

Instructions on the Safe Handling According to the REACH Regulation 1907/2006 ¹⁾

Solders with lead compounds in Type 2430 Thermostat not used in joints that come into contact with the process medium

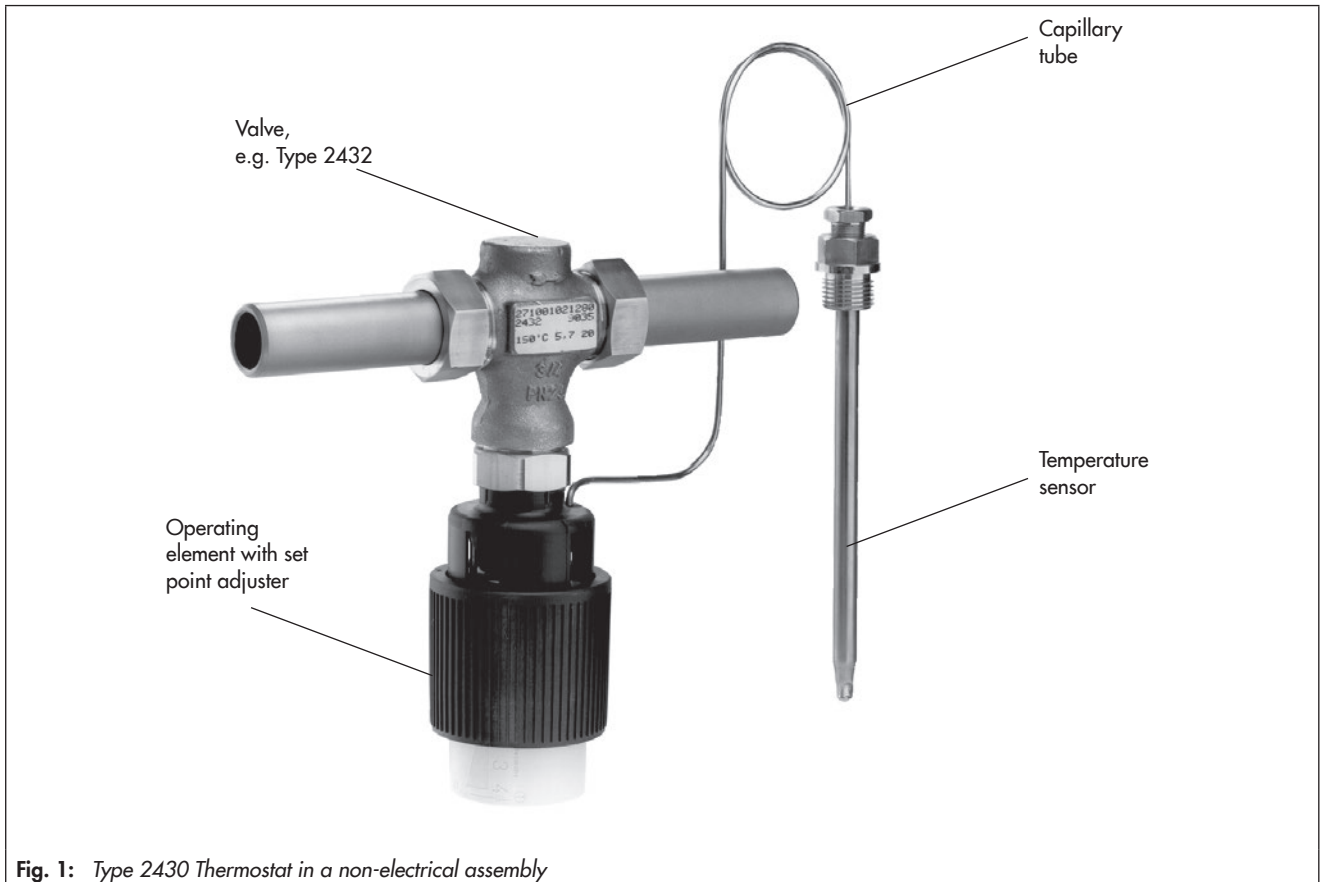


Fig. 1: Type 2430 Thermostat in a non-electrical assembly

Fig. 1 shows a Type 2430 Thermostat attached to a Type 2432 Valve with welding ends. The Type 2430 Thermostat consists of a control thermostat with set point adjuster, capillary tube and temperature sensor.

