087](#)

.. Body suits, i.e. substantially covering the user's body { Immersion suits, i.e. substantially completely covering the user } ({ Professional, industrial, or sporting protective garments [A41D 13/00](#) for aquatic activities e.g. with buoyancy aids [A41D 13/012](#) } diving suits [B63C 11/04](#) , [B63C 11/10](#) { [B63C 9/081](#) takes precedence })

[B63C 9/093](#)

... using solid buoyant material

[B63C 9/105](#)

... having gas-filled compartments (connection of valves to inflatable elastic bodies [B60C 29/00](#))

[B63C 9/1055](#)

.... { inflatable }

[B63C 9/11](#)

.. covering the torso, e.g. harnesses { [B63C 9/081](#) takes precedence }

[B63C 9/115](#)

... using solid buoyant material

[B63C 9/125](#)

... having gas-filled compartments (connection of valves to inflatable elastic

- bodies [B60C 29/00](#))
- B63C 9/1255 { inflatable }
- B63C 9/13 . . attachable to body member, e.g. arm, neck, head or waist ({ [B63C 9/081](#) takes precedence })
- B63C 9/135 . . . using solid buoyant material
- B63C 9/15 . . . having gas-filled compartments (connection of valves to inflatable elastic bodies [B60C 29/00](#))
- B63C 9/155 { inflatable }
- B63C 9/18 . . Inflatable equipment characterised by the gas-generating { or inflation } device

WARNING

This group is not complete pending a reorganisation; see also group [B63C 9/24](#) ; this group is pending a reorganisation; also documents covered by group [B63C 9/19](#) are within this group]

- B63C 9/19 . . . Arrangements for puncturing gas-generating cartridges

WARNING

This group is not complete pending a reorganisation; see also groups [B63C 9/18](#) and [B63C 9/24](#)

- B63C 9/20 . . characterised by signalling means, e.g. lights (arrangement or adaptation of signalling or lighting devices for ships or other waterborne vessels [B63B 45/00](#))

WARNING

Not complete, pending a reorganisation; see [B63C 9/21](#)

- B63C 9/21 . Boats, rafts, buoys or the like, characterised by signalling means, e.g. lights, reflectors ([B63C 9/08](#) takes precedence)

WARNING

Group [B63C 9/21](#) is no longer used for classification. Documents are in the process of being reorganised to [B63B 45/00](#) and subgroups, and to [B63C 9/20](#)

- B63C 9/22 . Devices for holding or launching life-buoys, inflatable life-rafts, or other floatable life-saving equipment (equipment for handling life-boats or the like [B63B 23/00](#))

WARNING

This group is pending a reorganisation; also documents covered by group [B63C 9/23](#) are within this group

- B63C 9/23 . . Containers for inflatable life-saving equipment

WARNING

This group is not complete pending a reclassification; for documents published before 01.01.2012 see also group [B63C 9/22](#)

- B63C 9/24 . Arrangements of inflating valves or of controls thereof ([connecting inflating valves to elastic bodies B60C 29/00](#))
- WARNING**
- [this group is pending a reorganisation; also documents covered by group B63C 9/18 , and subgroups are within this group](#)
- B63C 9/26 . Cast or life lines ; Attachments thereto ; Containers therefor; { [Rescue nets or the like](#) } (adaptations of aerial cableways to shipboard use [B63B 27/18](#) ; guns for line throwing [F41F](#) ; line-carrying missiles [F42B 12/68](#))
- B63C 9/28 . Adaptations of vessel parts or furnishings to life-saving purposes
- B63C 9/30 . . . Floatable furniture
- B63C 9/32 . Equipment adapted to use on ice
- B63C 11/00** **Equipment for dwelling or working underwater ; Means for searching for underwater objects** (composition of chemical substances for use in breathing apparatus [A62D 9/00](#) ; swimming aids or equipment [A63B 31/00](#) to [A63B 35/00](#) ; submarines [B63G 8/00](#))
- B63C 11/02 . Divers` equipment
- B63C 11/04 . . Resilient suits
- B63C 11/06 . . . with rigid helmet
- B63C 11/08 . . . Control of air pressure within suit, e.g. for controlling buoyancy; { [Buoyancy compensator vests, or the like](#) }
- B63C 11/10 . . Rigid suits
- B63C 11/12 . . Diving masks { ([swimming helmets, swimming goggles A63B 33/00](#)) }
- B63C 11/14 . . . with forced air supply
- B63C 11/16 . . . with air supply by suction from diver, e.g. snorkels
- B63C 11/18 . . Air supply (for diving masks [B63C 11/14](#) , [B63C 11/16](#) ; respiratory apparatus in general [A62B](#))
- B63C 11/184 . . . { [Artificial gills](#) }
- B63C 11/186 . . . { [Mouthpieces](#) }
- B63C 11/20 . . . from water surface
- B63C 11/202 { [with forced air supply \(\[B63C 11/14\]\(#\) takes precedence \)](#) }
- B63C 11/205 { [with air supply by suction from diver, e.g. snorkels \(\[B63C 11/16\]\(#\) takes precedence \)](#) }
- B63C 11/207 { [with hoses connected to a float](#) }
- B63C 11/22 . . . carried by diver
- B63C 11/2209 { [First-stage regulators \(\[B63C 11/2245\]\(#\) takes precedence \)](#) }
- B63C 11/2227 { [Second-stage regulators \(\[B63C 11/2245\]\(#\) takes precedence \)](#) }
- B63C 11/2236 { [Functionally interdependent first/second-stage regulators \(\[B63C 11/2245\]\(#\) takes precedence \)](#) }
- B63C 11/2245 { [With provisions for connection to a buoyancy compensator](#) }
- B63C 11/24 in closed circulation

