CATEGORY 8 - MARINE

A. "END ITEMS," "EQUIPMENT," "ACCESSORIES," "ATTACHMENTS," "PARTS," "COMPONENTS," AND "SYSTEMS"

8A001 Submersible vehicles and surface vessels, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $5000; N/A for 8A001.b and .d
GBS: N/A
CIV: N/A

Special Conditions for STA

STA: License Exception STA may not be used to ship any commodity in 8A001.b, 8A001.c or 8A001.d to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

List of Items Controlled

Related Controls: For the control status of equipment for submersible vehicles, see: Category 5, Part 2 "Information Security" for encrypted communication equipment; Category 6 for sensors; Categories 7 and 8 for navigation equipment; Category 8A for underwater equipment.
Related Definitions: N/A
Items:

a. Manned, tethered submersible vehicles designed to operate at depths exceeding 1,000 m;

b. Manned, untethered submersible vehicles having any of the following:

b.1. Designed to 'operate autonomously' and having a lifting capacity of all the following:

b.1.a. 10% or more of their weight in air; *and*

b.1.b. 15 kN or more;

b.2. Designed to operate at depths exceeding 1,000 m; *or*

b.3. Having all of the following:

b.3.a. Designed to continuously 'operate autonomously' for 10 hours or more; *and*

b.3.b. 'Range' of 25 nautical miles or more;

Technical Notes:

1. For the purposes of 8A001.b, 'operate autonomously' means fully submerged, without snorkel, all systems working and cruising at minimum speed at which the submersible can safely control its depth dynamically by using its

depth planes only, with no need for a support vessel or support base on the surface, sea-bed or shore, and containing a propulsion system for submerged or surface use.

2. For the purposes of 8A001.b, 'range' means half the maximum distance a submersible vehicle can 'operate autonomously'.

c. Unmanned, tethered submersible vehicles designed to operate at depths exceeding 1,000 m and having any of the following:

c.1. Designed for self-propelled maneuver using propulsion motors or thrusters controlled by 8A002.a.2; *or*

c.2. Fiber optic data link;

d. Unmanned, untethered submersible vehicles having any of the following:

d.1. Designed for deciding a course relative to any geographical reference without real-time human assistance;

d.2. Acoustic data or command link; *or*

d.3. Optical data or command link exceeding 1,000 m;

e. Ocean salvage systems with a lifting capacity exceeding 5 MN for salvaging objects from depths exceeding 250 m and having any of the following:

e.1. Dynamic positioning systems capable of position keeping within 20 m of a given point provided by the navigation system; *or*

e.2. Seafloor navigation and navigation integration systems, for depths exceeding 1,000 m and with positioning accuracies to within 10 m of a predetermined point;

f. Surface-effect vehicles (fully skirted variety) having all of the following:

f.1. Maximum design speed, fully loaded, exceeding 30 knots in a significant wave height of 1.25 m (Sea State 3) or more;

f.2. Cushion pressure exceeding 3,830 Pa; *and*

f.3.Light-ship-to-full-load displacement ratio of less than 0.70;

g. Surface-effect vehicles (rigid sidewalls) with a maximum design speed, fully loaded, exceeding 40 knots in a significant wave height of 3.25 m (Sea State 5) or more;

h. Hydrofoil vessels with active systems for automatically controlling foil systems, with a maximum design speed, fully loaded, of 40 knots or more in a significant wave height of 3.25 m (Sea State 5) or more;

i. 'Small waterplane area vessels' having any of the following:

i.1. Full load displacement exceeding 500 tonnes with a maximum design speed, fully loaded, exceeding 35 knots in a significant wave height of 3.25 m (Sea State 5) or more; *or*

i.2. Full load displacement exceeding 1,500 tonnes with a maximum design speed, fully loaded, exceeding 25 knots in a significant wave height of 4 m (Sea State 6) or more.

Technical Note: *A 'small waterplane area vessel' is defined by the following formula: waterplane area at an operational design draft less than 2 x (displaced volume at the operational design draft)$^{2/3}$.*

8A002 Marine systems, equipment, "parts"

and "components," as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $5000; N/A for 8A002.o.3.b
GBS: Yes for 8A002.e.2 and manipulators for civil end-uses (e.g., underwater oil, gas or mining operations) controlled by 8A002.i.2 and having 5 degrees of freedom of movement; and 8A002.r.
CIV: Yes for 8A002.e.2 and manipulators for civil end-uses (e.g., underwater oil, gas or mining operations) controlled by 8A002.i.2 and having 5 degrees of freedom of movement; and 8A002.r.