The Type 2430 Thermostat can be operated according to two difference operating principles:

- Type 2430 Thermostat (adsorption principle) ► EB 2430
- Type 2430 Thermostat (vapor pressure) ► EB 2430-3

1 Service life

According to the RoHS Directive 2001/65/EU, the German electrical equipment legislation (ElektroG) and the German ordinance for the use of hazardous materials in electrical and electronic devices (ElektroStoffV), the following applies: no risks exist for users when the device is used as intended.

We strongly advise against using a damaged housing.






¹⁾ REACH regulation: Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the registration, evaluation, authorization and restriction of chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

1.1 Repairing damaged housings

Usually, repairing defective devices is not economically viable. Contact your local SAMSON subsidiary if a device is defective.







1.2 Customer information according to Article 33 of the REACH Regulation 1907/2006

The products, as individual articles according to Article 33 of the REACH Regulation, contain the following (pure) chemical substance in concentrations of 0.1 % w/w per articles that were previously individual articles ¹⁾:

Individual article	CAS/index no.	Rating acc. to GHS/CLP ²⁾	Occupational health and safety
Housing of the Type 2430 Thermostat	Lead, Plumbum, Pb – CAS no.: 7439-92-1 – EC no.: 231-100-4 – Index no.: 082-013-00-1, 082-014-00-7 Source: Details on GHS/CLP rating based on the manufacturer's specifications provided in the GESTIS (CLP) hazardous substance database ► http://gestis.itrust.de	 Rating: – H302: Acute toxicity, category 4, Harmful if swallowed. – H332: Acute toxicity, category 4, Harmful if inhaled. – H360FD: Reproductive toxicity, category 1A	 No smoking  No eating or drinking  Wear eye protection.
Operating element of the guide tube	Chromium(6+) ion – CAS no.: 18540-29-9 – Index no. 024-017-00-8	– H362: Reproductive toxicity, additional category for effects on or via lactation – H373: Specific target organ toxicity (repeated exposure), category 2 – H400: Hazardous to the aquatic environment, acute category 1 – H410: Hazardous to the aquatic environment, chronic category 1 Health hazards (H code): – H302, H332: Harmful if swallowed or if inhaled. – H360FD: May damage fertility or the unborn child. – H362: May cause harm to breast-fed children. – H373: May cause damage to organs through prolonged or repeated exposure. Affected organs: Kidneys, blood, liver, mucous membranes, central nervous system, immune system – H410: Very toxic to aquatic life with long-lasting effects. Precautionary statements (P code) – P201: Obtain special instructions before use. – P273: Avoid release to the environment. – P314: Get medical advice/attention if you feel unwell.	 Wear safety gloves.
Filling of the temperature sensor	The filling of the temperature sensor depends on the set point range to be used. More detailed information cannot be published due to reasons of industrial property rights and copyright.		

