MOUNTING AND
OPERATING INSTRUCTIONS

# EB 2642 EN

**Translation of original instructions**

**Type 2371-00 Excess Pressure Valve**
with pneumatic set point adjustment

**Type 2371-01 Excess Pressure Valve**
with manual set point adjustment and stem locking

## Type 2371-00 Excess Pressure Valve · Pneumatic set point adjustment
## Type 2371-01 Excess Pressure Valve · Manual set point adjustment

Series 2371 Self-operated Pressure Regulators for the food and pharmaceutical industries

Edition June 2025

**Note on these mounting and operating instructions**

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices. The images shown in these instructions are for illustration purposes only. The actual product may vary.

➔ For the safe and proper use of these instructions, read them carefully and keep them for later reference.

➔ If you have any questions about these instructions, contact SAMSON's After-sales Service (aftersalesservice@samsongroup.com).

Documents relating to the device, such as the mounting and operating instructions, are available on our website at ***www.samsongroup.com > DOWNLOADS > Documentation***.

**Definition of signal words**

**⚠ DANGER**

*Hazardous situations which, if not avoided, will result in death or serious injury*

**⚠ WARNING**

*Hazardous situations which, if not avoided, could result in death or serious injury*

***NOTICE***

*Property damage message or malfunction*

***Note***

*Additional information*

***Tip***

*Recommended action*

# 1 General safety instructions

- The regulator is to be mounted, started up or serviced by fully trained and qualified personnel only; the accepted industry codes and practices are to be observed. Make sure employees or third parties are not exposed to any danger.
- All safety instructions and warnings given in these mounting and operating instructions, particularly those concerning installation, start-up, and maintenance, must be strictly observed.
- According to these mounting and operating instructions, trained personnel refers to individuals who are able to judge the work they are assigned to and recognize possible dangers due to their specialized training, their knowledge and experience as well as their knowledge of the applicable standards.
- To ensure appropriate use, only use the regulator in applications where the operating pressure and temperatures do not exceed the specifications used for sizing the regulator at the ordering stage.
- The manufacturer does not assume any responsibility for damage caused by external forces or any other external factors.
- Any hazards that could be caused in the regulator by the process medium, operating pressure or by moving parts are to be prevented by taking appropriate precautions.
- Proper transport, storage, installation, operation, and maintenance are assumed.

**i *Note***

*According to the ignition risk assessment performed in accordance with Clause 5.2 of ISO 80079-36, the non-electrical actuators and valves do not have their own potential ignition source even in the rare incident of an operating fault. As a result, they do not fall within the scope of Directive 2014/34/EU. For connection to the equipotential bonding system, observe the requirements specified in Clause 6.4 of EN 60079-14 (VDE 0165-1).*

# 2 Process medium and scope of application

Excess pressure valves for the food and pharmaceutical industries for liquids and gases in the pressure range from 0.3 to 6 bar/5 to 90 psi · $K_{VS}$ 0.25 to 25/ $C_V$ 0.3 to 30 · Nominal size DN 15 to 50/ NPS ½ to 2 · Suitable for liquids and gases from 0 to +160 °C/32 to 320 °F · Max. operating pressure (input pressure) 10 bar/150 psi

For controlling the upstream pressure $p_1$ to the adjusted set point. The valve opens when the upstream pressure rises.

**NOTICE**

*The Type 2371-00 and Type 2371-01 Regulators are not designed as safety valves. Exceeding the maximum pressure (10 bar/150 psi) of the regulator may cause it to burst.*
*If necessary, a suitable overpressure protection must be installed on site in the plant section.*

**Note**

*The Type 2371-00 and Type 2371-01 Regulators are shut-off devices that do not guarantee absolute tight shut-off. As a result, they may have leakage when closed (leakage class according to IEC 60534-4 or ANSI/FCI 70-2, see Chapter 10).*

*As a result, the output pressure $p_2$ can rise to the same level as the input pressure $p_1$ in a plant which does not have its own consumption.*

# 3 Transportation and storage

The regulators must be carefully handled, transported and stored. During storage and transportation, protect the regulators against adverse influences, such as dirt, moisture or temperatures outside the operating temperature range.

# 4 Design and principle of operation

*See Fig. 1 on page 7.*

The Type 2371-00 and Type 2371-01 Excess Pressure Valves consist mainly of a single-seated angle valve with operating diaphragm and actuator housing.

The set point of the **Type 2371-00** is adjusted **pneumatically** by an external air supply, e.g. compressed air.

The set point of **Type 2371-01** is adjusted **manually** by tensioning the set point spring.

The medium flows through the valve body (1) in the direction indicated by the arrow. The position of the plug (3) determines the flow rate across the area released between plug and valve seat (2).

The valve is closed in the normal position. The valve opens when the upstream pressure $p_1$ rises above the adjusted pressure set point. The resulting input pressure $p_1$ depends on the flow rate.

Any medium escaping from the test connection (11) indicates that the operating diaphragm (4/4.1) may be leaking or the diaphragm has ruptured.

The test connection of Type 2371-00 ($K_{VS}$ 25/$C_V$ 30) is connected to a flexible pipe elbow to discharge any medium escaping.

**Type 2371-01 · Version with manual set point adjustment** (see Chapter 6.2.1)

In the idle state, the valve is kept closed by the set point springs (7). The valve opens when the input pressure $p_1$ acting on the diaphragm (4) and the resulting force exceed the force of the springs.

The set point is adjusted using an Allen key (8 mm), which is inserted through the adjustment opening (6.1) on top of the housing onto the set point screw (6). The blanking plug must first be removed. If necessary, the set point screw can be secured by the locking screw (12) in the upper plug section to prevent the set point screw from loosening due to vibrations, causing the set point to change.

Turning the set point screw clockwise causes the spring plate (7.1) to move upwards and increases the spring force and the set point. Turning the set point screw counterclockwise relieves the spring tension and reduces the set point.

**Type 2371-00 · Version with pneumatic set point adjustment** (see Chapter 6.2.2)

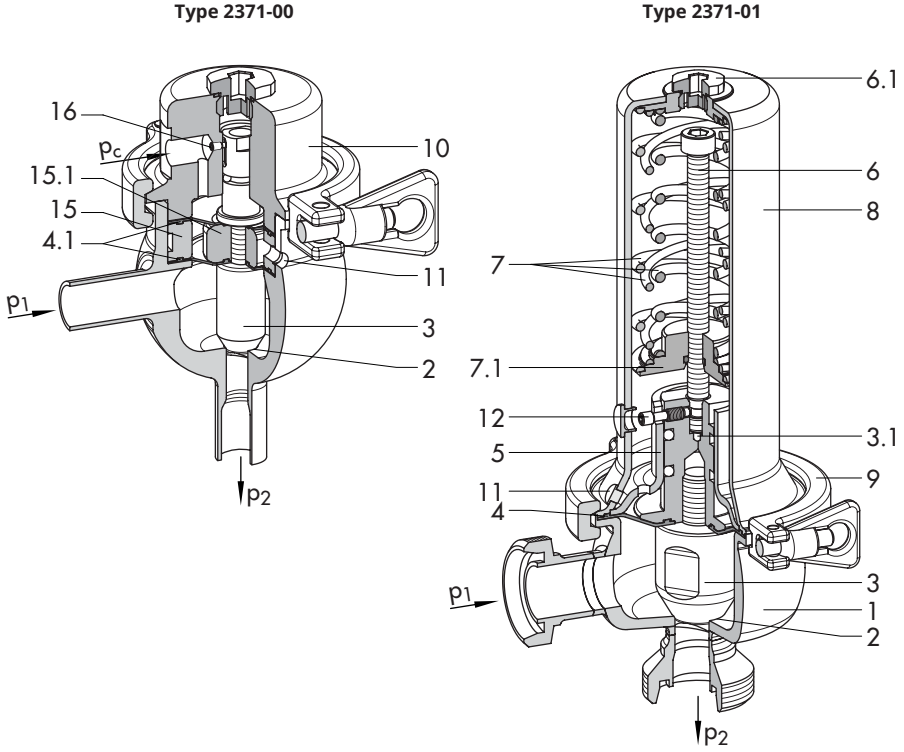
In the idle state, the valve is kept closed by the set point pressure $p_C$ applied as the control pressure.

When the force created by the input pressure $p_1$ acting on the diaphragm exceeds the force resulting from the set point pressure $p_C$, the plug (3) moves away from the seat (2), opening the passage. In this case, the ratio between $p_1$ and $p_C$ is not necessarily 1:1.

As the input pressure $p_1$ drops, the resulting force reduces again. The valve is closed again when the pressure falls below the external set point pressure $p_C$.

The two diaphragms (4.1) provide a certain amount of safety when one of the diaphragms ruptures and prevents the process medium and external pressure medium (e.g. compressed air) from mixing.

The screw (12) prevents parts from falling apart inadvertently while the regulator is being dismantled.




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Valve body | 6 | Adjustment screw | 10 | Actuator housing of Type 2371-00 | $p_1$ | Input pressure |
| 2 | Seat | 6.1 | Adjustment opening with blanking plug | 11 | Test connection or leakage line connection | $p_2$ | Output pressure |
| 3 | Plug | 7 | Set point springs | 12 | Locking screw | $p_C$ | Set point pressure (control pressure), external |
| 3.1 | Plug stem with ball bearings | 7.1 | Spring plate | 15 | Distance ring | | |
| 4 | Operating diaphragm | 8 | Actuator housing of Type 2371-01 | 15.1 | Spacer bushing | | |
| 4.1 | Two diaphragms | 9 | Clamp fitting | 16 | Locking pin | | |
| 5 | Guide flange | | | | | | |

**Fig. 1:** *Functional drawings of the regulators*

### Stem locking for CIP or SIP

*See Chapter 7.1 on page 16.*

The Type 2371-00 and Type 2371-01 Excess Pressure Valves can be fitted with a stem locking to keep the plug in the open position.

In the version with stem locking, the plug can be locked in the open position to allow the valve to be cleaned (CIP = Cleaning In Place or SIP = Sterilization In Place) while it is open.

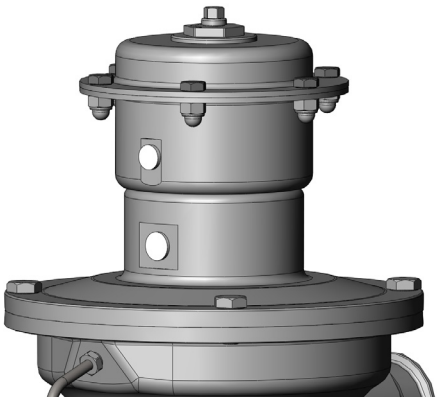
The stem can be locked in place pneumatically by an additional pneumatic actuator with compressed air connection (for Types 2371-00/-01) or manually using a lever with clamping fixture (Type 2371-01 only).

