

# CPC COOPERATIVE PATENT CLASSIFICATION

**F17C VESSELS FOR CONTAINING OR STORING COMPRESSED, LIQUEFIED OR SOLIDIFIED GASES; FIXED-CAPACITY GAS-HOLDERS; FILLING VESSELS WITH, OR DISCHARGING FROM VESSELS, COMPRESSED, LIQUEFIED, OR SOLIDIFIED GASES** (storing fluids in natural or artificial cavities or chambers in the earth [B65G 5/00](#); construction or assembling of bulk storage containers employing civil-engineering techniques [E04H 7/00](#); variable-capacity gas-holders [F17B](#); liquefaction or refrigeration machines, plants, or systems [F25](#))

<b>1/00</b>	<b>Pressure vessels, e.g. gas cylinder, gas tank, replaceable cartridge</b> (pressurised apparatus for purposes other than storage, <a href="#">see</a> the relevant subclasses such as <a href="#">A62C</a> , <a href="#">B05B</a> ; associated with vehicles, <a href="#">see</a> the appropriate subclass of classes <a href="#">B60 - B64</a> ; pressure vessels in general <a href="#">F16J 12/00</a> ; {autoclaves <a href="#">B01J 3/04</a> ; tank vehicles <a href="#">B60P 3/22</a> ; railway tank wagons for carrying fluent materials <a href="#">B61D 5/00</a> ; accumulators for supplying fluid under pressure <a href="#">F15B 1/04</a> ; liquified gas stoves <a href="#">F24C 3/00</a> })	3/08	. . by vacuum spaces, e.g. Dewar flask (for household use <a href="#">A47J 41/02</a> )
		3/085	. . . {Cryostats}
		3/10	. . by liquid-circulating or vapour-circulating jackets
		3/12	. with provision for protection against corrosion, e.g. due to gaseous acid (protection against corrosion in general <a href="#">C23F</a> )
		<b>5/00</b>	<b>Methods or apparatus for filling containers with liquefied, solidified, or compressed gases under pressures</b> (adding propellants to aerosol containers <a href="#">B65B 31/00</a> )
1/002	. {Storage in barges or on ships}		<b>NOTE</b>
1/005	. {Storage of gas or gaseous mixture at high pressure and at high density condition, e.g. in the single state phase}		This group includes not only the filling of vessels for storage of compressed or liquefied gases, but also the filling of pressurised apparatus insofar as it is not covered by a single other subclass, e.g. <a href="#">A62C</a> , <a href="#">B05B</a> .
1/007	. {Underground or underwater storage}		
1/02	. involving reinforcing arrangements ({ <a href="#">F17C 1/14</a> , <a href="#">F17C 1/16</a> take precedence})		
1/04	. . Protecting sheathings		
1/06	. . . Built-up from wound-on bands or filamentary material, e.g. wires	5/002	. {Automated filling apparatus}
1/08	. . Integral reinforcements, e.g. ribs	5/005	. . {for gas bottles, such as on a continuous belt or on a merry-go-round}
