

ISO 15996:2017-07 (E)

Gas cylinders - Residual pressure valves - Specification and type testing of cylinder valves incorporating residual pressure devices

| Contents | | Page |
|------------------------------|---|-------------|
| Foreword | | iv |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 1 |
| 4 | RPV design considerations and requirements | 3 |
| 4.1 | Design considerations | 3 |
| 4.1.1 | Resistance against vibration | 3 |
| 4.1.2 | Integrity under high flow | 4 |
| 4.2 | Design requirements | 4 |
| 4.2.1 | General | 4 |
| 4.2.2 | Valve outlet connection | 4 |
| 4.3 | Performance requirements for RPDs | 4 |
| 4.3.1 | Requirements for type 1 and type 2 RPDs | 4 |
| 4.3.2 | Additional requirements for type 1 RPDs | 5 |
| 5 | RPV type testing | 5 |
| 5.1 | General | 5 |
| 5.2 | Documentation | 6 |
| 5.3 | Test samples | 6 |
| 5.4 | Test report | 7 |
| 5.5 | Test temperatures | 7 |
| 5.6 | Test pressures | 7 |
| 5.6.1 | RPV test pressure | 7 |
| 5.6.2 | Other test pressures | 7 |
| 5.7 | Test gases | 7 |
| 5.7.1 | Gas quality | 7 |
| 5.7.2 | Verification of opening pressure and closing-off pressure | 8 |
| 5.7.3 | Leak tightness test in the reverse direction for type 1 RPDs | 8 |
| 5.7.4 | Endurance test | 8 |
| 5.7.5 | Oxygen pressure surge test | 8 |
| 5.7.6 | Vibration test | 8 |
| 5.7.7 | Integrity under high flow test | 9 |
| 5.8 | Test schedule | 9 |
| 5.9 | RPD performance tests | 10 |
| 5.9.1 | Strength test of the non-return function in the reverse direction for type 1 RPDs | 10 |
| 5.9.2 | Verification of opening pressure and closing-off pressure | 10 |
| 5.9.3 | Endurance test | 11 |
| 5.9.4 | Leak tightness test in the reverse direction for type 1 RPDs | 11 |
| 5.9.5 | Visual examination | 12 |
| 6 | Marking | 12 |
| Annex A (informative) | Design considerations | 13 |
| Annex B (normative) | Oxygen pressure surge test | 14 |

| | |
|---|-----------|
| Annex C (informative) Vibration test | 15 |
| Annex D (informative) Integrity under high flow test | 16 |
| Annex E (informative) Examples of test equipment | 18 |
| Bibliography | 21 |