The pneumatic and manual stem locking do not affect the control function of the valve, provided the stem locking is not engaged.

The additional pneumatic actuator for the pneumatic stem locking is located on the top of the regulator. The unit can be mounted in any position since the axial fixture of the unit allows it to turn 360°.

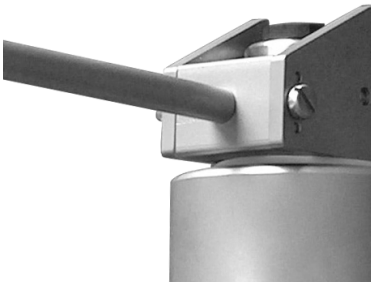
The clamping fixture of the manual stem locking is directly connected with the plug over the set point screw to allow the plug stem and plug to be pushed into the open position and locked in place.

Additional pneumatic actuator for stem locking



**Type 2371-00** · Pneumatic stem locking

Lever with clamping fixture for stem locking



**Type 2371-01** · Manual stem locking

**Fig. 2:** *Stem locking for CIP or SIP*

### Pneumatic stem locking

#### Type 2371-00

To open the valve, apply a pressure $p_V$ = 1 bar to the additional pneumatic actuator. This causes the plug stem to move together with the plug out of the valve seat. A set point pressure $p_C$ must not be applied to the regulator in this case.

To switch the valve back to its control function, remove the pressure $p_V$ (= 1 bar). The spring pulls the internal actuating unit back, allowing the plug stem to move again for the control task.

Apply the external set point pressure $p_C$ again for the control task.

#### Type 2371-01

To open the valve, apply a pressure $p_V$ (= 6 bar) to the additional pneumatic actuator. This causes the plug stem to move together with the plug out of the valve seat and opens the valve. To switch the valve back to its control function, remove the pressure $p_V$ (= 6 bar). The spring pulls the internal actuating unit back, allowing the plug stem to move again for the control task.

### Manual stem locking

#### Type 2371-01

Type 2371-01 can also be fitted with a manually operated stem locking.

The lever together with the clamping fixture is directly connected with the plug over the set point screw.

When the lever is pushed manually to the other side, the plug is pushed, opposing the spring force, into the open position and locked in place.

Push the lever back to allow the regulator to continue its control task.

# 5 Installation

**NOTICE**

*Pay particular attention to correct hygiene and ensure that regulators for the food and pharmaceutical industries are kept absolutely clean. The tools used must be free of solvents and grease. Only use a lubricant suitable for foodstuffs (order no. 8150-9002) for parts that must be lubricated.*

Choose a place of installation that allows you to freely access the regulator even after the entire plant has been completed and allows unobstructed set point adjustment.

Before installing the regulator in the pipeline, clean the pipeline thoroughly to remove any foreign particles in the plant which could affect the regulator's proper functioning.

The plant must be designed and the pipelines installed in such a way that the regulator can be mounted and operated without any tension. If necessary, support the pipeline near the connections. Do not attach supports to the regulator itself.

Select a straight section of pipeline without any disturbances as the site of installation for the regulator (to ensure that the control function is not affected by the flow conditions).

**NOTICE**

*Protect the regulator from icing up when controlling media that can freeze. Unless the regulator is installed in locations where no frost occurs, remove the regulator from the pipeline when the plant is shut down.*

## 5.1 Mounting orientation

The regulator has an angle-style valve body. The actuator housing must face upwards.

The inlet connection for $p_1$ is in the horizontal position.

– The direction of flow must match the direction indicated by the arrow on the body (inlet at the side and outlet at the bottom).

## 5.2 Shut-off valve and pressure gauge

Install a manually operated shut-off valve upstream and downstream of the regulator. This allows the plant to be depressurized, if required. In addition, it serves to relieve the operating diaphragm of pressure when the plant is not operated for extended periods.

A pressure gauge upstream of the regulator allows the set point (to control the input pressure $p_1$) to be monitored.

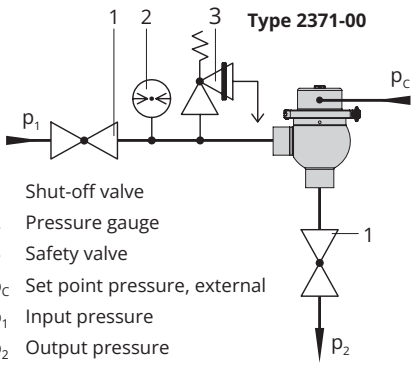



**Fig. 3:** *Installation drawing*

## 5.3 Safety valve

The Type 2371-00 and Type 2371-01 Excess Pressure Valves are shut-off devices that do not guarantee absolute tight shut-off. When closed, these regulators can have a leakage rate (see Chapter 10).

**NOTICE**

*The pressure in the entire system must not exceed the maximum permissible pressure. Corresponding safety equipment (e.g. safety valve) must be installed upstream of the regulator. Ensure that the regulator itself cannot exceed the maximum pressure of 10 bar/150 psi.*

The permissible temperature and pressure limits are specified on the regulator.

## 5.4 Leakage line connection

A leakage line can be connected to the regulator when toxic or dangerous media are used. In the event of a defective diaphragm (e.g. diaphragm rupture), any process medium that escapes can be fed through a pipe to a safe location.

Adapt the pipe diameter to the connection at the regulator.

# 6 Operation

## 6.1 Start-up

Do not start up the regulator until all parts have been mounted.

Fill the plant slowly with the process medium. Avoid pressure surges. Open the shut-off valves first on the upstream pressure side. Afterwards, open all the valves on the consumer side (downstream of the regulator).

**i** ***Note***

*For optimal control, the required pressure set point must be within the top end of the setting range.*

## 6.2 Adjusting the set point

The set point must be adjusted on starting up the plant running under normal operating conditions.

The pressure gauge located on the upstream pressure side allows the adjusted pressure set point to be monitored.

– The set point adjustment in Type 2371-00 is pneumatic [1] over an external control pressure.
– The set point of Type 2371-01 is adjusted manually by tensioning the set point springs.

### 6.2.1 Set point: Type 2371-01

*Manual set point adjustment · See Fig. 1 on page 7.*

The set point is adjusted for the lowest pressure set point in the delivered state. The locking screw (12) is **not** tightened.

**!** ***NOTICE***

*Observe the set point range of the regulator. Do not load the set point spring (7) too far with the set point screw (6). Otherwise, the travel will be restricted or the valve blocked in the closed position.*

**How to proceed:**

1. Remove the stopper. Use an Allen key (A/F 3 mm) to undo the locking screw (12) if it is tightened (two turns counterclockwise).
2. Use an Allen key (A/F 8 mm) to remove the blanking plug (6.1).
3. Place the key through the opening to reach the set point screw (6).
4. Turn the set point screw to adjust the set point:

– Turn clockwise ↻: increases the pressure set point.
– Turn counterclockwise ↺: reduces the pressure set point.

Monitor the upstream pressure at a pressure gauge (see Fig. 3).

The valve opens when the input pressure $p_1$ exceeds the pressure adjusted set point.

5. Retighten the locking screw [2] (12) to prevent the set point screw (6) from being turned.

– Reinsert the stopper.

[1] External supply air (e.g. compressed air, $p_{max}$ = 8 bar) required

[2] The locking screw only needs to be tightened, if the set point may be possibly be affected by, for example vibrations.

1.


Position of the locking screw (12) with stopper

2.

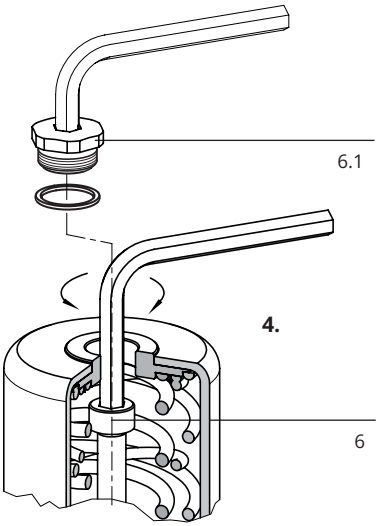



**Fig. 4:** *Set point adjustment of Type 2371-01*

## 6.2.2 Set point: Type 2371-00

*Pneumatic set point adjustment · See Fig. 1 on page 7.*

**How to proceed:**

1. Connect the set point pressure line at the G ¼ connection. Max. pressure $p_C$ = 8 bar.
2. Adjust the set point pressure $p_C$ to obtain and keep the required pressure constant.

Monitor the upstream pressure at a pressure gauge (see Fig. 3).

The valve opens when the input pressure $p_1$ exceeds the pressure adjusted set point.


**Fig. 5:** *Pneumatic set point adjustment*

## 6.3 Operation

A correctly sized Type 2371-00/-01 Excess Pressure Valve works automatically within its control range.

SAMSON recommends after every start-up to check that the regulator functions properly and to adapt it to new operating conditions, if necessary.

## 6.4 Decommissioning

Close the shut-off valve upstream of the valve and then close the shut-off valve downstream of the valve.

**NOTICE**

*Before performing any work on the regulator, make sure the relevant plant section has been depressurized and, depending on the process medium, drained as well.*

# 7 Cleaning and maintenance

The regulators do not require much maintenance. Nevertheless, they are subject to natural wear, particularly at the seat, plug and operating diaphragm.

Depending on the operating conditions, check the regulator at regular intervals to avoid possible malfunctions.

**WARNING**

*Before performing any work on the regulator, make sure the relevant plant section has been depressurized and, depending on the process medium, drained as well. We recommend removing the valve from the pipeline. When used at high temperatures, allow the plant section to cool down to ambient temperature. As valves are not free of cavities, remember that residual process medium might still be contained in the valve.*

Check the seat and plug for wear. Check that the PTFE layer of the diaphragm (see Fig. 1, Fig. 9 and Fig. 10) is not damaged (e.g. cracks, milky coloring at the bends). This is necessary for compliance with EU 1935/2004.

If leakage still occurs and there is no visible signs of damage on the diaphragm, check the connection between the plug support and plug stem or the clamped connection between the valve body and bonnet (see Chapter 7.2 on page 19).

Tighten the connection to achieve a leak-proof joint.

## 7.1 Cleaning

To clean inside the regulator, the plug can be kept in the open position in the version with stem locking. This allows the entire plant with the regulator installed to be cleaned (CIP = Cleaning In Place or SIP = Sterilization In Place) while the regulator is open (see 'Stem locking for CIP or SIP' on page 8).

**Stem locking:** Pneumatic for Type 2371-00 · Manual for Type 2371-01

The disengaged stem locking does not affect the regulator's control function.