- B63C 11/26 .. Communication means, { e.g. means for signalling the presence of divers } (electric communication in general [H04](#))
- B63C 11/28 .. Heating, e.g. of divers' suits, of breathing air
- B63C 11/30 .. Ballast { (weights worn on user's body for exercising [A63B 21/065](#)) }
- B63C 11/32 .. Decompression arrangements ; Exercise equipment
- B63C 11/325 ... { chambers used for it }
- B63C 11/34 . Diving chambers { or underwater vessels, e.g. unmanned, } with mechanical link, e.g. cable, to a base (manipulators [B25J](#) ; { externally attached cofferdams and the like [B63B 17/0018](#) ; } diving chambers without mechanical link to a base [B63G 8/00](#) ; caissons adapted to laying foundations [E02D 23/00](#) to [E02D 27/00](#))
- B63C 11/36 .. of closed type
- B63C 11/38 ... with entrance above water surface
- B63C 11/40 ... adapted to specific work
- B63C 11/42 ... with independent propulsion or direction control { (underwater vessels adapted for special purposes [B63G 8/001](#)) }

WARNING

this group is pending a reorganisation; also documents covered by group [B63G 8/001](#) are within this group

- B63C 11/44 .. of open type, e.g. diving-bells
- B63C 11/46 . Divers' sleds or like craft, i.e. craft on which man in diving-suit rides { (devices fixed to the body of a swimmer, e.g. diver, or held in his hands, and propelling the swimmer by muscle power or by a motor [A63B 35/00](#)) }
- B63C 11/48 . Means for searching for underwater objects (means for indicating the location of sunken objects [B63C 7/26](#) ; locating by use of the reflection or reradiation of radio or other waves [G01S](#) ; { mountings of acoustic transducers in underwater equipment [G10K 11/006](#) })
- B63C 11/49 .. Floating structures with underwater viewing devices, e.g. with windows; { Arrangements on floating structures of underwater viewing devices, e.g. on boats (arrangement of visual equipment on submarines [B63G 8/38](#)) }
- B63C 11/50 .. using grapnels
- B63C 11/52 . Tools specially adapted for working underwater, not otherwise provided for

B63C 13/00 **Equipment forming part of or attachable to vessels facilitating transport over land (amphibious craft, land vehicles convertible for use on water [B60F](#) ; land vehicles for carrying boats [B60P](#) ; { hand carts for transporting boats [B62B](#) ; } harnesses attachable to vessels for personal carrying [A45F](#))**

B63C 15/00 **Storing of vessels on land otherwise than by dry-docking**

Guidance heading:

B63C 2005/00 **Equipment usable both on slipways and in dry docks**

- B63C 2005/02 . Stagings ; Scaffolding ; Shores or struts
- B63C 2005/022 . . Shores or struts, e.g. individual oblique support elements for stabilizing hulls in dry-docks
- B63C 2005/025 . . Stagings, or scaffolding, i.e. constructions providing temporary working platforms on slipways, in building or repair docks, or inside hulls
- B63C 2005/027 . . . Stages, platforms, or seats suspended adjacent ship hulls on cables, chains, or the like, e.g. boatswain's chairs

B63C 2007/00 **Salvaging of disabled, stranded, or sunken vessels ; Salvaging of vessel parts or furnishings, e.g. of safes ; salvaging of other underwater objects (means for searching for underwater objects [B63C 11/48](#))**

NOTE

- in this group the following indexing codes are used:
[B63B 2702/02](#) , [B63B 2738/00](#) , [B63B 2738/04](#)

