

蒸気用及びガス用ばね安全弁

Steam boilers and pressure vessels -Spring loaded safety valves

用語の定義 この規格に用いる主な用語の定義は、JIS B 0100 によるほか、次による。

Definitions of terms: The definitions of the major terms used in this standard conform to JIS B 0100 and the following definitions.

(1) 安全弁 (safety valve)

バルブの入口側の圧力が上昇してあらかじめ定められた圧力になったとき自動的に作用し、弁体が開き、流体（蒸気又はガス）を排出し、圧力が所定の値に降下すれば、再び弁体が閉じる機能をもつバルブ。

備考 1. 公称吹きだし量を排出する能力をもつバルブ。

2. 主として蒸気又はガスの発生装置、圧力容器、配管などの安全確保のために使用するバルブ。

A valve that is automatically actuated and whose valve body is opened to discharge a fluid (vapor or gas) when the pressure on the valve inlet side increases and reaches the preset pressure level, and whose valve body is closed when the pressure is lowered to the specified level.

Remarks 1. A valve having a capability to discharge the certified capacity.

2. A valve used to secure safety in the vapor or gas generator, pressure vessel, pipe, etc.

(2) 揚程式安全弁 (lift safety valve)

安全弁のリフトが弁座口の径の1/40以上1/4未満で、弁体が開いたときの流路面積の中で弁座流路面積（カーテン面積）が最小となる安全弁。

A safety valve whose lift is above 1/40 up to 1/4 of the diameter of the valve seat port and whose seat flow path area (curtain area) is minimized among the seat flow areas with the valve body opened.

(3) 全量式安全弁 (full bore safety valve)

弁座流路面積が弁体と弁座の当たり面より下部におけるノズルののど部の面積より十分大きなものとなるようリフトが得られる安全弁。

A safety valve that permits a lift in such a way that the seat flow area may be larger than the throat area of the nozzle in the lower part than the contact surface between the valve body and the valve seat.

(4) 吹始め圧力 (start to discharge pressure; start to leak pressure)

入り口側の圧力が増加して、出口側で流体の微量な流出が検知されるときに入り口側の圧力。

備考 この場合の微量な流出とは、蒸気用は目視又は聴音によって検知される時の流出、ガス用は聴音、石鹸水等によって検知される時の流出であって、弁座漏れによる流出ではない。

Pressure on the inlet side when the pressure on the inlet side increases and a slight flow of a fluid is detected on the outlet side.

Remarks In this case, the slight flow means an outflow that is detected by visual or auditory check in the case of vapor, or an outflow that is detected by hearing sound or liquid soap in the case of gas, but not an outflow due to a leak from the valve seat.

(5) 吹出し圧力 (opening pressure; popping pressure)

安全弁がポッピングする時の入り口側の圧力。

備考 1. ポッピング圧力ともいう。

2. ポッピング (popping) とは、安全弁のリフトが瞬間的に増大し、内部の流体を吹出す作用。

Pressure on the inlet side when the safety valve performs popping.

Remarks 1. This is called popping pressure.

2. Popping is an action to momentarily increase the lift of the safety valve and blow off the internal fluid.

(6) 設定圧力 (set pressure)

設計上定めた吹き出し圧力、又は吹始め圧力。

Blow-off pressure specified as a matter of design, or blow-off starting pressure.

(7) 吹止り圧力 (closing pressure; reseating pressure)

入り口側の圧力が減少して弁体が弁座と再接触するとき、すなわちリフトがゼロになったときに入り口側の圧力。

備考 再着座圧力ともいう。

Pressure on the inlet side when the pressure on the inlet side decreases and the valve body contacts the valve seat again or the lift becomes zero.

Remarks This is also called reseating pressure.

(8) 吹下り (blow down)

吹出し圧力と吹止り圧力との差又は吹始め圧力と吹止り圧力との差。

A difference between the blow-off pressure and the blow-down pressure, or a difference between the blow-off starting pressure and the blow-down pressure.

(9) 超過圧力 (over pressure)

安全弁の設定圧力を超えて増加する圧力。

Pressure that increases over the set pressure of the safety valve.