Special Conditions for STA

STA: License Exception STA may not be used to ship any commodity in 8A002.b, h, j, o.3, or p to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

List of Items Controlled

Related Controls: (1) See also 8A992 and for underwater communications systems, see Category 5, Part I - Telecommunications. (2) See also 8A992 for self-contained underwater breathing apparatus that is not controlled by 8A002 or released for control by the 8A002.q Note. (3) For electronic imaging systems "specially designed" or modified for underwater use incorporating image intensifier tubes specified by 6A002.a.2.a or 6A002.a.2.b, see 6A003.b.3. (4) For electronic imaging systems "specially designed" or modified for underwater use incorporating "focal plane arrays" specified by 6A002.a.3.g, see 6A003.b.4.c.
Related Definitions: N/A
Items:

a. Systems, equipment, "parts" and "components," "specially designed" or modified for submersible vehicles and designed to operate at depths exceeding 1,000 m, as follows:

a.1. Pressure housings or pressure hulls with a maximum inside chamber diameter exceeding 1.5 m;

a.2. Direct current propulsion motors or thrusters;

a.3. Umbilical cables, and connectors therefor, using optical fiber and having synthetic strength members;

a.4. "Parts" and "components" manufactured from material specified by ECCN 8C001;

Technical Note: *The objective of 8A002.a.4 should not be defeated by the export of 'syntactic foam' controlled by 8C001 when an intermediate stage of manufacture has been performed and it is not yet in its final component*

form.

b. Systems "specially designed" or modified for the automated control of the motion of submersible vehicles controlled by 8A001, using navigation data, having closed loop servo-controls and having any of the following:

b.1. Enabling a vehicle to move within 10 m of a predetermined point in the water column;

b.2. Maintaining the position of the vehicle within 10 m of a predetermined point in the water column; *or*

b.3. Maintaining the position of the vehicle within 10 m while following a cable on or under the seabed;

c. Fiber optic pressure hull penetrators;

d. Underwater vision systems as follows:

d.1. Television systems and television cameras, as follows:

d.1.a. Television systems (comprising camera, monitoring and signal transmission equipment) having a 'limiting resolution' when measured in air of more than 800 lines and "specially designed" or modified for remote operation with a submersible vehicle;

d.1.b. Underwater television cameras having a 'limiting resolution' when measured in air of more than 1,100 lines;

d.1.c. Low light level television cameras "specially designed" or modified for underwater use and having all of the following:

d.1.c.1. Image intensifier tubes controlled by 6A002.a.2.a; *and*

d.1.c.2. More than 150,000 "active pixels" per solid state area array;

Technical Note: *'Limiting resolution' is a measure of horizontal resolution usually expressed in terms of the maximum number of lines per picture height discriminated on a test chart, using IEEE Standard 208/1960 or any equivalent standard.*

d.2. Systems "specially designed" or modified for remote operation with an underwater vehicle, employing techniques to minimize the effects of back scatter and including range-gated illuminators or "laser" systems;

e. Photographic still cameras "specially designed" or modified for underwater use below 150 m, with a film format of 35 mm or larger and having any of the following:

e.1. Annotation of the film with data provided by a source external to the camera;

e.2. Automatic back focal distance correction; *or*

e.3. Automatic compensation control "specially designed" to permit an underwater camera housing to be usable at depths exceeding 1,000 m;

f. [RESERVED]

g. Light systems "specially designed" or modified for underwater use, as follows:

g.1. Stroboscopic light systems capable of a light output energy of more than 300 J per flash and a flash rate of more than 5 flashes per second;

g.2. Argon arc light systems "specially designed" for use below 1,000 m;

h. "Robots" "specially designed" for underwater use, controlled by using a dedicated computer and having any of the following:

h.1. Systems that control the "robot" using

information from sensors which measure force or torque applied to an external object, distance to an external object, or tactile sense between the "robot" and an external object; *or*

h.2. The ability to exert a force of 250 N or more or a torque of 250 Nm or more and using titanium based alloys or "composite" "fibrous or filamentary materials" in their structural members;

i. Remotely controlled articulated manipulators "specially designed" or modified for use with submersible vehicles and having any of the following:

i.1. Systems which control the manipulator using information from sensors which measure any of the following:

i.1.a. Torque or force applied to an external object; *or*

i.1.b. Tactile sense between the manipulator and an external object; *or*

i.2. Controlled by proportional master-slave techniques and having 5 degrees of 'freedom of movement' or more;