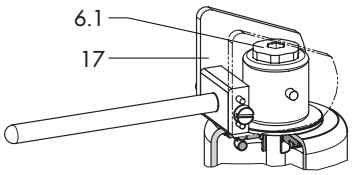
**Manual stem locking** (Type 2371-01 only)

*See 'Stem locking for CIP or SIP' on page 8.*

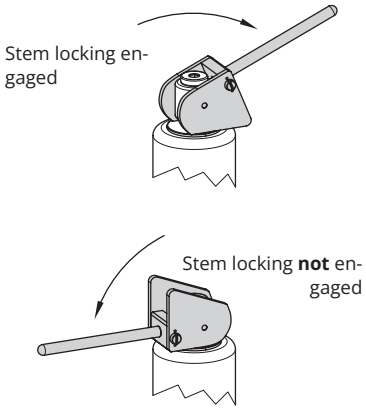
The lever together with the clamping fixture is directly connected with the plug over the set point screw.

**How to proceed:**

1. Push the lever manually to the other side. This causes the plug to be pushed, opposing the spring force, into the open position and locked in place.
2. Push the lever back to allow the regulator to continue its control task.




Manual stem locking · Type 2371-01




6.1 Blanking plug
17 Clamping fixture

**Fig. 6:** *Manual stem locking*

**Pneumatic stem locking** (Type 2371-01)

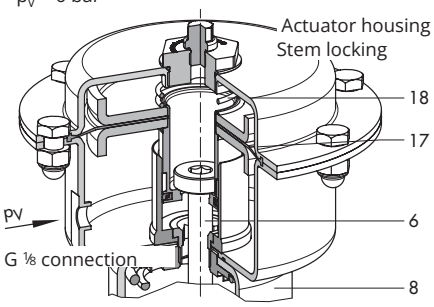
*See 'Stem locking for CIP or SIP' on page 8.*

### Type 2371-01

To open the valve, apply a pressure **$p_V$ (= 6 bar)** to the additional pneumatic actuator. This causes the plug stem to move together with the plug out of the valve seat and opens the valve.

### How to proceed:

1. Connect the pressure line with min. 6 mm diameter to the G ⅛ connection at the side of the additional actuator.
2. Apply a pressure $p_v$ = 6 bar to the additional actuator. This causes the set point screw (6) to move and the plug to move out of the valve seat and opens the valve.
3. To switch the valve back to its control function, remove the pressure $p_V$ = 6 bar to return the pressure back to atmospheric pressure. The spring (18) pulls the internal actuating unit (17) back. The plug stem can move again for the control task.




Pneumatic stem locking · Type 2371-01

6 Set point screw
8 Actuator housing of Type 2371-01
17 Actuating unit/diaphragm
18 Spring
$p_V$ Pressure for stem locking

**Fig. 7:** *Pneumatic stem locking*

**Pneumatic stem locking** · Type 2371-00

*See 'Stem locking for CIP or SIP' on page 8.*

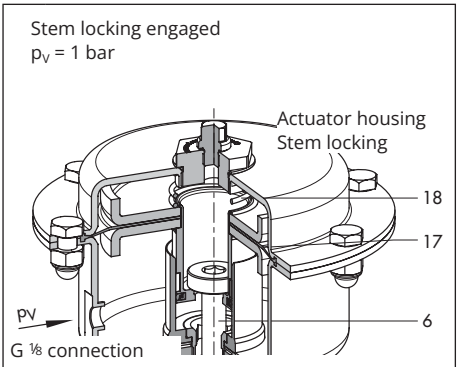
### Type 2371-00

To open the valve, apply a pressure **$p_V$ (= 1 bar)** to the additional pneumatic actuator. This causes the plug stem to move together with the plug out of the valve seat and opens the valve. Do not apply a set point pressure $p_C$ to the regulator in this case.

### How to proceed:

1. Connect the pressure line with min. 6 mm diameter to the G ⅛ connection at the side of the additional actuator.
2. Apply a pressure $p_v$ = 1 bar to the additional actuator. This causes the set point screw (6) to move and the plug to move out of the valve seat and opens the valve.
3. To switch the valve back to its control function, remove the pressure $p_V$ = 1 bar to return the pressure back to atmospheric pressure. The spring (18) pulls the actuating unit (17) back. The plug stem can move again for the control task.

Apply the set point pressure $p_C$ again for the control task.




Pneumatic stem locking · Type 2371-00

| | |
|---|---|
| 6 | Set point screw |
| 17 | Diaphragm/actuating unit |
| 18 | Spring |
| $p_V$ | Pressure for stem locking |

**Fig. 8:** *Pneumatic stem locking*

## 7.2 Maintenance · Replacing parts

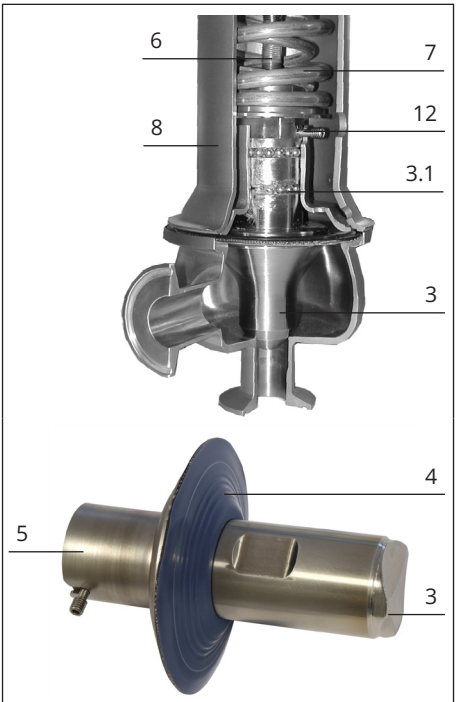
*See Fig. 1 on page 7.*

The regulator is subject to natural wear. Depending on the operating conditions and duration of operation, regularly check the regulator's ability to function.

If the upstream pressure drops even though the set point has not been reached, the valve does not shut off tightly enough. This may happen when the tight shut-off is impaired by either dirt or natural wear on the seat and plug or if the flow rate of the process medium is smaller than the permissible leakage rate of the regulator. However, it is important to take into account that a maximum leakage of 0.05 % of the $K_{VS}$ or $C_V$ coefficient in the case of metal-seated plugs and 0.01 % in the case of soft-seated plugs is still permissible (see Chapter 10).

## 7.3 Replacing the plug/ diaphragm unit

In the event that the diaphragm or plug is defective, SAMSON recommends replacing the entire plug/diaphragm unit (plug, diaphragm and plug stem). Contact SAMSON if you intend to replace just the diaphragm or plug.




Type 2371-01 · Plug/diaphragm unit: plug (3), diaphragm (4) and plug stem inside of it (hidden) with guide flange (5)

**Fig. 9:** *Plug/diaphragm unit*

**Type 2371-01**

**How to proceed:**

1. Relieve the tension from the set point springs (see Chapter 6.2).
2. Release clamp fitting. Undo the locking screw (12). Lift out the actuator housing (8) together with set point screw (6) and set point springs (7).

3. Remove the guide flange (5) together with the plug stem, diaphragm (4) and plug (3) out of the valve body.
4. Remove the locking screw (12). Carefully pull off the guide flange (5).

**i** ***Note***

*The ball bearings embedded in food grade lubricant are uncovered. Take the ball bearings out of the grooves and keep them at hand for the reassembly.*

Prior to installing the new unit, check the plug seat and facing for damage. In case of damage, replace the entire valve body.

5. Insert the ball bearings with food grade lubricant into the grooves of the plug stem of the new unit. Slide the guide flange (5) over the plug stem. Thread in the locking screw (12). Place the unit into the open valve body. Make sure that the diaphragm rests neatly in place.
6. Carefully place the actuator housing onto the valve body. Make sure that the locking screw (12) does not project into the borehole intended for the set point screw. Ensure that the borehole at the side of the housing is aligned with the locking screw.
7. Position the clamp fitting. Grease the groove and screw with food grade lubricant. Hit the clamp lightly with a plastic hammer and tighten the clamp screw again until the parts fit properly.


Type 2371-01 · Diaphragm with guide flange inserted into the valve body.

**Fig. 10:** *Plug/diaphragm unit with the lower housing section*

**Type 2371-00**

**How to proceed:**

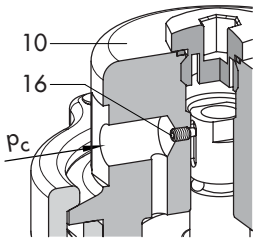
1. Remove the pressure line(s), if attached and undo the clamp fitting.
2. Unthread the locking pin (16).
3. Carefully lift off the actuator housing (10).

**!** ***NOTICE***

*The plug stem (3.1) with the ball bearings embedded in food grade lubricant are uncovered. Take the ball bearings out of the grooves and keep them at hand for the reassembly.*

Prior to installing the new unit, check the plug seat and facing for damage. In case of damage, replace the entire valve body.

4. Place the new unit into the open valve body. Make sure that the diaphragm rests neatly in place. Insert the ball bearings with food grade lubricant into the grooves of the plug stem of the new unit.
5. Carefully slide the actuator housing (10) over the plug stem. Thread in locking pin (16). Stick the locking pin in place with grease (order no. 8150-9002 and 8150-9010).
6. Position the clamp fitting. Grease the groove and screw with food grade lubricant. Hit the clamp lightly with a plastic hammer and tighten the clamp screw again until the parts fit properly.




Actuator housing (10) with set point pressure port $p_C$ and locking pin (16)


Actuator housing (10) removed. Plug stem (3.1) with ball bearings and top diaphragm (4.1) accessible.

**Fig. 11:** *Plug/diaphragm unit*

**i** ***Note***

*The locking pin (16) prevents the actuator housing from being pulled off the plug stem unintentionally.*
*The plug stem must still be able to move axially in the housing. Do* **not** *clamp the plug stem to the housing with the locking pin.*

## 7.4 Replacing the set point springs

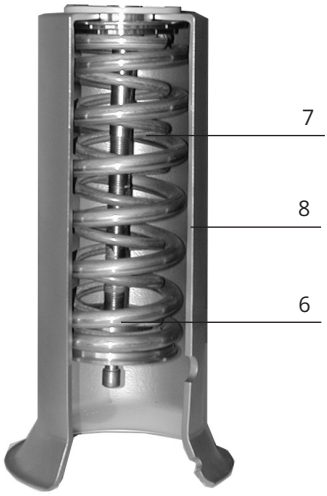
**Type 2371-01**

The regulator does not need to be removed from the pipeline.

You need to replace the set point springs (7) with both plates to achieve a different set point range. SAMSON recommends changing the entire actuator housing (8) with set point springs (7) and set point screw (6).