(10) 許容超過圧力 (allowable over pressure)

安全弁の設定圧力を超えて許容される超過圧力。

Over pressure that is allowed over the set pressure of the safety valve.

(11) 吹出し係数 (coefficient of discharge)

安全弁の吹出し量を計算する際に用いる、実際の吹出し量と理論吹出し量との比であり、安全弁を通過する流体の摩擦抵抗などを考慮した係数。

A ratio between the actual blow-off amount and the theoretical blow-off amount that is used for calculation of blow-off amount of the safety valve, or a coefficient in consideration of the friction drag of a fluid passing the safety valve.

(12) 公称吹出し係数 (certified coefficient of discharge)

公称吹出し量に適用される吹出し係数。

A coefficient of blow-off that applies to the certified capacity.

(13) 公称吹出し量決定圧力 (flow rating pressure)

安全弁の公称吹出し量を算出する場合の入口側の圧力で、設定圧力と許容超過圧力との和。

Pressure on the inlet side for calculation of the certified capacity of the safety valve, or a sum of set pressure and allowable over pressure.

(14) 背圧 (back pressure)

安全弁の出口側の圧力で、累積背圧と既存背圧の二つがある。

Pressure on the outlet side of the safety valve. There are types of back pressure, namely, built-up back pressure and super imported back pressure.

(15) 累積背圧 (built-up back pressure)

安全弁が吹出したとき出口側の流れによって発生する安全弁の出口側の圧力。

Pressure on the outlet side of the safety valve that is generated by a flow on the outlet side when the safety valve blows off.

(16) 既存背圧 (super imported back pressure)

安全弁が吹出す前に、既に出口側に存在する圧力で、それは他の供給源から安全弁の出口側に導入される圧力。

Pressure that already exists on the outlet side before the safety valve blows off and that is led from another supply source to the outlet side of the safety valve.

(17) 理論吹出し量 (theoretical relieving capacity)

安全弁を通過する流体の摩擦がなく、流量係数が1であって、等エントロピー変化をする比熱一定の理想ガス体が噴出するものと仮定して計算した吹出し量。

A blow-off amount calculated on the supposition that there is no friction of a fluid passing the safety valve, the coefficient of blow-off is 1, and ideal gas having an entropy change and constant specific heat is blown out.

(18) 公称吹出し量 (certified capacity; rated relieving capacity)

個々の安全弁に対して保証する吹出し量で、理論吹出し量 * 公称吹出し係数 * 0.9 によって算出される値。

備考 理論吹出し量は JIS B 8225 の規定による。

A blow-off amount that is guaranteed for individual safety valves and a value calculated by theoretical relieving capacity * nominal coefficient of blow-off * 0.9.

Remarks The theoretical relieving capacity conforms to JIS B 8225.

(19) リフト (lift)

閉弁位置から、安全吹出し中の開弁位置までの弁体の軸方向の移動量。

A moving amount in the axial direction of the valve body from the valve closing position to the valve opening position when the safety valve blows off.

(20) 定格リフト (rated lift)

公称吹出し量が得られる設計上のリフト。

Lift as a matter of design that permits obtaining the certified capacity.

(21) 弁座口の径 (seat diameter)

弁体と弁座との当たり面の内径。

Internal diameter of the contact surface between the valve body and the valve seat.

(22) のど部の径 (throat diameter; bore diameter)

流体取入口から弁座面に至るノズルの最狭部分の内径。

Internal diameter of the narrowest portion of the nozzle from the fluid inlet to the valve seat surface.

(23) のど部の面積 (throat area; bore area)

のど部の径による流路面積。

A flow area depending on the diameter of the throat.

(24) 弁座流路面積 (seat flow area; curtain area)

弁体のリフトによって得られる弁体と弁座面間の円筒上又は円錐状開口部の流路面積。

備考 カーテン面積ともいう。

A flow area on the cylindrical or conical opening between the valve body and the valve seat that can be obtained by a lift of the valve body.

Remarks This is also called curtain area.

(25) 吹出し面積 (effective discharge area)

安全弁を通過する流量を決定する部分の流路面積で、公称吹出し量の計算に用いる面積。

A flow area of the portion that determines a flow rate passing the safety valve and is used for calculation of the certified capacity.