Technical Note: *Only functions having proportionally related motion control using positional feedback are counted when determining the number of degrees of 'freedom of movement'.*

j. Air independent power systems "specially designed" for underwater use, as follows:

j.1. Brayton or Rankine cycle engine air independent power systems having any of the following:

j.1.a. Chemical scrubber or absorber systems, "specially designed" to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

j.1.b. Systems "specially designed" to use a monoatomic gas;

j.1.c. Devices or enclosures, "specially designed" for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *or*

j.1.d. Systems having all of the following:

j.1.d.1. "Specially designed" to pressurize the products of reaction or for fuel reformation;

j.1.d.2. "Specially designed" to store the products of the reaction; *and*

j.1.d.3. "Specially designed" to discharge the products of the reaction against a pressure of 100 kPa or more;

j.2. Diesel cycle engine air independent systems having all of the following:

j.2.a. Chemical scrubber or absorber systems, "specially designed" to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

j.2.b. Systems "specially designed" to use a monoatomic gas;

j.2.c. Devices or enclosures, "specially designed" for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *and*

j.2.d. "Specially designed" exhaust systems that do not exhaust continuously the products of combustion;

j.3. Fuel cell air independent power systems with an output exceeding 2 kW and having any of the following:

j.3.a. Devices or enclosures, “specially designed” for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *or*

j.3.b. Systems having all of the following:

j.3.b.1. “Specially designed” to pressurize the products of reaction or for fuel reformation;

j.3.b.2. “Specially designed” to store the products of the reaction; *and*

j.3.b.3. “Specially designed” to discharge the products of the reaction against a pressure of 100 kPa or more;

j.4. Stirling cycle engine air independent power systems having all of the following:

j.4.a. Devices or enclosures, “specially designed” for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *and*

j.4.b. “Specially designed” exhaust systems which discharge the products of combustion against a pressure of 100 kPa or more;

k. Skirts, seals and fingers, having any of the following:

k.1. Designed for cushion pressures of 3,830 Pa or more, operating in a significant wave height of 1.25 m (Sea State 3) or more and “specially designed” for surface effect vehicles (fully skirted variety) controlled by 8A001.f ; *or*

k.2. Designed for cushion pressures of 6,224Pa or more, operating in a significant wave height of 3.25 m (Sea State 5) or more and “specially designed” for surface effect vehicles (rigid sidewalls) controlled by 8A001.g;

l. Lift fans rated at more than 400 kW and “specially designed” for surface effect vehicles controlled by 8A001.f or 8A001.g;

m. Fully submerged subcavitating or supercavitating hydrofoils, “specially designed” for vessels controlled by 8A001.h;

n. Active systems “specially designed” or modified to control automatically the sea-induced motion of vehicles or vessels, controlled by 8A001.f, 8A001.g, 8A001.h or 8A001.i;

o. Propellers, power transmission systems, power generation systems and noise reduction systems, as follows:

o.1. Water-screw propeller or power transmission systems, “specially designed” for surface effect vehicles (fully skirted or rigid sidewall variety), hydrofoils or ‘small waterplane area vessels’ controlled by 8A001.f, 8A001.g, .8A001.h or 8A001.i, as follows:

o.1.a. Supercavitating, super-ventilated, partially-submerged or surface piercing propellers, rated at more than 7.5 MW;

o.1.b. Contrarotating propeller systems rated at more than 15 MW;

o.1.c. Systems employing pre-swirl or post-swirl techniques, for smoothing the flow into a propeller;

o.1.d. Light-weight, high capacity (K factor exceeding 300) reduction gearing;

o.1.e. Power transmission shaft systems incorporating "composite" material “parts” or “components” and capable of transmitting more than 1 MW;

o.2. Water-screw propeller, power generation systems or transmission systems, designed for use on vessels, as follows:

o.2.a. Controllable-pitch propellers and hub assemblies, rated at more than 30 MW;

o.2.b. Internally liquid-cooled electric propulsion engines with a power output exceeding 2.5 MW;

o.2.c. "Superconductive" propulsion engines or permanent magnet electric propulsion engines, with a power output exceeding 0.1 MW;

o.2.d. Power transmission shaft systems incorporating "composite" material "parts" or "components" and capable of transmitting more than 2 MW;

o.2.e. Ventilated or base-ventilated propeller systems, rated at more than 2.5 MW;

o.3. Noise reduction systems designed for use on vessels of 1,000 tonnes displacement or more, as follows:

o.3.a. Systems that attenuate underwater noise at frequencies below 500 Hz and consist of compound acoustic mounts for the acoustic isolation of diesel engines, diesel generator sets, gas turbines, gas turbine generator sets, propulsion motors or propulsion reduction gears, "specially designed" for sound or vibration isolation and having an intermediate mass exceeding 30% of the equipment to be mounted;

o.3.b. 'Active noise reduction or cancellation systems' or magnetic bearings, "specially designed" for power transmission systems;

