Table Maximum Design Pressure (MDP) Analysis sheet (1-2-1)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Component name | Fluid | Material | MEOP  (MPa) | MDP  (MPa) | Proof test pressure  (MPa) | Burst test pressure  (MPa) | Fluid temperature  (°C) |
| Piping upstream of tank, gas pouring/draining valves, pressure indicator | He | Ti-6Al-4V | 20 | 25 | 50 |  | 0 to 50 |
| Tank | He/Hydrazine | Ti-6Al-4V | 20 | 25 | 50 | 100 | 0 to 50 |
| Piping from downstream of tank to shut off valve | Hydrazine | Ti-6Al-4V | 20 | 25 | 50 |  | 0 to 50 |
| Filter, pouring/draining valves, shut off valves | Hydrazine | Ti-6Al-4V | 20 | 25 | 50 |  | 0 to 50 |
| Shut off valves and piping to propellant valves | Hydrazine | Ti-6Al-4V | 20 | 25 | 50 |  | 0 to 50 |
| Propellant valves | Hydrazine | Ti-6Al-4V | 20 | 25 | 50 |  | 0 to 50 |

Figure Schematic of payload pressure system (1-2-1)

(Confirm pressure-resistant design assuming 2 faults leakage to the low pressure side)

Figure Piping system diagram for pressurization operation (2-1-1)

(Note: The points where 2FT design (regulator, safety valve, pressure indicator, etc.) should be clearly marked with a circle.)