

F17 **STORING OR DISTRIBUTING GASES OR LIQUIDS** (water supply E03B)

F17D PIPE-LINE SYSTEMS; PIPE-LINES (pumps or compressors F04; fluid dynamics F15D; valves or the like F16K; pipes, laying pipes, supports, joints, branches, repairing, work on the entire line, accessories F16L; steam traps or the like F16T; fluid-pressure electric cables H01B 9/06)

In this subclass, the following expression is used with the meaning indicated:

- “pipe-line systems” means systems described in flow sheets as well as arrangements of co-operating elements, the elements per se being covered by the relevant subclasses.

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| <p>1/00 Pipe-line systems (conveying articles or materials through a pipe-line by means of a fluid carrier B65G 51/00, B65G 53/00; dispensing, delivering or transferring liquids B67D; special devices for transferring liquids from bulk storage containers into vehicles or boats or <i>vice versa</i>, e.g. loading or unloading vehicles or portable containers B67D 5/00; conveying material which has been excavated by a dredger or soil shifter through a pipe-line E02F 7/10; sewer pipe-line systems E03F 3/00; thermal insulation of pipe-lines F16L 59/00; central heating systems F24D) [2]</p> <p>1/02 . for gases or vapours</p> <p>1/04 . . for distribution of gas</p> <p>1/05 . . Preventing freezing (by heating F16L 53/00)</p> <p>1/06 . . for steam</p> <p>1/065 . . Arrangements for producing propulsion of gases or vapours [2]</p> <p>1/07 . . . by compression [2]</p> <p>1/075 . . . by mere expansion from an initial pressure level, e.g. by arrangement of a flow-control valve [2]</p> <p>1/08 . for liquids or viscous products (water-main or service pipe systems E03B 7/04; domestic hot-water supply systems F24D 17/00) [2]</p> <p>1/12 . . Conveying liquids or viscous products by pressure of another fluid [2]</p> <p>1/13 . . Conveying liquids or viscous products by gravity [2]</p> <p>1/14 . . Conveying liquids or viscous products by pumping [2]</p> <p>1/16 . . Facilitating the conveyance of liquids or effecting the conveyance of viscous products by modification of their viscosity [2]</p> <p>1/17 . . . by mixing with another liquid [2]</p> <p>1/18 . . . by heating [2]</p> <p>1/20 . Arrangements or systems of devices for influencing or altering dynamic characteristics of the systems, e.g. for damping pulsations caused by opening or closing of valves (fluid dynamics F15D; damping pulsations in fluids in pipes in general F16L 55/04) [2]</p> | <p>3/00 Arrangements for supervising or controlling working operations</p> <p>3/01 . for controlling, signalling, or supervising the conveyance of a product [2]</p> <p>3/03 . for controlling, signalling, or supervising the conveyance of several different products following one another in the same conduit, e.g. for switching from one receiving tank to another [2]</p> <p>3/05 . . the different products not being separated (separation of contaminants by distillation B01D 3/00) [2]</p> <p>3/08 . . the different products being separated by “go-devils”, e.g. spheres (cleaning devices moved along the inside of pipe-lines by a fluid B08B 9/053) [2]</p> <p>3/10 . for taking out the product in the line (investigating or analysing materials by determinating their chemical or physical properties G01N) [2]</p> <p>3/12 . for injecting a composition into the line [2]</p> <p>3/14 . for eliminating water (separation of liquids B01D, e.g. B01D 17/00; separation of gases or vapours B01D 53/00) [2]</p> <p>3/16 . for eliminating particles in suspension (from liquids by sedimentation B01D 21/00; separation by filtration or otherwise B01D 24/00 B01D 51/00; centrifugal apparatus B04) [2]</p> <p>3/18 . for measuring the quantity of conveyed product (measuring volume or volume flow, in general G01F) [2]</p> <p>5/00 Protection or supervision of installations (arrangements for protecting foundations E02D 31/00; protecting pipes from damage or internal or external wear F16L 57/00, against corrosion or scale F16L 58/00; investigation of the fluid-tightness of structures G01M 3/00) [2]</p> <p>5/02 . Preventing, monitoring, or locating loss [2]</p> <p>5/04 . . by means of a signalling fluid enclosed in a double wall [2]</p> <p>5/06 . . using electric or acoustic means [2]</p> <p>5/08 . Protection of installations or persons from the effects of high voltage induced in the pipe-line (emergency protective circuit arrangements H02H) [2]</p> |
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