1/10	. with provision for protection against corrosion, e.g. due to gaseous acid ({ <a href="#">F17C 1/14</a> , <a href="#">F17C 1/16</a> take precedence}; inhibiting corrosion of metallic material or incrustation in general <a href="#">C23F</a> )	5/007	. . {for individual gas tanks or containers, e.g. in vehicles (filling with liquid fuel not under pressure, <a href="#">B60S 5/02</a> , <a href="#">B67D 7/00</a> )}
1/12	. with provision for thermal insulation ({ <a href="#">F17C 1/14</a> , <a href="#">F17C 1/16</a> take precedence}; thermal insulation in general <a href="#">F16L 59/00</a> )	5/02	. for filling with liquefied gases
1/14	. constructed of aluminium; constructed of non-magnetic steel	5/04	. . requiring the use of refrigeration, e.g. filling with helium or hydrogen
1/16	. constructed of plastics materials ({shaping of plastics <a href="#">B29C</a> })	5/06	. for filling with compressed gases
<b>3/00</b>	<b>Vessels not under pressure</b>	<b>6/00</b>	<b>Methods and apparatus for filling vessels not under pressure with liquefied or solidified gases</b>
3/005	. {Underground or underwater containers or vessels (storing in natural or artificial cavities in the earth in general <a href="#">B65G 5/00</a> )}	<b>7/00</b>	<b>Methods or apparatus for discharging liquefied, solidified, or compressed gases from pressure vessels, not covered by another subclass</b>
3/02	. with provision for thermal insulation (thermal insulation in general <a href="#">F16L 59/00</a> {refrigerators <a href="#">F25D</a> ; insulation specially adapted for cryogenic vessels <a href="#">F17C 13/001</a> ; tank vehicles <a href="#">B60P 3/22</a> ; railway tank wagons <a href="#">B61D 5/00</a> })	7/02	. Discharging liquefied gases
3/022	. . {Land-based bulk storage containers (civil engineering aspects <a href="#">E04H 7/00</a> )}	7/04	. . with change of state, e.g. vaporisation
3/025	. . {Bulk storage in barges or on ships (constructive aspects <a href="#">B63B 25/16</a> )}	<b>9/00</b>	<b>Methods or apparatus for discharging liquefied or solidified gases from vessels not under pressure</b>
3/027	. . . {Wallpanels for so-called membrane tanks}	9/02	. with change of state, e.g. vaporisation
3/04	. . by insulating layers ( <a href="#">F17C 3/08</a> takes precedence)	9/04	. . Recovery of thermal energy
3/06	. . . on the inner surface, i.e. in contact with the stored fluid	<b>11/00</b>	<b>Use of gas-solvents or gas-sorbents in vessels</b> ({absorbing compositions for acetylene <a href="#">C10L 3/04</a> ; absorbing compositions for hydrogen <a href="#">C01B 3/0005</a> })
		11/002	. {for acetylene}
		11/005	. {for hydrogen}
		11/007	. {for hydrocarbon gases, such as methane or natural gas, propane, butane or mixtures thereof [LPG]}