WARNING

this group is pending a reorganisation; also documents covered by groups [B63C 7/006](#) are within this group

- B63C 2007/06 . in which lifting action is generated in or adjacent to vessels or objects
- B63C 2007/12 . . by bringing air or floating bodies or material into vessels or objects
- B63C 2007/125 . . . using buoyant masses, e.g. foams, or a large plurality of small buoyant objects

B63C 2009/00 **Life-saving in water (life-saving in general [A62B](#) ; arrangement or adaptation of signalling or lighting devices for ships, other waterborne vessels or for equipment for shipping [B63B 45/00](#) ; rescue equipment specially adapted for submarine personnel [B63G 8/40](#))**

NOTE

- in this group the following indexing code is used: [B63B 2729/00](#)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

- B63C 2009/0017 . characterised by making use of satellite radio beacon positioning systems, e.g. the Global Positioning System (GPS)
- B63C 2009/0023 . Particular features common to inflatable life-saving equipment
- B63C 2009/0029 . . Inflation devices comprising automatic activation means, e.g. for puncturing gas-generating cartridges
- B63C 2009/0035 . . . activated by deployment of inflatable life-saving equipment
- B63C 2009/0041 . . . activated by presence of water
- B63C 2009/0047 using electric means
- B63C 2009/0052 by water pressure

- B63C 2009/0058 using means soluble in water, or weakening when wet
- B63C 2009/0064 . . . Inflation devices using pyrotechnic means and comprising automatic activation
- B63C 2009/007 . . Inflation devices comprising manual activation means, e.g. for puncturing gas-generating cartridges
- B63C 2009/0076 . . Inflation devices making use of the Venturi-effect for enhancing the gas flow from the pressurized gas source by entraining ambient air, e.g. using eductor-jet pumps for decreasing inflation time
- B63C 2009/0082 . . Bladder restrictors, i.e. mechanical means, other than peripheral or circumferential means, for restricting expansion in inflated state of inflatable bladders or chambers, e.g. welded spots or lines, or internal braces for limiting thickness
- B63C 2009/0088 . characterised by making use of shark deterrents, e.g. electric, acoustic, mechanical or chemical means for deterring sharks
- B63C 2009/0094 . Equipment comprising means for providing users with victuals or drinks
- B63C 2009/02 . Lifeboats, life-rafts or the like, specially adapted for life-saving ([floatable furniture B63C 9/30](#) ; [boats in general B63B](#) ; [inflatable vessels B63B 7/00](#) ; [equipment for handling lifeboats or the like B63B 23/00](#) ; [rafts B63B 35/58](#))

NOTE

- in this group the following indexing code is used: [B63B 2728/00](#)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

- B63C 2009/023 . . self-righting, i.e. returning into an upright position after upside down deployment, or capsizing
- B63C 2009/026 . . Covered lifeboats, or life-rafts comprising self-levelling compartments for occupants
- B63C 2009/03 . . enclosed

WARNING

This group is not complete pending a reclassification; for documents published before 01.01.2012, see also group [B63C 9/02](#)

- B63C 2009/035 . . . Enclosed lifeboats, or the like
- B63C 2009/04 . . Life-rafts

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

- B63C 2009/042 . . . inflatable
- B63C 2009/044 . . . covered
- B63C 2009/046 reversible, i.e. deployable in upright or upside down positions
- B63C 2009/048 . . . Reversible open life-rafts
- B63C 2009/08 . Life-buoys, e.g. rings ; Life-belts, jackets, suits, or the like ({ [non-sinkable swimsuits, drawers or trunks A41D 7/001](#) } ; [equipment for swimming A63B](#) , e.g. [swimming aids](#) {