***Technical Note**: 'Active noise reduction or cancellation systems' incorporate electronic control systems capable of actively reducing equipment vibration by the generation of anti-noise or anti-vibration signals directly to the source.*

p. Pumpjet propulsion systems having all of the following:

p.1. Power output exceeding 2.5 MW; *and*

p.2. Using divergent nozzle and flow conditioning vane techniques to improve propulsive efficiency or reduce propulsion-generated underwater-radiated noise;

q. Underwater swimming and diving equipment as follows;

q.1. Closed circuit rebreathers;

q.2. Semi-closed circuit rebreathers;

***Note:** 8A002.q does not control individual rebreathers for personal use when accompanying their users.*

***N.B.** For equipment and devices "specially designed" for military use see ECCN 8A620.f.*

r. Diver deterrent acoustic systems "specially designed" or modified to disrupt divers and having a sound pressure level equal to or exceeding 190 dB (reference 1 µPa at 1 m) at frequencies of 200 Hz and below.

***Note 1:** 8A002.r does not apply to diver deterrent systems based on under-water-explosive devices, air guns or combustible sources.*

***Note 2:** 8A002.r includes diver deterrent acoustic systems that use spark gap sources, also known as plasma sound sources.*

8A018 Items on the Wassenaar Arrangement Munitions List.

No items currently are in this ECCN. See ECCN 8A609 for engines and propulsion systems and "specially designed" "components"

therefor that, immediately prior to January 6, 2014, were classified under ECCN 8A018.b.3. See ECCN 8A620 for closed and semi-closed circuit (rebreathing) apparatus, engines and propulsion systems for submersible vessels (diesel engines of 1,500 hp and over with rotary speed of 700 rpm or over "specially designed" for submarines), submarine and torpedo nets, and "specially designed" "components" therefor that, immediately prior to January 6, 2014, were classified under ECCN 8A018.a, .b.1, or .b.4, respectively. See ECCNs 8A001, 8A002 and 8A992 for controls on non-military submersible vehicles, oceanographic and associated equipment. See USML Category XX (22 CFR part 121) for electric motors "specially designed" for submarines that, immediately prior to January 6, 2014, were classified under ECCN 8A018.b.2.

8A609 Surface vessels of war and related commodities (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8A609.y.	NS Column 1
RS applies to entire entry, except 8A609.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8A609.y.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $1500
GBS: N/A
CIV: N/A

Special Conditions for STA

STA: (1) Paragraph (c)(1) of License Exception STA (§ 740.20(c)(1) of the EAR) may not be used for any item in 8A609.a, unless determined by BIS to be eligible for License Exception STA in accordance with § 740.20(g) (License Exception STA eligibility requests for "600 series" end items). (2) Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 8A609.

List of Items Controlled

Related Controls: (1) Surface vessels of war and special naval equipment, and technical data (including software), and services directly related thereto, described in 22 CFR part 121, Category VI, Surface Vessels of War and Special Naval Equipment, are subject to the jurisdiction of the International Traffic in Arms Regulations. (2) See ECCN 0A919 for foreign-made "military commodities" that incorporate more than a *de minimis* amount of U.S.- origin "600 series" controlled content. (3) For controls on diesel engines and electric motors for surface vessels of war subject to the EAR, see ECCN 8A992.g. (4) For controls on military gas turbine engines and related items for vessels of war, see ECCN 9A619.

Related Definitions: N/A

Items:

a. Surface vessels of war "specially designed" for a military use and not enumerated or otherwise described in the USML.