<b>13/00</b>	<b>Details of vessels or of the filling or discharging of vessels</b>	2201/01	. Shape
13/001	. {Thermal insulation specially adapted for cryogenic vessels (vessels not under pressure with insulation <a href="#">F17C 3/02</a> ; thermal insulation in general <a href="#">F16L 59/00</a> )}	2201/0104	. . cylindrical
13/002	. {for vessels under pressure ( <a href="#">F17C 13/008</a> and <a href="#">F17C 13/02</a> - <a href="#">F17C 13/12</a> take precedence)}	2201/0109	. . . with exteriorly curved end-piece
13/003	. . {Means for coding or identifying them and/or their contents}	2201/0114	. . . with interiorly curved end-piece
13/004	. {for large storage vessels not under pressure ( <a href="#">F17C 13/008</a> and <a href="#">F17C 13/02</a> - <a href="#">F17C 13/12</a> take precedence)}	2201/0119	. . . with flat end-piece
13/005	. {for medium-size and small storage vessels not under pressure ( <a href="#">F17C 13/008</a> and <a href="#">F17C 13/02</a> - <a href="#">F17C 13/12</a> take precedence)}	2201/0123	. . . with variable thickness or diameter
13/006	. . {for Dewar vessels or cryostats}	2201/0128	. . spherical or elliptical
13/007	. . . {used for superconducting phenomena (investigating by nuclear magnetic resonance <a href="#">G01N 24/08</a> ; magnets having superconductive winding <a href="#">H01F 6/00</a> )}	2201/0133	. . toroidal
13/008	. {for use under microgravity conditions}	2201/0138	. . tubular
13/02	. Special adaptations of indicating, measuring, or monitoring equipment ( <a href="#">measuring in general G01</a> )	2201/0142	. . conical
13/021	. . {having the height as the parameter}	2201/0147	. . complex
13/023	. . {having the mass as the parameter}	2201/0152	. . . Lobes
13/025	. . {having the pressure as the parameter}	2201/0157	. . . Polygonal
13/026	. . {having the temperature as the parameter}	2201/0161	. . . Honeycomb
13/028	. . {having the volume as the parameter}	2201/0166	. . . divided in several chambers
13/04	. Arrangement or mounting of valves ( <a href="#">valves per se F16K</a> ; {snap-coupling of nipples <a href="#">F16L 37/00</a> })	2201/0171	. . . comprising a communication hole between chambers
13/045	. . {Automatic change-over switching assembly for bottled gas systems with two (or more) gas containers}	2201/0176	. . variable
13/06	. Closures, e.g. cap, breakable member ({for autoclaves <a href="#">B01J 3/03</a> }; closures for {large} containers in general <a href="#">B65D</a> { <a href="#">B65D 90/54</a> }; {for pressure vessels in general <a href="#">F16J 13/00</a> })	2201/018	. . . with bladders
13/08	. Mounting arrangements for vessels	2201/0185	. . . with separating membrane
13/081	. . {for large land-based storage vessels (supports for large containers in general <a href="#">B65D 90/12</a> )}	2201/019	. . . with pistons
13/082	. . {for large sea-borne storage vessels (load-accommodating arrangements for ships or waterborne vessels <a href="#">B63B 25/12</a> )}	2201/0195	. . . with bellows
13/083	. . {for medium-sized mobile storage vessels, e.g. tank vehicles or railway tank vehicles}	2201/03	. Orientation
13/084	. . {for small-sized storage vessels, e.g. compressed gas cylinders or bottles, disposable gas vessels, vessels adapted for automotive use}	2201/032	. . with substantially vertical main axis
13/085	. . . {on wheels ( <a href="#">hand carts B62B</a> )}	2201/035	. . with substantially horizontal main axis
13/086	. . {for Dewar vessels or cryostats}	2201/037	. . with sloping main axis
13/087	. . . {used for superconducting phenomena}	2201/05	. Size
13/088	. . {for use under microgravity conditions}	2201/052	. . large (>1000 m3)
13/10	. Arrangements for preventing freezing	2201/054	. . medium (>1 m3)
13/12	. Arrangements or mounting of devices for preventing or minimising the effect of explosion ( <a href="#">flame traps A62C 4/00</a> ; {Other safety measures})	2201/056	. . Small (<1 m3)
13/123	. . {for gas bottles, cylinders or reservoirs for tank vehicles or for railway tank wagons}	2201/058	. . portable (<30 l)
13/126	. . {for large storage containers for liquefied gas (for large containers in general <a href="#">B65D 90/22</a> )}	2201/06	. Vessel construction using filling material in contact with the handled fluid
<b>2201/00</b>	<b>Vessel construction, in particular geometry, arrangement or size</b>	<b>2203/00</b>	<b>Vessel construction, in particular walls or details thereof</b>
		2203/01	. Reinforcing or suspension means
		2203/011	. . Reinforcing means
		2203/012	. . . on or in the wall, e.g. ribs
		2203/013	. . . in the vessel, e.g. columns
		2203/014	. . Suspension means
		2203/015	. . . Bars
		2203/016	. . . Cords
		2203/017	. . . Magnetic means
		2203/018	. . . by attachment at the neck
		2203/03	. Thermal insulations
		2203/0304	. . by solid means
		2203/0308	. . . Radiation shield
		2203/0312	. . . . cooled by external means
		2203/0316	. . . . cooled by vaporised gas from the interior
		2203/032	. . . . Multi-sheet layers
		2203/0325	. . . Aerogel
		2203/0329	. . . Foam
		2203/0333	. . . . Polyurethane
		2203/0337	. . . Granular
		2203/0341	. . . . Perlite
		2203/0345	. . . Fibres
		2203/035	. . . . Glass wool
		2203/0354	. . . Wood
		2203/0358	. . . in form of panels
		2203/0362	. . by liquid means
		2203/0366	. . . Cryogen