**How to proceed:**

1. Relieve the tension from the set point springs. Proceed as described in Chapter 6.2.
2. Release clamp fitting. Lift out the actuator housing (8) together with set point screw (6) and set point springs (7).
3. Place on the new housing with new set point springs.




**Type 2371-01** Actuator housing with internal set point springs

**Fig. 12:** *Replacing the set point springs*

# 8 After-sales service

Contact SAMSON's After-sales Service for support concerning service or repair work or when malfunctions or defects arise.

**E-mail**

You can reach our after-sales service at aftersalesservice@samsongroup.com.

**Addresses of SAMSON AG and its subsidiaries**

The addresses of SAMSON AG, its subsidiaries, representatives and service facilities worldwide can be found on our website (▶ www.samsongroup.com) in all SAMSON product catalogs or on the back of these Mounting and Operating Instructions.

To assist diagnosis and in case of an unclear mounting situation, specify the following details:

- Type designation and modification index
- Nominal size DN
- Serial number
- Temperature and process medium
- Is a strainer installed?
- Installation drawing showing the exact location of the regulator and all the additionally installed components (shut-off valves, pressure gauge etc.)

# 9 Inscription on the device

The inscription shown was up to date at the time of publication of this document. The inscription on the device may differ from the one shown (see Chapter 9.1).

**Note**

*Each regulator can be clearly identified by the specifications written on the nameplate. Therefore, do not cover or write over the specifications on the nameplate.*

**Legend for Fig. 13 to Fig. 17**

| | |
|---|---|
| 1 | Data Matrix code |
| 2 | Type designation |
| 4 | Material |
| 5 | Year of manufacture |
| 6 | Nominal size |
| 8 | Order no. |
| 10 | $K_{VS}/C_V$ |
| 11 | Plug characteristic |
| 12 | Seat-plug seal |
| 13 | Seat material code |
| 18 | Country of origin |
| 19 | Notified body (CE or EAC) |
| 21 | Pressure Equipment Directive (PED) |
| 22 | Serial number |
| 23 | Hardware version |
| 25 | Max. perm. pressure |
| 26 | Max. permissible temperature |
| 29 | Arrow indicating the direction of flow |
| 36 | Heat no./foundry mark |