Note 1: *8A609.a includes: (i) Underway replenishment ships; (ii) surface vessel and submarine tender and repair ships, except vessels that are "specially designed" to support naval nuclear propulsion plants; (iii) non-submersible submarine rescue ships; (iv) other auxiliaries (e.g., AGDS, AGF, AGM, AGOR, AGOS, AH, AP, ARL, AVB, AVM, and AVT); (v) amphibious warfare craft, except those that are armed; and (vi) unarmored and unarmed coastal, patrol, roadstead, and Coast Guard and other patrol craft with mounts or hard points for firearms of .50 caliber or less.*

Note 2: *For purposes of paragraph .a, surface vessels of war includes vessels "specially designed" for military use that are not identified in paragraph (a) of ITAR § 121.15, including any demilitarized vessels, regardless of origin or designation, manufactured prior to 1950 and that have not been modified since 1949. For purposes of this note, the term modified does not include incorporation of safety features required by law, cosmetic changes (e.g., different paint), or the addition of "parts" or "components" available prior to 1950.*

b. Non-magnetic diesel engines with a power output of 50 hp or more and either of the following:

b.1. Non-magnetic content exceeding 25% of total weight; *or*

b.2. Non-magnetic parts other than crankcase, block, head, pistons, covers, end plates, valve facings, gaskets, and fuel, lubrication and other supply lines.

c. through w. [RESERVED]

x. "Parts," "components," "accessories" and "attachments" that are "specially designed" for a commodity enumerated or otherwise described in ECCN 8A609 (except for 8A609.y) or a defense article enumerated or otherwise described in USML Category VI and not specified elsewhere on the USML or in 8A609.y.

Note 1: *Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by ECCN 8A609.x are controlled by ECCN 8A609.x.*

Note 2: *"Parts," "components," "accessories" and "attachments" specified in USML subcategory VI(f) are subject to the controls of that paragraph. "Parts," "components," "accessories," and "attachments" specified in ECCN 8A609.y are subject to the controls of that paragraph.*

y. Specific "parts," "components," "accessories" and "attachments" "specially designed" for a commodity subject to control in this ECCN or for a defense article in USML Category VI and not elsewhere specified in the USML, as follows, and "parts," "components," "accessories," and "attachments" "specially designed" therefor:

y.1. Public address (PA) systems;

y.2. Filters and filter assemblies, hoses, lines, fittings, couplings, and brackets for pneumatic, hydraulic, oil and fuel systems;

y.3. Galleys;

y.4. Lavatories;

y.5. Magnetic compass, magnetic azimuth detector;

y.6. Medical facilities;

y.7. Potable water tanks, filters, valves, hoses, lines, fittings, couplings, and brackets;

y.8. Panel knobs, indicators, switches, buttons, and dials whether unfiltered or filtered for use with night vision imaging systems;

y.9. Emergency lighting;

y.10. Gauges and indicators;

y.11. Audio selector panels.

8A620 Submersible vessels, oceanographic and associated commodities (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8A620. b and .y.	NS Column 1
RS applies to entire entry, except 8A620.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8A620.y.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $1500
GBS: N/A
CIV: N/A

Special Conditions for STA

STA: (1) Paragraph (c)(1) of License Exception STA (§ 740.20(c)(1) of the EAR) may not be used for any item in 8A620.a or .b, unless determined by BIS to be eligible for License Exception STA in accordance with § 740.20(g) (License Exception STA eligibility requests for "600 series" end items). (2) Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 8A620.

List of Items Controlled

Related Controls: (1) Submersible vessels, oceanographic and associated equipment, and technical data (including software), and services directly related thereto, described in 22 CFR part 121, Category XX, Submersible Vessels, Oceanographic and Associated Equipment, are subject to the jurisdiction of the International Traffic in Arms Regulations (ITAR). "Parts," "components," "accessories," and "attachments" "specially designed" for defense articles in USML Category XX are controlled under USML sub-category XX(c). (2) See ECCN 0A919 for foreign made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content. (3) For controls on nonmilitary submersible vehicles, oceanographic and associated equipment, see ECCNs 8A001, 8A002, and 8A992. (4) See ECCN 8A609 for controls on nonmagnetic diesel engines with a power output of 50 hp or more and either: (i) nonmagnetic content exceeding 25% of total weight; or (ii) non-magnetic parts other than crankcase, block, head, pistons, covers, end plates, valve facings, gaskets, and fuel, lubrication and other supply lines.

Related Definitions: N/A

Items:

a. Submersible and semi-submersible vessels "specially designed" for a military use and not enumerated or otherwise described in the USML.

Note: *8A620.a includes submarine rescue vehicles and Deep Submergence Vehicles (DSV).*

b. Submersible and semi-submersible vessels "specially designed" for cargo transport and "parts," "components," "accessories," and "attachments" "specially designed" therefor.

c. Harbor entrance detection devices (magnetic, pressure, and acoustic) and controls therefor, not elsewhere specified on the USML or the CCL.

d. Diesel engines of 1,500 hp and over with rotary speed of 700 rpm or over "specially designed" for submarines.