2203/037	. . . Water	2205/0134	. . . . characterised by the presence of fluid connection between vessels
2203/0375	. . by gas	2205/0138	. . . . . bundled in series
2203/0379	. . . Inert	2205/0142	. . . . . bundled in parallel
2203/0383	. . . Air	2205/0146	. . . . . with details of the manifold
2203/0387	. . . Cryogen	2205/0149	. . . . Vessel mounted inside another one
2203/0391	. . by vacuum	2205/0153	. . Details of mounting arrangements
2203/0395	. . . Getter	2205/0157	. . . for transport
2203/06	. Materials for walls or layers thereof; Properties or structures of walls or their materials	2205/0161	. . . . with wheels
2203/0602	. . Wall structures; Special features thereof	2205/0165	. . . . with handgrip
2203/0604	. . . Liners	2205/0169	. . . . stackable
2203/0607	. . . Coatings	2205/0173	. . . . lockable
2203/0609	. . . Straps, bands or ribbons	2205/0176	. . . with ventilation
2203/0612	. . . Wall structures	2205/018	. . . Supporting feet
2203/0614	. . . . Single wall	2205/0184	. . . Attachments to the ground, e.g. mooring or anchoring
2203/0617	. . . . . with one layer	2205/0188	. . . Hanging up devices
2203/0619	. . . . . with two layers	2205/0192	. . . with external bearing means
2203/0621	. . . . . with three layers	2205/0196	. . . with shock absorbing means
2203/0624	. . . . . with four or more layers	2205/03	. Fluid connections, filters, valves, closure means or other attachments
2203/0626	. . . . Multiple walls	2205/0302	. . Fittings, valves, filters, or components in connection with the gas storage device
2203/0629	. . . . . Two walls	2205/0305	. . . Bosses, e.g. boss collars
2203/0631	. . . . . Three or more walls	2205/0308	. . . Protective caps
2203/0634	. . Materials for walls or layers thereof	2205/0311	. . . Closure means
2203/0636	. . . Metals	2205/0314	. . . . breakable, e.g. with burst discs
2203/0639	. . . . Steels	2205/0317	. . . . fusing or melting
2203/0641	. . . . . Non-magnetic steels	2205/032	. . . . pierceable
2203/0643	. . . . . Stainless steels	2205/0323	. . . Valves
2203/0646	. . . . Aluminium	2205/0326	. . . . electrically actuated
2203/0648	. . . . Alloys or compositions of metals	2205/0329	. . . . manually actuated
2203/0651	. . . . . Invar	2205/0332	. . . . Safety valves or pressure relief valves
2203/0653	. . . . Lead	2205/0335	. . . . Check-valves or non-return valves
2203/0656	. . . . in form of filaments	2205/0338	. . . Pressure regulators
2203/0658	. . . Synthetics	2205/0341	. . . Filters
2203/066	. . . . Plastics	2205/0344	. . . . Sinter type
2203/0663	. . . . in form of fibers or filaments	2205/0347	. . . . Active charcoal type
2203/0665	. . . . . radially wound	2205/035	. . . Flow reducers
2203/0668	. . . . . axially wound	2205/0352	. . . Pipes
2203/067	. . . . . helically wound	2205/0355	. . . . Insulation thereof
2203/0673	. . . . . Polymers	2205/0358	. . . . coaxial
2203/0675	. . . . with details of composition	2205/0361	. . . . corrugated
2203/0678	. . . Concrete	2205/0364	. . . . flexible or articulated, e.g. a hose
2203/068	. . Special properties of materials for vessel walls	2205/0367	. . . . Arrangements in parallel
2203/0682	. . . with liquid or gas layer	2205/037	. . . Quick connecting means, e.g. couplings
2203/0685	. . . flexible	2205/0373	. . . . Adapters
2203/0687	. . . superconducting	2205/0376	. . . Dispensing pistols
2203/069	. . . Break point in the wall	2205/0379	. . . Manholes or access openings for human beings
2203/0692	. . . transparent	2205/0382	. . . Constructional details of valves, regulators
2203/0695	. . . pre-constrained	2205/0385	. . . . in blocks or units
2203/0697	. . . comprising nanoparticles	2205/0388	. . . Arrangement of valves, regulators, filters
<b>2205/00</b>	<b>Vessel construction, in particular mounting arrangements, attachments or identifications means</b>	2205/0391	. . . inside the pressure vessel
2205/01	. Mounting arrangements	2205/0394	. . . in direct contact with the pressure vessel
2205/0103	. . Exterior arrangements	2205/0397	. . . . on both sides of the pressure vessel
2205/0107	. . . Frames	2205/05	. Vessel or content identifications, e.g. labels
2205/0111	. . . Boxes	2205/051	. . by coating
2205/0115	. . . Dismountable protective hulls	2205/052	. . by stickers
2205/0119	. . . Vessel walls form part of another structure	2205/054	. . by bar codes
2205/0123	. . characterised by number of vessels	2205/055	. . by magnetic means
2205/0126	. . . One vessel	2205/057	. . by chips
2205/013	. . . Two or more vessels		