## 9.1 Inscriptions and their location

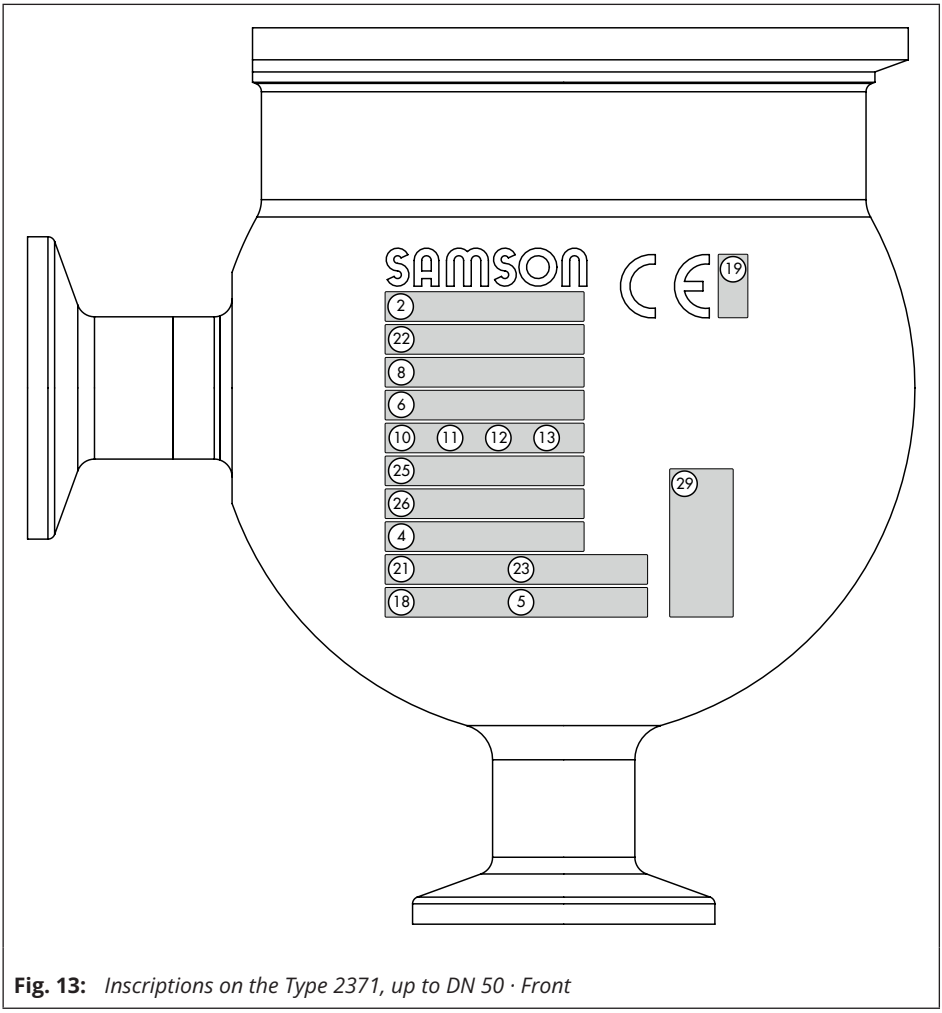



**Fig. 13:** *Inscriptions on the Type 2371, up to DN 50 · Front*

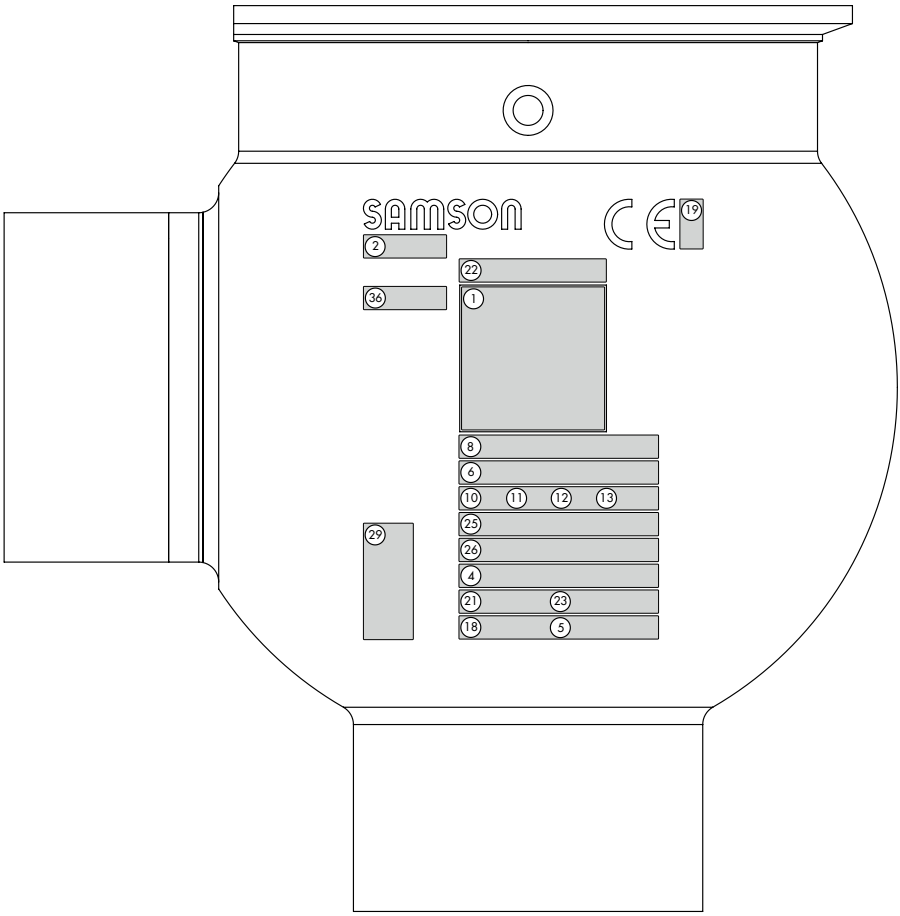



**Fig. 14:** *Inscriptions on the Type 2371, DN 65 and larger · Front*

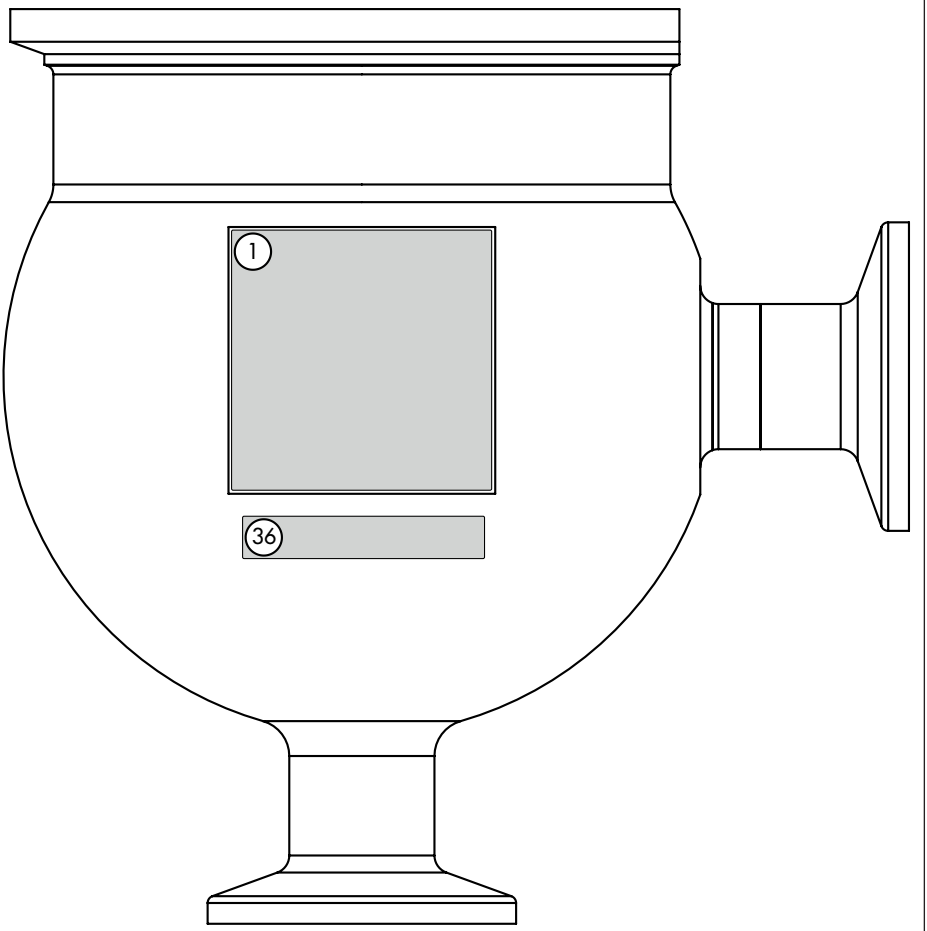



**Fig. 15:** *Inscriptions on the Type 2371 · Back*

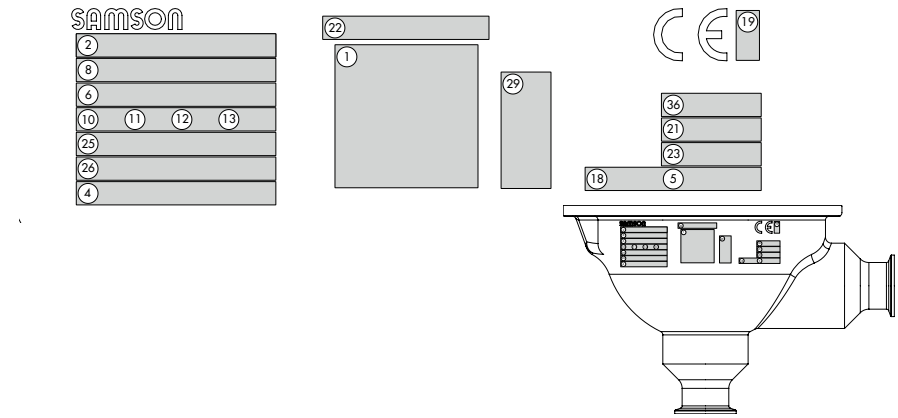



**Fig. 16:** *Inscriptions on the Type 2371 with cast body · Front*

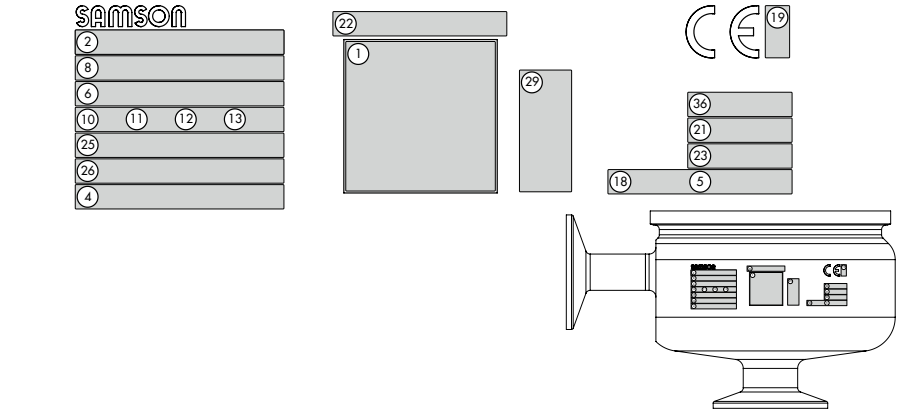



**Fig. 17:** *Inscriptions on the Type 2371-00, DN 65 and larger · Front*

## 9.2 Material identification number

See the nameplate (04 for DIN/ANSI version, body material) for the material used. For more details on the inscription (see Chapter 9).

# 10 Technical data

**Table 1:** *Technical data · All pressures (gauge)*

| **Types 2371-00/-01 Excess Pressure Valve** | | **DIN** | | | | | |
|---|---|---|---|---|---|---|---|
| Nominal size | | **DN 15** | **DN 20** | **DN 25** | **DN 32** | **DN 40** | **DN 50** |
| Set point ranges | Type 2371-00 | 0.3 to 6 bar | | | | | |
| | Type 2371-01 | 0.4 to 1.2 bar · 1 to 3 bar · 2.5 to 4.5 bar · 4 to 6 bar | | | | | |
| Pneumatic control connection | Type 2371-00 | G ¼ | | | | | |
| | CIP | G ⅛ | | | | | |
| Maximum pressure | | 10 bar | | | | | |
| Max. perm. temperatures | Operating temperature range | 0 to 160 °C | | | | | |
| | Sterilization temperature | 180 °C for up to 30 minutes | | | | | |
| Leakage class according to DIN EN 60534 | Metal seal | Class I (≤0.05 % of $K_{VS}$ coefficient) | | | | | |
| | Soft seal | Class IV (≤0.01 % of $K_{VS}$ coefficient) | | | | | |
| Peak-to-valley height and surface finish | External | Glass bead blasted [1] · Ra ≤0.6 µm, polished | | | | | |
| | Internal | Ra ≤0.8 µm, precision-lathed [1] · Ra ≤0.6 µm, polished · Ra ≤0.4 µm, satin finish · Ra ≤0.4 µm, mirror finish | | | | | |
| Conformity | | CE | | | | | |
| **Types 2371-00/-01 Excess Pressure Valve** | | **ANSI** | | | | | |
| Nominal size | | **NPS ½** | **NPS ¾** | **NPS 1** | **NPS 1¼** | **NPS 1½** | **NPS 2** |
| Set point ranges | Type 2371-00 | 5 to 90 psi | | | | | |
| | Type 2371-01 | 6 to 18 psi · 15 to 45 psi · 35 to 65 psi · 60 to 90 psi | | | | | |
| Pneumatic control connection | Type 2371-00 | G ¼ | | | | | |
| | CIP | G ⅛ | | | | | |
| Maximum pressure | | 150 psi | | | | | |
| Max. perm. temperatures | Operating temperature range | 32 to 320 °F | | | | | |
| | Sterilization temperature | 356 °F for up to 30 minutes | | | | | |

[1] Standard version

| | | |
|---|---|---|
| Leakage class according to ANSI/FCI 70-2 | Metal seal | Class I (≤0.05 % of $C_V$ coefficient) |
| | Soft seal | Class IV (≤0.01 % of $C_V$ coefficient) |
| Peak-to-valley height and surface finish | External | Glass bead blasted [1] · Ra ≤0.6 µm, polished |
| | Internal | Ra ≤0.8 µm, precision-lathed [1] · Ra ≤0.6 µm, polished · Ra ≤0.4 µm, satin finish · Ra ≤0.4 µm, mirror finish |
| Conformity | | CE |

[1] Standard version

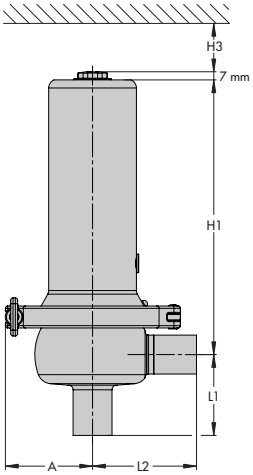
**Table 2:** *$K_{VS}$ and $C_V$ coefficients*

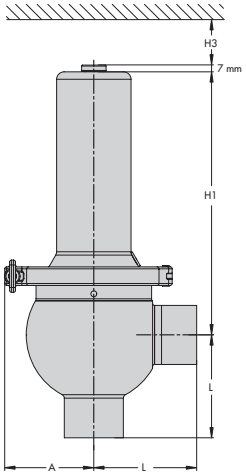
| **Nominal size** | **DN** | | | | | | **NPS** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **15** | **20** | **25** | **32** | **40** | **50** | **½** | **¾** | **1** | **1¼** | **1½** | **2** |
| Version | DIN ($K_{VS}$ coefficient) | | | | | | ANSI ($C_V$ coefficient) | | | | | |
| **Excess pressure valve** | **Type 2371-00** | | | | | | | | | | | |
| $K_{VS}/C_V$ coefficients (standard) | 0.25 | | | 1.0 | | | 0.3 | | | 1.2 | | |
| | 0.63 | | | 2.5 | | | 0.75 | | | 3.0 | | |
| | 2.5 | | | 4.0 | | | 3.0 | | | 5.0 | | |
| | – | | | 10 | | | – | | | 12 | | |
| $K_{VS}/C_V$ coefficients (high) | – | | | 25 | | | – | | | 30 | | |
| **Excess pressure valve** | **Type 2371-01** | | | | | | | | | | | |
| $K_{VS}/C_V$ coefficients | 0.25 | | | 1.0 | | | 0.3 | | | 1.2 | | |
| | 0.63 | | | 2.5 | | | 0.75 | | | 3.0 | | |
| | 1.6 | | | 4.0 | | | 2.0 | | | 5.0 | | |
| | 2.5 | | | 10 | | | 3.0 | | | 12 | | |

**Table 3:** *Materials · Material numbers according to ASTM and DIN EN*

| Excess pressure valve | | Type 2371-00 (high $K_{VS}/C_V$ coefficients) | | Types 2371-00/-01 (standard $K_{VS}/C_V$ coefficients) | |
|---|---|---|---|---|---|
| Version | | DIN | ANSI | DIN | ANSI |
| Body, spring housing | | 1.4409 | CF3M | 1.4404 | 316 L |
| Plug | Metal seal | 1.4409 | CF3M | 1.4404 | 316 L |
| | Seal for soft-seated plug | EPDM | | | |
| Diaphragm | | PTFE-coated EPDM | | | |
| Springs | | 1.4310 | | | |

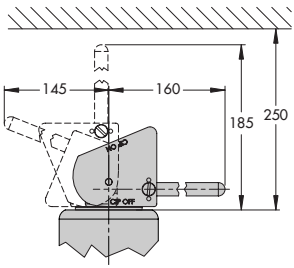
# 11 Dimensions



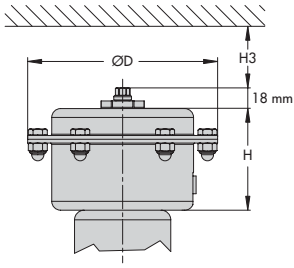

The clamp fitting is turned 90° in the drawing.

**Type 2371-01** · DN 15 to 25 · NPS ½ to 1




**Type 2371-01** · With manual stem locking

**Type 2371-01** · DN 32 to 50 · NPS 1¼ to 2



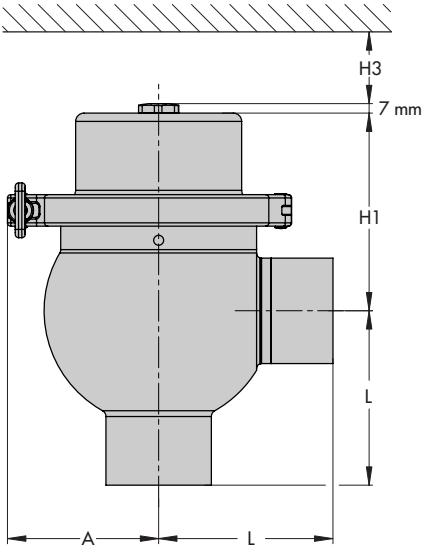

**Type 2371-01** With pneumatic stem locking

The dimensions of the regulator are listed in Table 4 on page 34.

