THE APPLICABILITY OF VEXVE BALL VALVES FOR CHEMICALS

X = Applicable in general

- = Not recommended

empty = Depends on conditions, contact manufacturer

The valves do not have fire safe or antistatic approval!

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Chemical** | **Väliaine** | **Chemical symbol** | Steel valves 0˚C...+200˚C | Gas valves ‐  30˚C...+70˚C | Stainless steel valves ‐ 30˚C...+200˚C | **Notes** | FPM | EPDM | NBR |
| Acetic acid | Etikkahappo | CH₃COOH | ‐ | ‐ | ‐ | FPM if under 5% |  | X | ‐ |
| Acetone | Asetoni | CH₃COCH₃ | ‐ | ‐ | ‐ |  | ‐ | X | ‐ |
| Acetylene | Asetyleeni | C2 H2 | X | ‐ | X | Not applicable |  |  |  |
| Air, over pressure | Ilma, paineilma | N2, O2, Ar, CO2 | X | X | X |  | X |  |  |
| Air, under pressure | Ilma, alipaine | N2, O2, Ar, CO2 | X | X | X | Up to DN50 (pabs=0,6 bar /0,4 bar alipaine) | X |  |  |
| Ammonia 10% | Ammoniakki 10% | NH₃ |  |  |  | Not applicable |  |  |  |
| Ammonia, anhydrous | Ammoniakki, vedetön | NH₃ |  |  |  | Not applicable |  |  |  |
| Ammonia, liquid | Ammoniakki, neste | NH₃ | ‐ | ‐ | ‐ | max. Consentration 50% | ‐ | X | ‐ |
| Ammonium chloride | Ammoniumkloridi | NH₄Cl |  |  |  | Not applicable |  |  |  |
| Ammonium nitrate | Ammoniumnitraatti | NH₄NO₃ | ‐ | ‐ | X |  | ‐ | X | X |
| Aniline | Aniliini | C₆H₅NH₂ |  |  |  | Not applicable |  |  |  |
| Benzene/Benzol | Bentseeni | C₆H₆ |  |  | X | min. temperature 0oC | X | ‐ | ‐ |
| Benzoic acid | Bentsoehappo | C₇H₆O₂ or C₆ H5 COOH | ‐ | ‐ | X | min. temperature 0oC | X | ‐ | ‐ |
| Bio oil/vegetable oil | Bioöljy/kasvisöljy |  | X |  | X |  | ‐ | ‐ | X |
| Boric acid | Boorihappo | H₃ BO₃ | ‐ | ‐ | X |  | X | X | X |
| Butane | Butaani | C₄H₁₀ |  | X | X | Valve should have decompression hole | X | ‐ | X |
| Butanol | Butanoli | C₄H₉OH | X | ‐ | X | Valve should have decompression hole | X | ‐ | X |
| Calcium carbonate | Kalsiumkarbonaatti | CaCO₃ |  |  | X |  | X | X | X |
| Calcium chloride | Kalsiumkloridi | CaCl₂ |  |  |  | Not applicable |  |  |  |
| Calcium hydroxide | Kalsiumhydroksidi | Ca (OH)₂ | X | ‐ | X |  | X | X | X |
| Carbonic acid | Hiilihappo | H₂CO₃ | ‐ | ‐ | X |  | X | X | ‐ |
| Chloroform | Kloroformi | CHCl₃ | ‐ | ‐ | X | min. temperature 0oC | X | ‐ | ‐ |
| Cinder | Kuona, tuhka |  |  |  |  | Not applicable |  |  |  |
| Citric acid (<10 %) | Sitruunahappo | C₆H₈O7 | ‐ | ‐ | X |  | X | X | X |
| Chlorine | Kloori |  |  |  |  | Not applicable |  |  |  |
| Ethanol | Etanoli | C₂H₅OH | X | ‐ | X | min. temperature 0oC | ‐ | X | ‐ |
| Ferric sulphate | Rauta(III)sulfaatti | FeSO₄ |  | ‐ | X |  | X | X | X |
| Formalin | Formaliini | HCHO+H₂O | ‐ | ‐ | X | min. temperature 0oC | ‐ |  | ‐ |
| Formic acid (<2 %) | Muurahaishappo | HCOOH | ‐ | ‐ | ‐ |  | ‐ | X | ‐ |
| Freezium |  |  | ‐ | ‐ | X | max. temperature +70oC | ‐ | X | ‐ |
| Glucose | Glukoosi | C₆H₁₂O₆ |  |  |  | Not applicable |  |  |  |
| Glycol (ethylene) (<50%) | Etyleeni glykoli | CH₂OH‐CH₂OH | X(1 |  | X | (1 Below 0oC contact manufacturer, NBR‐Below 0oC | X | X | X |
| Glycol (propylene) (<50%) | Propyleeni glykoli | C3H8O2 | X(1 |  | X | (1 Below 0oC contact manufacturer, NBR‐Below 0oC | X | X | X |
| Hydrochloric acid | Suolahappo/vetykloridihappo | HCl |  |  |  | Not applicable |  |  |  |
| Hydrogen peroxide | Vetyperoksidi | H2O2 |  |  |  | Not applicable |  |  |  |
| Lactic acid | Maitohappo | C3H6O3 | ‐ | ‐ | X | Only FPM O‐rings if hot | X | X | X |
| Latex | Lateksi |  |  |  |  |  | X | X | X |
| Liquid gas (propane + butane) | Nestekaasu (propaani + butaani) | C₃H₈ + C₄H₁₀ |  | X | X | Valve should have decompression hole | X | ‐ | X |
| Lye, cooking lye (white) | Keittolipeä, (valkoinen) | NaOH + Na₂S | ‐ | ‐ |  | Depending on concentration and temperature | ‐ | X |  |
