

# ISO 15615:2022-10 (E)

## Gas welding equipment - Acetylene manifold systems for welding, cutting and allied processes - Safety requirements in high-pressure devices

---

|  | Contents | Page      |
|--|----------|-----------|
| <b>Foreword</b>  |          | iv        |
| <b>1 Scope</b>   |          | <b>1</b>  |
| <b>2 Normative references</b>  |          | <b>1</b>  |
| <b>3 Terms and definitions</b>   |          | <b>1</b>  |
| <b>4 Design</b>  |          | <b>2</b>  |
| <b>5 Requirements</b>  |          | <b>2</b>  |
| 5.1 General  |          | 2         |
| 5.2 General requirements   |          | 2         |
| 5.2.1 Materials  |          | 2         |
| 5.2.2 External gas leakage   |          | 3         |
| 5.2.3 Internal gas leakage   |          | 3         |
| 5.2.4 Internal gas leakage after decomposition test  |          | 3         |
| 5.2.5 Pressure resistance  |          | 3         |
| 5.2.6 Acetylene decomposition  |          | 3         |
| 5.3 Additional requirements to be met by specific types of devices                                   |          | 3         |
| 5.3.1 Non-return valve   |          | 3         |
| 5.3.2 Automatic quick-acting shut-off device   |          | 3         |
| 5.3.3 Automatic pressure-actuated shut-off valve   |          | 3         |
| 5.3.4 Three-way valve  |          | 4         |
| 5.3.5 Stop valve   |          | 4         |
| 5.3.6 Pressure gauge   |          | 4         |
| <b>6 Type testing</b>  |          | <b>4</b>  |
| 6.1 General  |          | 4         |
| 6.2 Reference values and accuracy of instruments   |          | 4         |
| 6.3 Test gases   |          | 5         |
| 6.4 External gas leakage   |          | 5         |
| 6.5 Internal gas leakage test  |          | 5         |
| 6.6 Pressure resistance test   |          | 5         |
| 6.7 Acetylene decomposition test   |          | 5         |
| 6.7.1 General  |          | 5         |
| 6.7.2 Test conditions  |          | 5         |
| 6.7.3 Test procedure and test precautions  |          | 6         |
| 6.7.4 Additional test conditions for certain devices   |          | 6         |
| 6.8 Non-return valve test  |          | 8         |
| 6.8.1 General  |          | 8         |
| 6.8.2 Reverse flow test for non-return valves  |          | 8         |
| 6.8.3 Fatigue test for non-return valves   |          | 9         |
| 6.9 Endurance test for three-way valves, automatic pressure-actuated shut-off valves and stop valves |          | 9         |
| 6.10 Trip pressure test for automatic pressure-actuated shut-off valves                              |          | 10        |
| 6.10.1 General   |          | 10        |
| 6.10.2 Equipment   |          | 10        |
| 6.10.3 Test procedure  |          | 10        |
| <b>7 Manufacturer's instructions</b>   |          | <b>11</b> |
| <b>8 Marking</b>   |          | <b>11</b> |
| <b>Annex A (normative) Summary of tests</b>  |          | <b>13</b> |
| <b>Bibliography</b>  |          | <b>16</b> |