Type 2371-01 with welding ends is shown in these drawings.

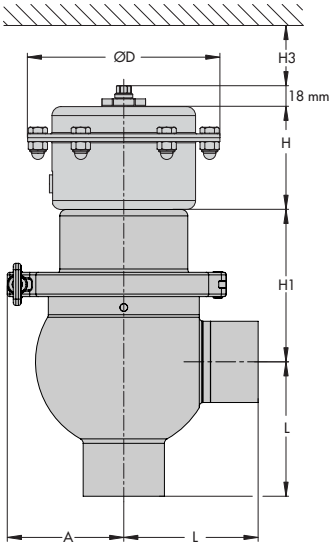
**The dimensions of the stem locking are the same for all versions and nominal sizes of the regulators.**

**Fig. 18:** *Dimensional drawings for Type 2371-01*

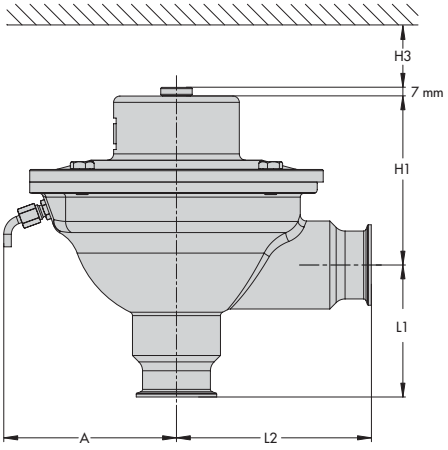



The clamp fitting is turned 90° in the drawing.

**Type 2371-00** · DN 15 to 25 · NPS ½ to 1 · With welding ends




**Type 2371-00** ·DN 32 to 50 · NPS 1¼ to 2 · With pneumatic stem locking · With welding ends

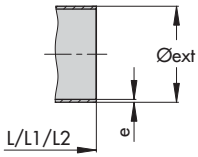



**Type 2371-00** · DN 32 to 50, $K_{VS}$ 25 · NPS 1¼ to 2, $C_V$ 30 · Without stem locking · With clamp connections

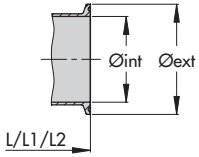
The dimensions of the regulator are listed in Table 4 on page 34.

**The dimensions of the stem locking are the same for all versions and nominal sizes of the regulators.**

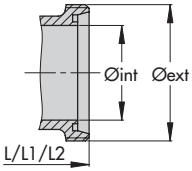
**Fig. 19:** *Dimensional drawings for Type 2371-00*



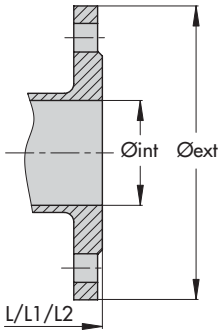

**Welding ends**




**Clamp connections**




**Threaded connections**




**Flanges**

**Fig. 20:** *Dimensional drawings · Various types of end connection for Type 2371-00/-01 (see Table 5, Table 6, Table 7 and Table 8)*

**Table 4:** *Dimensions of the regulator · General dimensions in mm (see Chapter 11 on page 31)*

| | | Types 2371-00/-01 | | | | | | Type 2371-00 ($K_{VS}$/$C_V$ 25/30) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nominal size** | | **DN 15 NPS ½** | **DN 20 NPS ¾** | **DN 25 NPS 1** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** |
| Common dimensions | A Type 2371-00 | 70 | | | 100 | | | 145 | | |
| | A Type 2371-01 | 85 | | | 100 | | | – | | |
| | H | 80 | | | | | | | | |
| | H1 Type 2371-00 | 80 | | | 120 | | | 135 | | |
| | H1 Type 2371-01 | 240 | | | 290 | | | – | | |
| | H3 | ≥ 200 | | | | | | | | |
| | ØD | 150 | | | | | | | | |
| **Weight**, approx. kg/lb | | | | | | | | | | |
| Type 2371-00 | | 3/6.6 | | | 11/24.3 | | | 15/33.1 | | |
| Type 2371-01 | | 8.5/18.7 | | | 12/26.5 | | | – | | |
| Stem locking | | | | | | | | | | |
| Additional pneumatic actuator | | 2.5/5.5 | | | | | | | | |
| Manual stem locking | | 0.7/1.5 | | | | | | | | |

**Table 5:** *Threaded connections · All dimensions in mm*

| | | Types 2371-00/-01 | | | | | | Type 2371-00 ($K_{VS}/C_V$ 25/30) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nominal size** | | **DN 15 NPS ½** | **DN 20 NPS ¾** | **DN 25 NPS 1** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** |
| DIN 11864-1 GS form A Series A | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 64 | 64 | 64 | 100 | 100 | 100 | – | – | – |
| | L1 | 60 | 60 | 60 | 100 | 100 | 100 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 100 | 100 | 100 | 155 | 155 | 155 |
| | Øint | 16 | 20 | 26 | 32 | 38 | 50 | 32 | 38 | 50 |
| | Øext | RD34x1/8" | RD44x1/6" | RD52x1/6" | RD58x1/6" | RD65x1/6" | RD78x1/6" | RD58x1/6" | RD65x1/6" | RD78x1/6" |
| DIN 11864-1 GS form A Series B | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 64 | 64 | 64 | 100 | 100 | 100 | – | – | – |
| | L1 | 60 | 60 | 60 | 100 | 100 | 100 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 100 | 100 | 100 | 155 | 155 | 155 |
| | Øint | 18.1 | 23.7 | 29.7 | 38.4 | 44.3 | 56.3 | 38.4 | 44.3 | 56.3 |
| | Øext | RD44x1/6" | RD52x1/6" | RD58x1/6" | RD65x1/6" | RD78x1/6" | RD95x1/6" | RD65x1/6" | RD78x1/6" | RD95x1/6" |
| DIN 11864-1 GS form A Series C | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 64 | 64 | 64 | – | 100 | 100 | – | – | – |
| | L1 | 60 | 60 | 60 | – | 100 | 100 | – | 105 | 105 |
| | L2 | 90 | 90 | 90 | – | 100 | 100 | – | 155 | 155 |
| | Øint | 9.4 | 15.75 | 22.1 | – | 34.8 | 47.5 | – | 34.8 | 47.5 |
| | Øext | RD28x1/8" | RD34x1/8" | RD52x1/6" | - | RD65x1/6" | RD78x1/6" | - | RD65x1/6" | RD78x1/6" |
| DIN 11887 A Series 1 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 64 | 64 | 64 | 100 | 100 | 100 | – | – | – |
| | L1 | 60 | 60 | 60 | 100 | 100 | 100 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 100 | 100 | 100 | 155 | 155 | 155 |
| | Øint | 16 | 20 | 26 | 32 | 38 | 50 | 32 | 38 | 50 |
| | Øext | RD34x1/8" | RD44x1/6" | RD52x1/6" | RD58x1/6" | RD65x1/6" | RD78x1/6" | RD58x1/6" | RD65x1/6" | RD78x1/6" |
| ISO 2853 = IDF | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | – | – | 64 | 100 | 100 | 100 | – | – | – |
| | L1 | – | – | 60 | 100 | 100 | 100 | 105 | 105 | 105 |
| | L2 | – | – | 90 | 100 | 100 | 100 | 155 | 155 | 155 |
| | Øint | – | – | 22.6 | 31.3 | 35.6 | 48.6 | 31.3 | 35.6 | 48.6 |
| | Øext | - | - | 37x1/8" | 45.9x1/8" | 50.6x1/8" | 64.1x1/8" | 45.9x1/8" | 50.6x1/8" | 64.1x1/8" |
| SMS 1146 | $p_{max}$ | 6 bar/87 psi | | | | | | | | |
| | L | – | – | 55 | 105 | 105 | 105 | – | – | – |
| | L1 | – | – | 60 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | – | – | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øint | – | – | 22.6 | 29.6 | 35.6 | 48.6 | 29.6 | 35.6 | 48.6 |
| | Øext | - | - | RD40x1/6" | RD48x1/6" | RD60x1/6" | RD70x1/6" | RD48x1/6" | RD60x1/6" | RD70x1/6" |

**Table 6:** *Clamp connections · All dimensions in mm*

| | | Types 2371-00/-01 | | | | | | Type 2371-00 ($K_{VS}/C_V$ 25/30) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nominal size** | | **DN 15 NPS ½** | **DN 20 NPS ¾** | **DN 25 NPS 1** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** |
| $p_{max}$ (all standards) | | **10 bar/150 psi** | | | | | | | | |
| DIN 11864-3 NKS form A Series A | L | 60.3 | 60.3 | 60.3 | 88.9 | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | 88.9 | 88.9 | 88.9 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 88.9 | 88.9 | 88.9 | 155 | 155 | 155 |
| | Øint | 16 | 20 | 26 | 32 | 38 | 50 | 32 | 38 | 50 |
| | Øext | 34 | 50.5 | 50.5 | 50.5 | 64 | 77.5 | 50.5 | 64 | 77.5 |
| DIN 11864-3 NKS form A Series B | L | 60.3 | 60.3 | 60.3 | 88.9 | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | 88.9 | 88.9 | 88.9 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 88.9 | 88.9 | 88.9 | 155 | 155 | 155 |
| | Øint | 18.1 | 23.7 | 29.7 | 38.4 | 44.3 | 56.3 | 38.4 | 44.3 | 56.3 |
| | Øext | 34 | 50.5 | 50.5 | 64 | 64 | 91 | 64 | 64 | 91 |
| DIN 11864-3 NKS form A Series C | L | 60.3 | 60.3 | 60.3 | – | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | – | 88.9 | 88.9 | – | 105 | 105 |
| | L2 | 90 | 90 | 90 | – | 88.9 | 88.9 | – | 155 | 155 |
| | Øint | 9.4 | 15.75 | 22.1 | – | 34.8 | 47.5 | – | 34.8 | 47.5 |
| | Øext | 34 | 34 | 50.5 | – | 64 | 77.5 | – | 64 | 77.5 |
| DIN 32676, Series A | L | 60.3 | 60.3 | 60.3 | 88.9 | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | 88.9 | 88.9 | 88.9 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 88.9 | 88.9 | 88.9 | 155 | 155 | 155 |
| | Øint | 16 | 20 | 26 | 32 | 38 | 50 | 32 | 38 | 50 |
| | Øext | 34 | 34 | 50.5 | 50.5 | 50.5 | 64 | 50.5 | 50.5 | 64 |
| DIN 32676 Series B | L | 60.3 | 60.3 | 60.3 | 88.9 | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | 88.9 | 88.9 | 88.9 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 88.9 | 88.9 | 88.9 | 155 | 155 | 155 |
| | Øint | 18.1 | 23.7 | 29.7 | 38.4 | 44.3 | 56.3 | 38.4 | 44.3 | 56.3 |
| | Øext | 50.5 | 50.5 | 50.5 | 64 | 64 | 77.5 | 64 | 64 | 77.5 |
| DIN 32676 Series C | L | 60.3 | 60.3 | 60.3 | – | 88.9 | 88.9 | – | – | – |
| | L1 | 60 | 60 | 60 | – | 88.9 | 88.9 | – | 105 | 105 |
| | L2 | 90 | 90 | 90 | – | 88.9 | 88.9 | – | 155 | 155 |
| | Øint | 9.4 | 15.75 | 22.1 | – | 34.8 | 47.5 | – | 34.8 | 47.5 |
| | Øext | 25 | 25 | 50.5 | – | 50.5 | 64 | – | 50.5 | 64 |
| ISO 2852 | L | – | – | 60.3 | 88.9 | 88.9 | 88.9 | – | – | – |
| | L1 | – | – | 60 | 88.9 | 88.9 | 88.9 | 105 | 105 | 105 |
| | L2 | – | – | 90 | 88.9 | 88.9 | 88.9 | 155 | 155 | 155 |
| | Øint | – | – | 22.6 | 31.3 | 35.6 | 48.6 | 31.3 | 35.6 | 48.6 |
| | Øext | – | – | 50.5 | 50.5 | 50.5 | 64 | 50.5 | 50.5 | 64 |
| BS 4825 Part 3 = ASME BPE | L | 60.3 [1)] | 60.3 [1)] | 60.3 | – | 88.9 | 88.9 | – | – | – |
| | L1 | 60 [1)] | 60 [1)] | 60 | – | 88.9 | 88.9 | – | 105 | 105 |
| | L2 | 90 [1)] | 90 [1)] | 90 | – | 88.9 | 88.9 | – | 155 | 155 |
| | Øint | 9.4 [1)] | 15.75 [1)] | 22.2 | – | 34.9 | 47.6 | – | 34.9 | 47.6 |
| | Øext | 25 [1)] | 25 [1)] | 50.5 | – | 50.5 | 64 | – | 50.5 | 64 |