Note: *Propulsion systems not specified in ECCN 8A620.d that are "specially designed" for an article controlled by USML Category XX are controlled by USML XX(b) or (c).*

e. Submarine nets and torpedo nets.

f. Closed and semi-closed circuit (rebreathing) apparatus "specially designed" for military use and not enumerated elsewhere in the CCL or in the USML, and "specially designed" "components" for use in the conversion of open-circuit apparatus to military use.

g. through w. [RESERVED]

x. "Parts," "components," "accessories" and "attachments" that are "specially designed" for a commodity enumerated or elsewhere described in ECCN 8A620 (except for 8A620.b or .y) and not specified elsewhere on the USML or in 8A620.y.

Note 1: *Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by ECCN 8A620.x are controlled by ECCN 8A620.x.*

Note 2: *"Parts," "components," "accessories" and "attachments" specified in ECCN 8A620.y are subject to the controls of that paragraph.*

y. Specific "parts," "components," "accessories," and "attachments" "specially designed" for a commodity subject to control in this ECCN, as follows, and "parts," "components," "accessories," and "attachments" "specially designed" therefor:

y.1. Public address (PA) systems;

y.2. Filters and filter assemblies, hoses, lines, fittings, couplings, and brackets for pneumatic, hydraulic, oil and fuel systems;

y.3. Galleys;

y.4. Lavatories;

y.5. Magnetic compass, magnetic azimuth detector;

y.6. Medical facilities;

y.7. Potable water tanks, filters, valves, hoses, lines, fittings, couplings, and brackets;

y.8. Panel knobs, indicators, switches, buttons, and dials whether unfiltered or filtered for use with night vision imaging systems;

y.9. Emergency lighting;

y.10. Gauges and indicators;

y.11. Audio selector panels.

8A992 Vessels, marine systems or equipment,

not controlled by 8A001 or 8A002 and "specially designed" "parts" and "components" therefor, and marine boilers and "parts," "components," "accessories," and "attachments" therefor (see List of Items Controlled).

License Requirements

Reason for Control: AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1
UN applies to 8A992.l and m	See §746.1(b) for UN controls
Russian industry sector sanctions apply to entire entry.	See § 746.5 for specific license requirements and license review policy.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: N/A
GBS: N/A
CIV: N/A

List of Items Controlled

Related Controls: See also 8A002.
Related Definitions: N/A
Items:

a. Underwater vision systems, as follows:

a.1. Television systems (comprising camera, lights, monitoring and signal transmission equipment) having a limiting resolution when measured in air of more than 500 lines and "specially designed" or modified for remote operation with a submersible vehicle; *or*

a.2. Underwater television cameras having a limiting resolution when measured in air of more than 700 lines;

Technical Note: *Limiting resolution in television is a measure of horizontal resolution usually expressed in terms of the maximum number of lines per picture height discriminated on a test chart, using IEEE Standard 208/1960 or any equivalent standard.*

b. Photographic still cameras "specially designed" or modified for underwater use, having a film format of 35 mm or larger, and having autofocusing or remote focusing "specially designed" for underwater use;

c. Stroboscopic light systems, "specially designed" or modified for underwater use, capable of a light output energy of more than 300 J per flash;

d. Other underwater camera equipment, n.e.s.;

e. Other submersible systems, n.e.s.,;

f. Vessels, n.e.s., including inflatable boats, and "specially designed" "parts" and "components" therefor, n.e.s.;

g. Marine engines (both inboard and outboard) and submarine engines, n.e.s.; and "specially designed" "parts" and "components" therefor, n.e.s.;

h. Other self-contained underwater breathing apparatus (scuba gear) and related equipment, n.e.s.;

i. Life jackets, inflation cartridges, compasses, wetsuits, masks, fins, weight belts, and dive computers;

j. Underwater lights and propulsion equipment;

k. Air compressors and filtration systems "specially designed" for filling air cylinders.

l. Marine boilers designed to have any of the following characteristics:

l.1. Heat release rate (at maximum rating) equal to or in excess of 190,000 BTU per hour per cubic foot of furnace volume; *or*

l.2. Ratio of steam generated in pounds per hour (at maximum rating) to the dry weight of the boiler in pounds equal to or in excess of 0.83.

m. Major "components," "accessories," and "attachments" for marine boilers described in 8A992.l.

