

# ISO 4126-7:2013-07 (E)

## Safety devices for protection against excessive pressure - Part 7: Common data

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>4</b>	<b>Symbols and units .....</b>	<b>3</b>
<b>5</b>	<b>Determination of safety valve performance .....</b>	<b>4</b>
5.1	Determination of coefficient of discharge .....	4
5.2	Critical and subcritical flow .....	4
5.3	Discharge capacity at critical flow .....	4
5.4	Discharge capacity for any gas at subcritical flow .....	5
5.5	Discharge capacity for non-flashing liquid as the test medium in the turbulent zone where the Reynolds number $Re$ is equal to or greater than 80 000 .....	5
<b>6</b>	<b>Sizing of safety valves .....</b>	<b>6</b>
6.1	General .....	6
6.2	Valves for gas or vapour relief .....	6
6.3	Calculation of capacity .....	6
<b>7</b>	<b>Thermodynamic properties .....</b>	<b>8</b>
7.1	Steam data .....	8
7.2	Value of $C$ as a function of $k$ .....	8
7.3	Theoretical capacity correction factors for sub-critical flow ( $K_b$ ) .....	8
7.4	Estimating chart for compressibility factor, $Z$ .....	19
7.5	Capacity correction factor for viscosity, $K_v$ .....	21
7.6	Properties of gases .....	22
<b>8</b>	<b>Minimum requirements for helical compression springs .....</b>	<b>23</b>
8.1	General .....	23
8.2	Materials .....	23
8.3	Marking .....	23
8.4	Dimensions .....	24
8.5	Spring plates/buttons .....	24
8.6	Inspection, testing and tolerances .....	24
<b>9</b>	<b>Minimum requirements for safety valve disc springs .....</b>	<b>27</b>
9.1	General .....	27
9.2	Materials .....	27
9.3	Marking .....	27
9.4	Dimensions .....	27
9.5	Inspection, testing and tolerances .....	27
<b>Annex A (informative) Examples of capacity calculations for various media .....</b>		<b>28</b>
<b>Bibliography .....</b>		<b>33</b>