2205/058	. . by Radio Frequency Identification	2223/013	. . . liquid
<b>2209/00</b>	<b>Vessel construction, in particular methods of manufacturing</b>	2223/0138	. . . solid
2209/21	. Shaping processes	2223/0146	. . Two-phase
2209/2109	. . Moulding	2223/0153	. . . Liquefied gas, e.g. LPG, GPL
2209/2118	. . . by injection	2223/0161	. . . . cryogenic, e.g. LNG, GNL, PLNG
2209/2127	. . . by blowing	2223/0169	. . . . subcooled
2209/2136	. . . using wax moulds	2223/0176	. . . Solids and gas
2209/2145	. . . by rotation	2223/0184	. . . Liquids and solids
2209/2154	. . Winding	2223/0192	. . Three-phase, e.g. CO <sub>2</sub> at triple point
2209/2163	. . . with a mandrel	2223/03	. characterised by the pressure level
2209/2172	. . Polishing	2223/031	. . Not under pressure, i.e. containing liquids or solids only
2209/2181	. . Metal working processes, e.g. deep drawing, stamping or cutting	2223/033	. . Small pressure, e.g. for liquefied gas
2209/219	. . Working processes for non metal materials, e.g. extruding	2223/035	. . High pressure (>10 bar)
2209/22	. Assembling processes	2223/036	. . Very high pressure (>80 bar)
2209/221	. . Welding	2223/038	. . Subatmospheric pressure
2209/222	. . . by friction	2223/04	. characterised by other properties of handled fluid before transfer
2209/224	. . Press-fitting; Shrink-fitting	2223/041	. . Stratification
2209/225	. . Spraying	2223/042	. . Localisation of the removal point
2209/227	. . by adhesive means	2223/043	. . . in the gas
2209/228	. . by screws, bolts or rivets	2223/045	. . . . with a dip tube
2209/23	. Manufacturing of particular parts or at special locations	2223/046	. . . in the liquid
2209/232	. . of walls	2223/047	. . . . with a dip tube
2209/234	. . of closing end pieces, e.g. caps	2223/048	. . . in the solid
2209/236	. . . Apparatus therefore	<b>2225/00</b>	<b>Handled fluid after transfer, i.e. state of fluid after transfer from the vessel</b>
2209/238	. . Filling of insulants	2225/01	. characterised by the phase
<b>2221/00</b>	<b>Handled fluid, in particular type of fluid</b>	2225/0107	. . Single phase
2221/01	. Pure fluids	2225/0115	. . . dense or supercritical, i.e. at high pressure and high density
2221/011	. . Oxygen	2225/0123	. . . gaseous, e.g. CNG, GNC
2221/012	. . Hydrogen	2225/013	. . . liquid
2221/013	. . Carbene dioxide	2225/0138	. . . solid
2221/014	. . Nitrogen	2225/0146	. . Two-phase
2221/015	. . Carbon monoxide	2225/0153	. . . Liquefied gas, e.g. LPG, GPL
2221/016	. . Noble gases (Ar, Kr, Xe)	2225/0161	. . . . cryogenic, e.g. LNG, GNL, PLNG
2221/017	. . . Helium	2225/0169	. . . . subcooled
2221/018	. . Acetylene	2225/0176	. . . Solids and gas
2221/03	. Mixtures	2225/0184	. . . Liquids and solids
2221/031	. . Air	2225/0192	. . Three-phase, e.g. CO <sub>2</sub> at triple point
2221/032	. . Hydrocarbons	2225/03	. characterised by the pressure level
2221/033	. . . Methane, e.g. natural gas, CNG, LNG, GNL, GNC, PLNG	2225/031	. . Not under pressure, i.e. containing liquids or solids only
2221/035	. . . Propane butane, e.g. LPG, GPL	2225/033	. . Small pressure, e.g. for liquefied gas
2221/036	. . . Hydrates	2225/035	. . High pressure, i.e. between 10 and 80 bars
2221/037	. . Containing pollutant, e.g. H <sub>2</sub> S, Cl	2225/036	. . Very high pressure, i.e. above 80 bars
2221/038	. . Refrigerants	2225/038	. . Subatmospheric pressure
2221/05	. Ultrapure fluid	2225/04	. characterised by other properties of handled fluid after transfer
2221/07	. Hyperpolarised gases	2225/041	. . Stratification
2221/08	. Ergols, e.g. hydrazine	2225/042	. . Localisation of the filling point
<b>Fluid contained in the vessel; Filling and discharging the fluid</b>		2225/043	. . . in the gas
<b>2223/00</b>	<b>Handled fluid before transfer, i.e. state of fluid when stored in the vessel or before transfer from the vessel</b>	2225/044	. . . . at several points, e.g. with a device for recondensing gas
2223/01	. characterised by the phase	2225/045	. . . . with a dip tube
2223/0107	. . Single phase	2225/046	. . . in the liquid
2223/0115	. . . dense or supercritical, i.e. at high pressure and high density	2225/047	. . . . with a dip tube
2223/0123	. . . gaseous, e.g. CNG, GNC	2225/048	. . . in the solid