B. TEST, INSPECTION AND "PRODUCTION EQUIPMENT"

8B001 Water tunnels having a background noise of less than 100 dB (reference 1 μPa, 1 Hz) in the frequency range from 0 to 500 Hz and designed for measuring acoustic fields generated by a hydro-flow around propulsion system models.

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $3000
GBS: N/A
CIV: N/A

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

8B609 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A609 or USML Category VI (except for Cat VI(f)(7)), as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry.	NS Column 1
RS applies to entire entry.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $1500

GBS: N/A
CIV: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 8B609.

List of Items Controlled

Related Controls: See ECCN 0A919 for foreign-made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. Test, inspection, and production "equipment" "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A609 (except for 8A609.y) or in USML Category VI (except for USML Cat VI(f)(7)), and "parts," "components," "accessories" and "attachments" "specially designed" therefor.

b. [RESERVED]

8B620 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A620 (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8B620.b.	NS Column 1
RS applies to entire entry.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $1500
GBS: N/A
CIV: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 8B620.

List of Items Controlled

Related Controls: See ECCN 0A919 for foreign-made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. Test, inspection, and production "equipment" "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A620 (except for 8A620.b and .y) and "parts," "components," "accessories" and "attachments" "specially designed" therefor.

b. Test, inspection, and production "equipment" "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A620.b and "parts," "components," "accessories," and "attachments" "specially designed" therefor.

C. "MATERIALS"

8C001 'Syntactic foam' designed for underwater use and having all of the following (see List of Items Controlled).

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: N/A
GBS: N/A
CIV: N/A

List of Items Controlled

Related Controls: See also 8A002.a.4.
Related Definition: 'Syntactic foam' consists of hollow spheres of plastic or glass embedded in a resin matrix.
Items:

a. Designed for marine depths exceeding 1,000 m; *and*

b. A density less than 561 kg/m^3.

8C609 Materials "specially designed" for the "development" or "production" of commodities controlled by 8A609 not elsewhere specified in the USML (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry.	NS Column 1
RS applies to entire entry.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

LVS: $1500
GBS: N/A
CIV: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any item in 8C609.

List of Items Controlled

Related Controls: (1) See USML Categories VI and XIII(f) for controls on materials "specially designed" for vessels of war enumerated or otherwise described in USML Category VI. (2) See ECCN 0A919

for foreign made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. Materials, not enumerated on the USML, that are "specially designed" for commodities enumerated in ECCN 8A609 (except for 8A609.y).

b. [RESERVED]

D. "SOFTWARE"

8D001 "Software" "specially designed" or modified for the "development," "production" or "use" of equipment or materials, controlled by 8A (except 8A992), 8B or 8C.

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A

TSR: Yes, except for exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of "software" "specially designed" for the "development" or "production" of equipment controlled by 8A001.b, 8A001.d, or 8A002.o.3.b.

Special Conditions for STA

STA: License Exception STA may not be used to ship or transmit "software" "specially designed" for the "development" or "production" of equipment in 8A001.b, 8A001.c, 8A001.d, 8A002.b, 8A002.h, 8A002.j, 8A002.o.3 or 8A002.p to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

8D002 Specific "software" "specially designed" or modified for the "development", "production", repair, overhaul or refurbishing (re-machining) of propellers "specially designed" for underwater noise reduction.

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: Yes

Special Conditions for STA

STA: License Exception STA may not be used to ship or transmit any software in this entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to
part 740 of the EAR).

List of Items Controlled

Related Controls: See also 8D992

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

8D609 "Software" "specially designed" for the "development," "production," operation or maintenance of commodities controlled by 8A609, 8B609, or 8C609 (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8D609.y.	NS Column 1
RS applies to entire entry, except 8D609.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8D609.y.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any "software" in 8D609.

List of Items Controlled

Related Controls: (1) "Software" directly related to articles enumerated in USML Category VI is controlled under USML Category VI(g). (2) See ECCN 0A919 for foreign made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by ECCN 8A609, ECCN 8B609, or ECCN 8C609 (except for commodities controlled by ECCN 8A609.y).

b. through .x [RESERVED]

y. Specific "software" "specially designed" for the "development," "production," operation, or maintenance of commodities in ECCN 8A609.y.

8D620 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 8A620 or 8B620 (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8D620.b and .y.	NS Column 1
RS applies to entire entry, except 8D620.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8D620.y.	See § 746.1(b) for UN control

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A

TSR: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any "software" in 8D620.