| Magnesium sulphate | Magnesiumsulfaatti | MgSO₄ |  |  | X |  | X | X | X |
| Methanol | Metanoli | CH₃OH | ‐ | ‐ | X | max. temperature +70oC | ‐ | X | ‐ |
| Natural gas (methane 98 %) | Maakaasu (metaani 98%) | CH₄ | ‐ | X | X |  | X | ‐ | X |
| Nitric acid (<50 %) | Typpihappo | HNO₃ | ‐ | ‐ | X | min. temperature 0oC | X | ‐ | ‐ |
| Nitrogen (GAS) | Typpi | N₂ |  |  |  | Not applicable |  |  |  |
| Oil, Castor oil | Risiiniöljy |  | X | ‐ | X | min. temperature 0oC | X | ‐ | X |
| Oil, crude oil (sulphur ≤ 3,5%) | Raakaöljy |  |  |  |  | Not applicable |  |  |  |
| Oil, diesel | Öljy, diesel |  | X(1 | ‐ | X | (1 NBR‐Below 0oC | X | ‐ | X |
| Oil, fuel oil | Polttoöljy |  | X(1 | ‐ | X | (1 NBR‐Below 0oC |  | ‐ |  |
| Oxalic acid (cold) | Oksaalihappo | (COOH)2 | ‐ | ‐ | X | min. temperature 0oC | X | X | ‐ |
| Oxygen, <90°C (GAS) | Happi, <90°C (kaasu) | O2 |  |  |  | Not applicable |  |  |  |
| Petrol | Bensiini |  |  |  |  | Not applicable |  |  |  |
| Phenol | Fenoli | C6H5OH |  |  | X | min. temperature 0oC | X | ‐ | ‐ |
| Phosphoric acid (<50%) | Fosforihappo | H3PO4 | ‐ | ‐ | X | min. temperature 0oC | X | ‐ | ‐ |
| Potassium chloride | Kaliumkloridi | KCL | X | ‐ | X | min. temperature 0oC | X | X | X |
| Potassium hydroxide | Kaliumhydroksidi | KOH | ‐ | ‐ | ‐ | 50 % | ‐ | X | ‐ |
| Potassium nitrate | Kaliumnitraatti | KNO3 |  |  | X |  | X | X | X |
| Potassium sulfate | Kaliumsulfaatti | K2SO4 | ‐ | ‐ | X |  | X | X | X |
| Propane | Propaani | C3H8 |  | X | X | Valve should have decompression hole | X | ‐ | X |
| Sodium carbonate | Natriumkarbonaatti | Na2CO3 |  |  | X |  | x | x | x |
| Sodium chlorate | Natriumkloraatti | NaClO3 | ‐ | ‐ | X | min. temperature 0oC | ‐ | x |  |
| Sodium chloride | Natriumkloridi | NaCl |  |  |  |  | x | x | x |
| Sodium hydroxide (<50%) (caustic  soda) | Natriumhydroksidi, lipeä | NaOH | ‐ | ‐ | X | Depending on concentration and temperature | ‐ | X | ‐ |
| Sodium hydroxide (>50%) (caustic  soda) | Natriumhydroksidi, lipeä | NaOH |  |  |  | Not applicable |  |  |  |
| Sodium phosphate | Natriumfosfaatti | Na3PO4 |  |  | X |  | X | X | X |
| Sodium silicate | Natriumsilikaatti/vesilasi | Na2(SiO2)nO Na2SO3 |  |  | X |  | X | X | X |
| Sodium sulfite (sodium sulphite) | Natriumsulfiitti | ‐ | ‐ | X |  | X | X | X |
| Sulfur dioxide (dry) (GAS) | Rikkioksidi (kuiva) (kaasu) | SO2 | ‐ | ‐ | ‐ |  | ‐ | X | ‐ |
| Sulfur dioxide (wet) (GAS) | Rikkioksidi (märkä) (kaasu) | SO2 | ‐ | ‐ | ‐ |  | ‐ | X | ‐ |
| Sulfuric acid | Rikkihappo | H2SO4 |  |  |  | Not applicable |  |  |  |
| Tartaric acid | Viinihappo | C4H6O6 | ‐ | ‐ | ‐ |  | X | ‐ | X |
| Toluene | Tolueeni | C₆H₅CH₃ or C₇H₈ | ‐ | ‐ | ‐ |  | X | ‐ | ‐ |
| Turpentine (GAS) | Tärpätti | C10H16 |  | ‐ | X | min. temperature 0oC | X | ‐ | X |
| Water, 0‐water pH 3…11 | Vesi, 0‐vesi ph 3…11 | H2O | ‐ | ‐ | X | +150oC maximum for FPM | x | x | x |
| Water, circulated cooling system | Vesi, jäähdytysjärjestelmä | H2O | X |  | X | Closed system | x | x | x |
| Water, circulated heating system | Vesi, lämmitysjärjestelmä | H2O | X |  | X | Closed system, +150oC maximum for FPM | x | x | x |
| Water, domestic water | Vesi, käyttövesi | H2O |  |  |  | Not applicable |  |  |  |
| Water, distilled | Vesi, tislattu vesi | H2O | ‐ | ‐ | X | +150oC maximum for FPM stem | x | x | x |
| Water, district heating | Vesi, kaukolämpö | H2O | X | ‐ | X | +150oC maximum for FPM stem | x | x | x |
| Water, sea water (salt ≤ 1%) | Vesi, merivesi (suola ≤ 1%) | H2O |  |  |  | Not applicable |  |  |  |
| Water, swimming pool water | Vesi, uima‐allasvesi | H2O | ‐ | ‐ | X |  | x | x | x |
| Water, untreated | Vesi, käsittelemätön | H2O |  |  | X | +150oC maximum for FPM | x | x | x |