<b>2227/00</b>	<b>Transfer of fluids, i.e. method or means for transferring the fluid; Heat exchange with the fluid</b>	<b>2227/04</b>	<b>Methods for emptying or filling</b>
2227/01	. Propulsion of the fluid	2227/041	. . vessel by vessel
2227/0107	. . by pressurising the ullage	2227/042	. . . with change-over from one vessel to another
2227/0114	. . with vacuum injectors, e.g. venturi	2227/043	. . by pressure cascade
2227/0121	. . by gravity	2227/044	. . by purging
2227/0128	. . with pumps or compressors	2227/045	. . by vacuum
2227/0135	. . . Pumps	2227/046	. . by even emptying or filling
2227/0142	. . . . with specified pump type, e.g. piston or impulsive type	2227/047	. . by repeating a process cycle
2227/015	. . . . with cooling of the pump	2227/048	. . by maintaining residual pressure
2227/0157	. . . Compressors	<b>2250/00</b>	<b>Accessories; Control means; Indicating, measuring or monitoring of parameters</b>
2227/0164	. . . . with specified compressor type, e.g. piston or impulsive type	2250/01	. Intermediate tanks
2227/0171	. . . Arrangement	2250/03	. Control means
2227/0178	. . . . in the vessel	2250/032	. . using computers
2227/0185	. . . . comprising several pumps or compressors	2250/034	. . using wireless transmissions
2227/0192	. . by using a working fluid	2250/036	. . using alarms
2227/03	. Heat exchange with the fluid	2250/038	. . using cameras
2227/0302	. . by heating	2250/04	. Indicating or measuring of parameters as input values
2227/0304	. . . using an electric heater	2250/0404	. . Parameters indicated or measured
2227/0306	. . . using the same fluid	2250/0408	. . . Level of content in the vessel
2227/0309	. . . using another fluid	2250/0413	. . . . with floats
2227/0311	. . . . Air heating	2250/0417	. . . . with electrical means
2227/0313	. . . . . by forced circulation, e.g. using a fan	2250/0421	. . . Mass or weight of the content of the vessel
2227/0316	. . . . Water heating	2250/0426	. . . Volume
2227/0318	. . . . . using seawater	2250/043	. . . Pressure
2227/032	. . . . . using geothermal water	2250/0434	. . . . Pressure difference
2227/0323	. . . . in a closed loop	2250/0439	. . . Temperature
2227/0325	. . . by expansion using "Joule-Thompson" effect	2250/0443	. . . Flow or movement of content
2227/0327	. . . with recovery of heat	2250/0447	. . . Composition; Humidity
2227/033	. . . using solar energy	2250/0452	. . . . Concentration of a product
2227/0332	. . . by burning a combustible	2250/0456	. . . . Calorific or heating value
2227/0334	. . . by radiation means	2250/046	. . . . Humidity
2227/0337	. . by cooling	2250/0465	. . . Vibrations, e.g. of acoustic type
2227/0339	. . . using the same fluid	2250/0469	. . . Constraints, e.g. by gauges
2227/0341	. . . using another fluid	2250/0473	. . . Time or time periods
2227/0344	. . . . Air cooling	2250/0478	. . . Position or presence
2227/0346	. . . . . by forced circulation, e.g. using a fan	2250/0482	. . . Acceleration
2227/0348	. . . . Water cooling	2250/0486	. . Indicating or measuring characterised by the location
2227/0351	. . . . . using seawater	2250/0491	. . . Parameters measured at or inside the vessel
2227/0353	. . . . . using cryocooler	2250/0495	. . . the indicated parameter is a converted measured parameter
2227/0355	. . . . in a closed loop	2250/06	. Controlling or regulating of parameters as output values
2227/0358	. . . by expansion	2250/0605	. . Parameters
2227/036	. . . . "Joule-Thompson" effect	2250/061	. . . Level of content in the vessel
2227/0362	. . . . in a turbine	2250/0615	. . . Mass or weight of the content of the vessel
2227/0365	. . . with recovery of heat	2250/0621	. . . Volume
2227/0367	. . Localisation of heat exchange	2250/0626	. . . Pressure
2227/0369	. . . in or on a vessel	2250/0631	. . . Temperature
2227/0372	. . . . in the gas	2250/0636	. . . Flow or movement of content
2227/0374	. . . . in the liquid	2250/0642	. . . Composition; Humidity
2227/0376	. . . . in wall contact	2250/0647	. . . . Concentration of a product
2227/0379	. . . . . inside the vessel	2250/0652	. . . . Calorific or heating value
2227/0381	. . . . . integrated in the wall	2250/0657	. . . . Humidity
2227/0383	. . . . . outside the vessel	2250/0663	. . . Vibrations, e.g. of acoustic type
2227/0386	. . . . . with a jacket	2250/0668	. . . Constraints, e.g. by gauges
2227/0388	. . . separate	2250/0673	. . . Time or time periods
2227/039	. . . . on the pipes	2250/0678	. . . Position or presence
2227/0393	. . . . using a vaporiser	2250/0684	. . . Acceleration
2227/0395	. . . . using a submerged heat exchanger		
2227/0397	. . . characterised by fins		