List of Items Controlled

Related Controls: (1) "Software" directly related to articles enumerated or otherwise described in USML Category XX is controlled under USML Category XX(d). (2) See ECCN 0A919 for foreign made "military commodities" that incorporate more than a *de minimis* amount of U.S.-origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by ECCN 8A620 or ECCN 8B620 (except for commodities controlled by ECCN 8A620.b or .y or ECCN 8B620.b).

b. "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by ECCN 8A620.b or ECCN 8B620.b.

c. through .x [RESERVED]

y. Specific "software" "specially designed" for the "development," "production," operation, or maintenance of commodities in ECCN 8A620.y.

8D992 "Software" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 8A992.

License Requirements

Reason for Control: AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
AT applies to entire entry	AT Column 1

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

8D999 "Software" "specially designed" for the operation of unmanned submersible vehicles used in the oil and gas industry.

License Requirements

Reason for Control: N/A

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
Russian industry sector sanctions apply to entire entry.	See § 746.5 for specific license requirements and license review policy.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

E. "TECHNOLOGY"

8E001 "Technology" according to the General Technology Note for the "development" or "production" of equipment or materials, controlled by 8A (except 8A992), 8B or 8C.

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: Yes, except for exports or reexport to destinations outside of those

countries listed in Country Group A:5 (Supplement No. 1 to part 740 of the EAR) of "technology" for items controlled by 8A001.b, 8A001.d or 8A002.o.3.b.

Special Conditions for STA

STA: License Exception STA may not be used to ship or transmit "technology" according to the General Technology Note for the "development" or "production" of equipment specified by 8A001.b, 8A001.c, 8A001.d, 8A002.b, 8A002.h, 8A002.j, 8A002.o.3 or 8A002.p to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

8E002 Other "technology" as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

Reporting Requirements

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, Special Comprehensive Licenses, and Validated End-User authorizations.

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: Yes

Special Conditions for STA

STA: License Exception STA may not be used to ship or transmit technology in 8E002.a to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

List of Items Controlled

Related Controls: See also 8E992
Related Definitions: N/A
Items:

a. "Technology" for the "development", "production", repair, overhaul or refurbishing (re-machining) of propellers "specially designed" for underwater noise reduction;

b. "Technology" for the overhaul or refurbishing of equipment controlled by 8A001, 8A002.b, 8A002.j, 8A002.o or 8A002.p.

8E609 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 8A609, 8B609, or 8C609, or "software" controlled by 8D609 (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8E609.y.	NS Column 1
RS applies to entire entry, except 8E609.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8E609.y.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any "technology" in 8E609.

List of Items Controlled

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category VI are controlled under USML Category VI(g).

Related Definitions: N/A

Items:

a. "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A609, 8B609, or 8C609 (except for commodities controlled by ECCN 8A609.y), or "software" controlled by ECCN 8D609.

b. through .x [RESERVED]

y. Specific "technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software in ECCN 8A609.y or 8D609.y.

8E620 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 8A620 or 8B620, or "software" controlled by 8D620 (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, UN

Control(s)	*Country Chart (See Supp. No. 1 to part 738)*
NS applies to entire entry, except 8E620.b and .y.	NS Column 1
RS applies to entire entry, except 8E620.y.	RS Column 1
AT applies to entire entry.	AT Column 1
UN applies to entire entry, except 8E620.y.	See § 746.1(b) for UN controls

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License

Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any "technology" in 8E620.

List of Items Controlled

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category XX are controlled under USML Category XX(d).

Related Definitions: N/A

Items:

a. "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A620 or 8B620 or "software" controlled by ECCN 8D620 (except for commodities controlled by ECCN 8A620.b or .y or ECCN 8B620.b or "software" controlled by 8D620.b or .y).

b. "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A620.b or 8B620.b or "software" controlled by ECCN 8D620.b.

c. through .x [RESERVED]

y. Specific "technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul or refurbishing of commodities or software in ECCN 8A620.y or 8D620.y.

8E992 "Technology" for the "development", "production" or "use" of equipment controlled by 8A992.

License Requirements

Reason for Control: AT

Control(s)	*Country Chart (See Supp. No. 1 to part 738).*
AT applies to entire entry	AT Column 1

List Based License Exceptions (See Part 740 for a description of all license exceptions)

CIV: N/A
TSR: N/A

List of Items Controlled

Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are *not* elsewhere specified in this CCL Category *or* in any other category in the CCL are designated by the number *EAR99*.