- other than life-buoys or life-belts } [A63B 31/00](#) , { teaching frames for swimming, swimming boards [A63B 69/14](#) })
- [B63C 2009/084](#) . . for animals
- [B63C 2009/085](#) . . comprising ballast means, e.g. solid ballast
- [B63C 2009/13](#) . . attachable to body member, e.g. arm, neck, head or waist ({ [B63C 9/081](#) takes precedence })
- [B63C 2009/131](#) . . . specially adapted for being attachable to a single arm or wrist
- [B63C 2009/133](#) . . . specially adapted for being attachable to the user's head or neck, e.g. like a cap or collar
- [B63C 2009/26](#) . Cast or life lines ; Attachments thereto ; Containers therefor; { Rescue nets or the like } (adaptations of aerial cableways to shipboard use [B63B 27/18](#) ; guns for line throwing [F41F](#) ; line-carrying missiles [F42B 12/68](#))
- [B63C 2009/265](#) . . Nets or sheet-like devices, e.g. for lifting persons on board or for facilitating climbing on board
- [B63C 2011/00](#) Equipment for dwelling or working underwater ; Means for searching for underwater objects (composition of chemical substances for use in breathing apparatus [A62D 9/00](#) ; swimming aids or equipment [A63B 31/00](#) to [A63B 35/00](#) ; submarines [B63G 8/00](#))**
- [B63C 2011/005](#) . Underwater equipment specially adapted for use by animals, e.g. diving helmets for dogs
- [B63C 2011/02](#) . Divers' equipment
- [B63C 2011/021](#) . . Diving computers, i.e. portable computers specially adapted for divers, e.g. wrist worn, watertight electronic devices for detecting or calculating scuba diving parameters
- [B63C 2011/022](#) . . for facilitating observation of objects in opaque liquids, e.g. in dirty, turbid or dark water
- [B63C 2011/023](#) . . Accessories for diving arranged or for use outside the water
- [B63C 2011/024](#) . . . Tank racks, i.e. racks or mountings for storing breathing air tanks, e.g. onboard boats
- [B63C 2011/025](#) . . . Transporting units specially adapted for transporting diver's equipment, such as breathing air tanks, diving suits, or the like
- [B63C 2011/026](#) . . Diving harnesses, or the like, e. g. for carrying breathing air tanks
- [B63C 2011/027](#) . . Shells for diving equipment, i.e. substantially rigid housings or covers, e.g. streamlined shells (diving computer with shells [B63C 2011/021](#) , shells for containers for goods or personal belongings of the diver [B63C 11/02](#))
- [B63C 2011/028](#) . . Devices for underwater towing of divers or divers' sleds
- [B63C 2011/04](#) . . Resilient suits
- [B63C 2011/043](#) . . . Dry suits ; Equipment therefor
- [B63C 2011/046](#) . . . Wet suits, or diving vests ; Equipment therefor
- [B63C 2011/08](#) . . . Control of air pressure within suit, e.g. for controlling buoyancy; { Buoyancy compensator vests, or the like }
- [B63C 2011/085](#) Buoyancy compensator vests
- [B63C 2011/12](#) . . Diving masks ({ swimming helmets, swimming goggles [A63B 33/00](#) })
- [B63C 2011/121](#) . . . comprising integrated optical signalling means or displays for data or images

B63C 2011/123	...	comprising integrated headlights, spotlights, or the like
B63C 2011/125	...	comprising nose-clips, i.e. pinching devices for closing the user's nose, other than rubber blisters integral with flexible mask elements
B63C 2011/126	...	Diving masks comprising periscopes, mirrors, or the like ; Periscopes, mirrors, or the like specially adapted for use with diving masks
B63C 2011/128	...	Straps, or the like for fastening diving masks ; Accessories therefor, e.g. buckles
B63C 2011/16	...	with air supply by suction from diver, e.g. snorkels
B63C 2011/165	....	comprising two or more air ducts leading from the mouthpiece to the air inlet or outlet opening
B63C 2011/18	..	Air supply (for diving masks B63C 11/14 , B63C 11/16 ; respiratory apparatus in general A62B)
B63C 2011/182	...	comprising devices for discharge of exhalation air into ambient water, e.g. ducts to back of head
B63C 2011/188	...	comprising warning means for breathing gas run-out
B63C 2011/22	...	carried by diver
B63C 2011/2209	....	{ First-stage regulators (B63C 11/2245 takes precedence) }
B63C 2011/2218	.....	comprising hollow piston valves, i.e. regulator valves with hollow stems connecting valve seat end in high pressure chamber to low pressure chamber at piston end
B63C 2011/2254	....	comprising means for prevention of ice formation, e.g. means for heating breathing gas in first or second stage regulators
B63C 2011/2263	....	using breathing gas stored in its liquid phase, e.g. cryogenic breathing gas
B63C 2011/2272	....	Pumps specially adapted for filling breathing air into tanks for compressed air, e.g. manual pumps
B63C 2011/2281	....	Devices for securing breathing gas tanks to diving harnesses, or back pieces of diving jackets, e.g. straps ; Tensioning devices therefor
B63C 2011/229	.....	comprising fluid actuated tensioners, e.g. pneumatic jack tensioners for straps
B63C 2011/30	..	Ballast { (weights worn on user`s body for exercising A63B 21/065) }
B63C 2011/303	...	integral with, or directly attached to buoyancy compensator vests or to spiders of diver's backpacks combined therewith
B63C 2011/306	...	Attachment means for quick release of ballast