- 2250/0689 . . Methods for controlling or regulating
- 2250/0694 . . . with calculations
- 2250/07 . Actions triggered by measured parameters
- 2250/072 . . Action when predefined value is reached
- 2250/075 . . . when full
- 2250/077 . . . when empty

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## 2260/00 Purposes of gas storage and gas handling

- 2260/01 . Improving mechanical properties or manufacturing
- 2260/011 . . Improving strength
- 2260/012 . . Reducing weight
- 2260/013 . . Reducing manufacturing time or effort
- 2260/015 . . Facilitating maintenance
- 2260/016 . . Preventing slosh
- 2260/017 . . by calculation
- 2260/018 . . Adapting dimensions
- 2260/02 . Improving properties related to fluid or fluid transfer
- 2260/021 . . Avoiding over pressurising
- 2260/022 . . Avoiding overfilling
- 2260/023 . . Avoiding overheating
- 2260/024 . . Improving metering
- 2260/025 . . Reducing transfer time
- 2260/026 . . by calculation
- 2260/027 . . Making transfer independent of vessel orientation
- 2260/028 . . Avoiding unauthorised transfer
- 2260/03 . Dealing with losses
- 2260/031 . . due to heat transfer
- 2260/032 . . . Avoiding freezing or defrosting
- 2260/033 . . . by enhancing insulation
- 2260/035 . . of fluid
- 2260/036 . . . Avoiding leaks
- 2260/037 . . . Handling leaked fluid
- 2260/038 . . . Detecting leaked fluid
- 2260/04 . Reducing risks and environmental impact
- 2260/042 . . Reducing risk of explosion
- 2260/044 . . Avoiding pollution or contamination
- 2260/046 . . Enhancing energy recovery
- 2260/048 . . Refurbishing
- 2260/05 . Improving chemical properties
- 2260/053 . . Reducing corrosion
- 2260/056 . . Improving fluid characteristics