1) Version according to ASME BPE only

**Table 7:** *Welding ends · All dimensions in mm*

| | | Types 2371-00/-01 | | | | | | Type 2371-00 ($K_{VS}/C_V$ 25/30) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nominal size** | | **DN 15 NPS ½** | **DN 20 NPS ¾** | **DN 25 NPS 1** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** |
| DIN 11866 Series A = DIN 11850 Series 2 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 70 | 70 | 70 | 105 | 105 | 105 | – | – | – |
| | L1 | 70 | 70 | 70 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øext | 19 | 23 | 29 | 35 | 41 | 53 | 35 | 41 | 53 |
| | e | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| DIN 11866 Series B | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 70 | 70 | 70 | 105 | 105 | 105 | – | – | – |
| | L1 | 70 | 70 | 70 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øext | 21.3 | 26.9 | 33.7 | 42.4 | 48.3 | 60.3 | 42.4 | 48.3 | 60.3 |
| | e | 1.6 | 1.6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| DIN 11866 Series C = ASME-BPE 2007 = ASTM A-270 = BS 4825 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 70 | 70 | 70 | – | 105 | 105 | – | – | – |
| | L1 | 70 | 70 | 70 | – | 105 | 105 | – | 105 | 105 |
| | L2 | 90 | 90 | 90 | – | 105 | 105 | – | 155 | 155 |
| | Øext | 12.7 | 19.05 | 25.4 | – | 38.1 | 50.8 | – | 38.1 | 50.8 |
| | e | $1.65^{+0}_{-0.1}$ | $1.65^{+0}_{-0.1}$ | $1.65^{+0}_{-0.1}$ | – | $1.65^{+0}_{-0.1}$ | $1.65^{+0}_{-0.1}$ | – | $1.65^{+0}_{-0.1}$ | $1.65^{+0}_{-0.1}$ |
| DIN EN ISO 1127 Series 1 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 70 | 70 | 70 | 105 | 105 | 105 | – | – | – |
| | L1 | 70 | 70 | 70 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øext | 21.3 | 26.9 | 33.7 | 42.4 | 48.3 | 60.3 | 42.4 | 48.3 | 60.3 |
| | e | 1.6 | 1.6 | 2 | 2 | 2 | 2.6 | 2 | 2 | 2.6 |
| ISO 2037 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 70 | 70 | 70 | 105 | 105 | 105 | – | – | – |
| | L1 | 70 | 70 | 70 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | 90 | 90 | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øext | 17.2 | 21.3 | 25 | 33.7 | 38 | 51 | 33.7 | 38 | 51 |
| | e | 1 | 1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| SMS 3008 = NF A 49-249 | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | – | – | 70 | 105 | 105 | 105 | – | – | – |
| | L1 | – | – | 70 | 105 | 105 | 105 | 105 | 105 | 105 |
| | L2 | – | – | 90 | 105 | 105 | 105 | 155 | 155 | 155 |
| | Øext | – | – | 25 | 33.7 | 38 | 51 | 33.7 | 38 | 51 |
| | e | – | – | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |

**Table 8:** *Flanges · All dimensions in mm*

| | | Types 2371-00/-01 | | | | | | Type 2371-00 ($K_{VS}/C_V$ 25/30) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nominal size** | | **DN 15 NPS ½** | **DN 20 NPS ¾** | **DN 25 NPS 1** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** | **DN 32 NPS 1¼** | **DN 40 NPS 1½** | **DN 50 NPS 2** |
| DIN 11864-2 NF form A Series A | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 90 | 95 | 100 | 105 | 115 | 125 | – | – | – |
| | L1 | 90 | 95 | 100 | 105 | 115 | 125 | 105 | 105 | 105 |
| | L2 | 90 | 95 | 100 | 105 | 115 | 125 | 155 | 155 | 155 |
| | Øint | 16 | 20 | 26 | 32 | 38 | 50 | 32 | 38 | 50 |
| | Øext | 59 | 64 | 70 | 76 | 82 | 94 | 76 | 82 | 94 |
| DIN 11864-2 NF form A Series B | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 90 | 95 | 100 | 105 | 115 | 125 | – | – | – |
| | L1 | 90 | 95 | 100 | 105 | 115 | 125 | 105 | 105 | 105 |
| | L2 | 90 | 95 | 100 | 105 | 115 | 125 | 155 | 155 | 155 |
| | Øint | 18.1 | 23.7 | 29.7 | 38.4 | 44.3 | 56.3 | 38.4 | 44.3 | 56.3 |
| | Øext | 62 | 69 | 74 | 82 | 88 | 103 | 82 | 88 | 103 |
| DIN 11864-2 NF form A Series C | $p_{max}$ | 10 bar/150 psi | | | | | | | | |
| | L | 90 | 90 | 100 | – | 115 | 125 | – | – | – |
| | L1 | 90 | 90 | 100 | – | 115 | 125 | – | 105 | 105 |
| | L2 | 90 | 90 | 100 | – | 115 | 125 | – | 155 | 155 |
| | Øint | 9.4 | 15.75 | 22.1 | – | 34.8 | 47.5 | – | 34.8 | 47.5 |
| | Øext | 54 | 59 | 66 | – | 79 | 92 | – | 79 | 92 |
| DIN EN 1092-1 B2 or ASME B16.5 Cl 150 | | On request | | | | | | | | |

# 12 Certificates

The certificates shown were up to date at the time of publishing. The latest certificates can be found on our website on the product page (Downloads):

▶ www.samsongroup.com > PRODUCTS > Self-operated regulators > 2371-00

▶ www.samsongroup.com > PRODUCTS > Self-operated regulators > 2371-01

Other optional certificates are available on request.

## 12.1 Certificates for Type 2371-00 and Type 2371-01

The EU declarations of conformity are included on the next pages:

– EU declaration of conformity in compliance with Pressure Equipment Directive 2014/68/EU on page 40.
– EU declaration of conformity in compliance with Machinery Directive 2006/42/EC for Type 2371 Regulator on page 42.
– Declaration of incorporation in compliance with Machinery Directive 2006/42/EC for the Type 2371 Regulator on page 43.

# SAMSON REGULATION S.A.S.

## DECLARATION UE DE CONFORMITE
## EU DECLARATION OF CONFORMITY

1/2

DC014
2022-05

### Module A / Modul A

Par la présente, SAMSON REGULATION SAS déclare sous sa seule responsabilité pour les produits suivants :
For the following products, SAMSON REGULATION SAS hereby declares under its sole responsibility:

| Appareils / Devices | Type | Exécution / Version | Matériel du corps / body Material | PN Class | DN NPS | Fluides / fluids |
|---|---|---|---|---|---|---|
| Vanne de décharge / Back pressure reducing valve | 2371-0 | DIN | Acier / steel | $P_{max\ T=20°C}$ 10 bar | DN 32 – 50 | Tous fluides / all fluids |
| | | ANSI | | $P_{max\ T=70°F}$ 150 psi | NPS 1 ¼ – 2 | |
| Détendeur alimentaire / Pressure reducing valve | 2371-1 | DIN | | $P_{max\ T=20°C}$ 10 bar | DN 32 – 50 | |
| | | ANSI | | $P_{max\ T=70°F}$ 150 psi | NPS 1 ¼ – 2 | |
| Vanne de régulation passage droit / Globe valve | 2423 | à membrane with diaphragm | Fonte grise / cast iron | PN25 | DN 65 - 125 | G2 /L2 [1] |
| | | à soufflet with bellow | Fonte sphéroïdale / spheroidal graphite iron | PN25 | DN 50 - 125 | |
| | | | Acier / steel | PN16<br>PN25<br>PN40 | DN 65 – 100<br>DN 50 - 100<br>DN 40 - 100 | |
| Vanne de régulation passage droit / Globe valve | 3241 | DIN | Fonte grise / cast iron | PN10 | DN 125 – 150 | G2, L1, L2 [1] |
| | | DIN | Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron | PN16 | DN 65 – 125 | |
| | | DIN | Fonte sphéroïdale / spheroidal graphite | PN 25 | DN 50 - 80 | |
| | | ANSI | Fonte grise / cast iron | Cl 125<br>Cl 250 | NPS 2 ½ - 4<br>NPS 1 ½ - 2 | |
| | | DIN | Acier / steel | PN10<br>PN16<br>PN25 | DN 32 – 100<br>DN 32 – 50<br>DN 32 - 40 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ¼ - 2 | |
| Vanne de régulation 3 voies / 3-way Valve | 3244 | DIN | Fonte grise / cast iron | PN10<br>PN16 | DN 125 – 150<br>DN 65 – 125 | G2, L1, L2 [1] |
| | | DIN | Acier / steel | PN10<br>PN16<br>PN25 | DN 32 – 100<br>DN 32 – 50<br>DN 32 - 40 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ¼ - 2 | |
| Vanne de régulation passage droit / Globe valve | 3251 | DIN | Acier / steel | PN16<br>PN25 | DN 32 – 50<br>DN 32 – 40 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ¼ - 2 | |
| Vanne équerre / Angle valve | 3256 | DIN | Acier / steel | PN16 | DN 32 – 50 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ¼ - 2 | |
| Vanne à segment sphérique / Segment ball valve | 3310 | DIN | Acier / steel | PN10<br>PN16<br>PN25 | DN 40 – 50<br>DN 80 – 100<br>DN 40 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ½ – 2 | |
| Vanne de régulation passage droit / Globe valve | 3321 | DIN | Fonte grise / cast iron | PN16 | DN 65 – 100 | G2, L1, L2 [1] |
| | | ANSI | | Cl 125 | NPS 2 ½ - 4 | |
| | | DIN | Fonte sphéroïdale / spheroidal graphite iron | PN25 | DN 50 – 80 | |
| | | ANSI | Acier / steel | Cl 150 | NPS 1 ½ - 2 | Tous fluides / all fluids |
| Vanne de régulation 3 voies / 3-way Valve | 3323 | DIN | Fonte grise / cast iron : GJL-250 | PN16 | DN 65 – 100 | G2, L1, L2 [1] |
| | | DIN | Fonte sphéroïdale / spheroidal graphite iron | PN25 | DN 50 – 80 | |
| Vanne papillon / Butterfly valve | 3331 | DIN | Acier / steel | PN10 | DN 100 | Tous fluides / all fluids |
| Vanne à membrane / Diaphragm valve | 3345 | DIN | Acier / steel | $P_{max\ T=20°C}$ 10 bar<br>$P_{max\ T=20°C}$ 16 bar | DN 32 – 100<br>DN 32 – 50 | Tous fluides / all fluids |
| | | ANSI | | $P_{max\ T=70°F}$ 150 psi or 230 psi | NPS 1 ¼ – 2 | |
| | | DIN | Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron | $P_{max\ T=20°C}$ 10 bar<br>$P_{max\ T=20°C}$ 16 bar<br>$P_{max\ T=20°C}$ 40 bar | DN 125 – 150<br>DN 65 – 125<br>DN 40 – 50 | G2, L1, L2 [1] |
| | | ANSI | | $P_{max\ T=70°F}$ 150 psi<br>$P_{max\ T=70°F}$ 230 psi<br>$P_{max\ T=70°F}$ 580 psi | NPS 2 ½ – 4<br>NPS 2 ½ – 5<br>NPS 1 ½ – 2 | |

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# SAMSON REGULATION S.A.S.

## DECLARATION UE DE CONFORMITE
## EU DECLARATION OF CONFORMITY

2/2

DC014
2022-05

**Module A / Modul A**

| Appareils / Devices | Type | Exécution / Version | Matériel du corps / body Material | PN Class | DN NPS | Fluides / fluids |
|---|---|---|---|---|---|---|
| Vanne alimentaire / Sanitary valve | 3347 | DIN | Acier / steel | $P_{max\ T = 20°C}$ 10 bar | DN 125 – 150 | G2, L1, L2 [1] |
| | | ANSI | | $P_{max\ T = 70°F}$ 150 psi | NPS 5 – 6 | |
| Vanne aseptique / Aseptic valve | 3349 | DIN | Acier / steel | $P_{max\ T = 20°C}$ 10 bar<br>$P_{max\ T = 20°C}$ 16 bar<br>$P_{max\ T = 20°C}$ 25 bar | DN 32 – 100<br>DN 32 – 50<br>DN 32 – 40 | Tous fluides / all fluids |
| | | ANSI | | $P_{max\ T = 70°F}$ 150 psi<br>$P_{max\ T = 70°F}$ 230 psi<br>$P_{max\ T = 70°F}$ 360 psi | NPS 1 ¼ – 4<br>NPS 1 ¼ – 2<br>NPS 1 ¼ – 1 ½ | |
| Vanne Tout ou Rien / On-Off Valve | 3351 | DIN | Acier / steel | PN16<br>PN25 | DN 32 – 50<br>DN 32 – 40 | Tous fluides / all fluids |
| | | ANSI | | Cl 150 | NPS 1 ¼ – 2 | |
| | | DIN | Fonte grise & fonte sphéroïdale / cast iron & spheroidal graphite iron | PN16 | DN 65 – 100 | G2, L1, L2 [1] |
| | | | Fonte sphéroïdale / spheroidal graphite iron | PN25 | DN 50 – 80 | |
| | | ANSI | Fonte grise / cast iron | Cl 125 | NPS 2 ½ – 4 | |
| Bride de mesure / Measure flange | 5090 | DIN | Acier / steel | PN6<br>PN10<br>PN16<br>PN25<br>PN40 | DN 200 – 500<br>DN 125 – 350<br>DN 65 – 200<br>DN 50 – 125<br>DN 40 – 100 | G2, L2 [1] |

[1] Gas selon l'article 4 § 1.c) i) / Gases Acc. to article 4 paragraphs 1.c) i)
Liquide selon l'article 4 § 1.c) ii) / Liquids Acc. to article 4 paragraphs 1.c) ii)

la conformité avec le règlement suivant : / the conformity with the following requirement :

| | | |
|---|---|---|
| **La Directive du Parlement Européen et du Conseil d'harmonisation des lois des Etats Membres concernant la mise à disposition sur le marché d'équipements sous pression / Directive of the European Parliament and of the Council on the Harmonization of the laws of the Member States relating of the making available on the market of pressure equipment** | **2014/68/UE<br>2014/68/EU** | **Du / of<br>15.05.2014** |
| **Procédure d'évaluation de la conformité appliquée pour les fluides selon l'Article 4 § 1 Applied conformity assessment procedure for fluids according to Article 4 § 1** | **Module A /<br>Modul A** | |

**Normes techniques appliquées / Technical standards applied :**
**DIN EN 12516-2, DIN EN 12516-3, ASME B16.34, DIN-EN 60534-4, DIN-EN 1092-1**

**Fabricant / manufacturer : Samson Régulation SAS, 1, rue Jean Corona, FR-69120 VAULX-EN-VELIN**

Vaulx-en-Velin, le 23/05/22

Bruno Soulas
Directeur Stratégie et Développement / Head of Strategy and Development

Joséphine Signoles-Fontaine
Responsable du service QSE / Head of QSE Department

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SMART IN FLOW CONTROL

## EU DECLARATION OF CONFORMITY

DC034
2020-07

### Declaration of Conformity of Final Machinery

in accordance with Annex II, section 1. A. of the Directive 2006/42/EC

For the following products:

**Pressure regulator for the food and pharmaceutical industries**
**Pressure Reducing Valve Type 2371-10 / -11**
**Excess Pressure Relief Valve Type 2371-00 / -01**

We hereby declare that the machinery mentioned above complies with all applicable requirements stipulated in Machinery Directive 2006/42/EC.

For product descriptions of the valve and actuator, refer to:

- Type 2371-10/-11 Valve: Mounting and Operating Instructions EB 2640
- Type 2371-10/-11 Valve: Mounting and Operating Instructions EB 2642

Valve accessories (e.g. positioners, limit switches, solenoid valves, lock-up valves, supply pressure regulators, volume boosters and quick exhaust valves) are classified as machinery components in this declaration of conformity and do not fall within the scope of the Machinery Directive as specified in § 35 and § 46 of the Guide to Application of the Machinery Directive 2006/42/EC issued by the European Commission. In the SAMSON Manual H 02 titled "Appropriate Machinery Components for SAMSON Pneumatic Control Valves with a Declaration of Conformity of Final Machinery", SAMSON defines the specifications and properties of appropriate machinery components that can be mounted onto the above specified final machinery.

Referenced technical standards and/or specifications:

- VCI, VDMA, VGB: "Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen, Mai 2018" [German only]
- VCI, VDMA, VGB: "Zusatzdokument zum „Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen vom Mai 2018" [German only], based on DIN EN ISO 12100:201 1-03

Comment:
Information on residual risks of the machinery can be found in the mounting and operating instructions of the valve and actuator as well as in the referenced documents listed in the mounting and operating instructions.

Persons authorized to compile the technical file:
SAMSON REGULATION SAS – 1 rue Jean Corona – FR-69120 VAULX-EN-VELIN
Vaulx-en-Velin, 30 July 2020

Michael Lachenal-Chevallet
R&D Manager

Joséphine Signoles-Fontaine
QSE Manager

## DECLARATION OF INCORPORATION

**DC038**
**2022-12**

**Declaration of Incorporation in compliance with Machinery Directive 2006/42/EC**

For the following products:
**Pressure regulator for the food and pharmaceutical industries**
**Pressure Reducing Valve Type 2371-10 / -11**
**Excess Pressure Relief Valve Type 2371-00 / -01**

We certify that the Type 2371 pressure regulators for food and pharmaceutical industries are partly completed machinery as defined in the Machinery Directive 2006/42/EC and that the safety requirements stipulated in Annex I, 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4 and 1.3.7 are observed. The relevant technical documentation described in Annex VII, part B has been compiled.

Products we supply must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC.

Operators are obliged to install the products observing the accepted industry codes and practices (good engineering practice) as well as the mounting and operating instructions. Operators must take appropriate precautions to prevent hazards that could be caused by the process medium and operating pressure in the valve as well as by the signal pressure and moving parts.

The permissible limits of application and mounting instructions for the products are specified in the associated data sheets as well as the mounting and operating instructions; the documents are available in electronic form on the Internet at www.samsongroup.com.

For product descriptions of the valve, refer to
- Type 2371-10/-11 Valve: Mounting and Operating Instructions EB 2640
- Type 2371-10/-11 Valve: Mounting and Operating Instructions EB 2642

Referenced technical standards and/or specifications:
- VCI, VDMA, VGB: "Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen, Mai 2018" [German only]
- VCI, VDMA, VGB: "Zusatzdokument zum „Leitfaden Maschinenrichtlinie (2006/42/EG) — Bedeutung für Armaturen vom Mai 2018" [German only], based on DIN EN ISO 12100:201 1-03

Comments:
- See mounting and operating instructions for residual hazards.
- Also observe the referenced documents listed in the mounting and operation instructions.

Persons authorized to compile the technical file:
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Vaulx-en-Velin, 23rd December 2022

Bruno Soulas
General Director
Head of Strategy and Development

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Head of QSE department

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WEEE N° FR02565

**EB 2642 EN**

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