## Purposes or effects

### 2265/00 Effects achieved by gas storage or gas handling

- 2265/01 . Purifying the fluid
- 2265/012 . . by filtering
- 2265/015 . . by separating
- 2265/017 . . . different phases of a same fluid
- 2265/02 . Mixing fluids
- 2265/022 . . identical fluid
- 2265/025 . . different fluids
- 2265/027 . . . with odorizing
- 2265/03 . Treating the boil-off
- 2265/031 . . by discharge
- 2265/032 . . by recovery
- 2265/033 . . . with cooling
- 2265/034 . . . . with condensing the gas phase
- 2265/035 . . . . with subcooling the liquid phase
- 2265/036 . . . with heating

- 2265/037 . . . with pressurising
- 2265/038 . . . with expanding
- 2265/04 . using an independent energy source, e.g. battery
- 2265/05 . Regasification
- 2265/06 . Fluid distribution
- 2265/061 . . for supply of supplying vehicles
- 2265/063 . . for supply of refueling stations
- 2265/065 . . for refueling vehicle fuel tanks
- 2265/066 . . for feeding engines for propulsion
- 2265/068 . . Distribution pipeline networks
- 2265/07 . Generating electrical power as side effect

## 2270/00 Applications

- 2270/01 . for fluid transport or storage
- 2270/0102 . . on or in the water
- 2270/0105 . . . Ships
- 2270/0107 . . . . Wall panels
- 2270/011 . . . Barges
- 2270/0113 . . . . floating
- 2270/0115 . . . . immersed
- 2270/0118 . . . Offshore
- 2270/0121 . . . . Platforms
- 2270/0123 . . . . Terminals
- 2270/0126 . . . . Buoys
- 2270/0128 . . . . Storage in depth
- 2270/0131 . . . Submarines
- 2270/0134 . . placed above the ground
- 2270/0136 . . . Terminals
- 2270/0139 . . . Fuel stations
- 2270/0142 . . placed underground
- 2270/0144 . . . Type of cavity
- 2270/0147 . . . . by burying vessels
- 2270/0149 . . . . by digging cavities
- 2270/0152 . . . . . Salt caverns
- 2270/0155 . . . . by using natural cavities
- 2270/0157 . . . Location of cavity
- 2270/016 . . . . onshore
- 2270/0163 . . . . offshore
- 2270/0165 . . on the road
- 2270/0168 . . . by vehicles
- 2270/0171 . . . . Trucks
- 2270/0173 . . . . Railways
- 2270/0176 . . . . Buses
- 2270/0178 . . . . Cars
- 2270/0181 . . . Airbags
- 2270/0184 . . . Fuel cells
- 2270/0186 . . in the air or in space
- 2270/0189 . . . Planes
- 2270/0192 . . . Hot air balloons
- 2270/0194 . . . for use under microgravity conditions, e.g. space
- 2270/0197 . . . Rockets
- 2270/02 . for medical applications
- 2270/025 . . Breathing
- 2270/05 . for industrial use
- 2270/0509 . . "Dewar" vessels
- 2270/0518 . . Semiconductors
- 2270/0527 . . Supra-conductors
- 2270/0536 . . . Magnetic resonance imaging
- 2270/0545 . . Tools
- 2270/0554 . . Hydraulic applications
- 2270/0563 . . Pneumatic applications

2270/0572	. .	Isostatic presses
2270/0581	. .	Power plants
2270/059	. .	Mass bottling, e.g. merry belts
2270/07	. .	for household use
2270/0709	. .	Camping gas
2270/0718	. .	Aerosols
2270/0727	. .	Thermos flasks
2270/0736	. .	Capsules, e.g. CO <sub>2</sub>
2270/0745	. .	Gas bottles
2270/0754	. .	Fire extinguishers
2270/0763	. .	Fuel cells
2270/0772	. .	Inflation devices, e.g. for rescue vests or tyres
2270/0781	. .	Diving equipments
2270/079	. .	Respiration devices for rescuing