¹⁾ Judgement by the Court of Justice of the European Union concerning case C-106/14 of 10 September 2015 (once an article, always an article), O5A, <https://curia.europa.eu/jcms/upload/docs/application/pdf/2015-09/cp150100en.pdf>

²⁾ In connection with EU GHS rating according to Regulation (EC) 1272/2008, 9th ATP. Source: GESTIS and manufacturer's specifications

Individual article	CAS/index no.	Rating acc. to GHS/CLP ²⁾	Occupational health and safety
<p>Gas cylinder containing the gas filling</p> <p>Various fillings are used, such as a harmless activated carbon, pentane/butane or solely butane. The worst case among the gas fillings is described in following.</p> <p>The rating is only relevant to dismantling and scrapping.</p>	<p>Mixture of n-butane and n-pentane</p> <p>Butane</p> <ul style="list-style-type: none"> - CAS no.: 106-97-8 - EC no.: 203-448-7 <p>Pentane</p> <ul style="list-style-type: none"> - CAS no.: 109-66-0 - EC no.: 203-692-4 	<p>Rating:</p> <p>Health hazards (H code):</p> <p>Hazard hazards</p> <ul style="list-style-type: none"> - H336: May cause drowsiness or dizziness. - H411: Toxic to aquatic life with long-lasting effects <p>Precautionary statements (P code)</p> <ul style="list-style-type: none"> - P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. - P260: Do not breathe dust/fumes/gas/mist/vapors/spray. - P273: Avoid release to the environment. - P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. - P377: Leaking gas fire – do not extinguish unless leak can be stopped safely. - P381: Eliminate all ignition sources if safe to do so. - P403: Store in a well ventilated place. <ul style="list-style-type: none"> → Use only in well-ventilated areas. → Do not heat the gas cylinder above 50 °C. → Do not heat over an open flame. → The operating pressure in the gas cylinder must not exceed the saturated vapor pressure at 50 °C of the pure product. → Take appropriate precautions against electrostatic charging. → Ensure gas cylinders and facilities are adequately grounded. → Use non-sparking tools. → Only process in suitable rooms and using appropriate equipment. → Provide adequate ventilation even at ground level (vapors are heavier than air). <p>General protective measures</p> <ul style="list-style-type: none"> → Do not inhale gases, vapors or aerosols. → Do not smoke, eat or drink during work. → Take appropriate precautions against electrostatic charging (formation of an explosive gas mixture with air). → Observe the general regulations on industrial fire prevention. 	<p> No smoking</p> <p> No unauthorized access.</p> <p> No eating or drinking</p> <p> Warning against flammable material</p> <p> Wear eye protection.</p> <p> Wear safety gloves.</p>

1.3 List of individual articles according to judgment by the Court of Justice of the European Union concerning case C-106/14 of 2015-10-16, "Once an article, always an article" (O5A) ²⁾

The product is made up of numerous individual articles. Therefore, each article that was originally an individual article is calculated individually.

→ See Fig. 2 for components of Type 2430

¹⁾ Judgement by the Court of Justice of the European Union concerning case C-106/14 of 10 September 2015 (once an article, always an article), O5A, <https://curia.europa.eu/jcms/upload/docs/application/pdf/2015-09/cp150100en.pdf>

²⁾ In connection with EU GHS rating according to Regulation (EC) 1272/2008, 9th ATP. Source: GESTIS and manufacturer's specifications

2 Dismantling at the end of the service life and disposal

We strongly advise against dismantling the thermostat by hand.

2.1 Restriction of Hazardous Substances (RoHS) in electrical equipment

Fig. 3 shows how a Type 2489 Flow Regulator (self-operated regulator) is combined with a Type 57xx/58xx Electric Actuator and a control thermostat (e.g. Type 2430). Such a combination at SAMSON is designated a "Type 2488/2489/... Pressure-independent Control Valve (PICV)" with an additional thermostat connection (► T 3135).

2.2 Data on use of solders containing lead

Passivation of operating elements was changed over to trivalent chromium on 1 April 2012. Conversion to lead-free solders took place on 1 April 2017 (sections 1.2 and 2.1). Stocks with a production date before 1 April 2017 are delivered to SAMSON customers for non-electrical use only. Soldered joints and electroplated surfaces as an individual material contain the following (pure) chemical substance in concentrations (% w/w) per individual homogeneous material:

- Pb (lead) >0.1 %
- Chromium (VI)/Cr(VI) >0.1 %

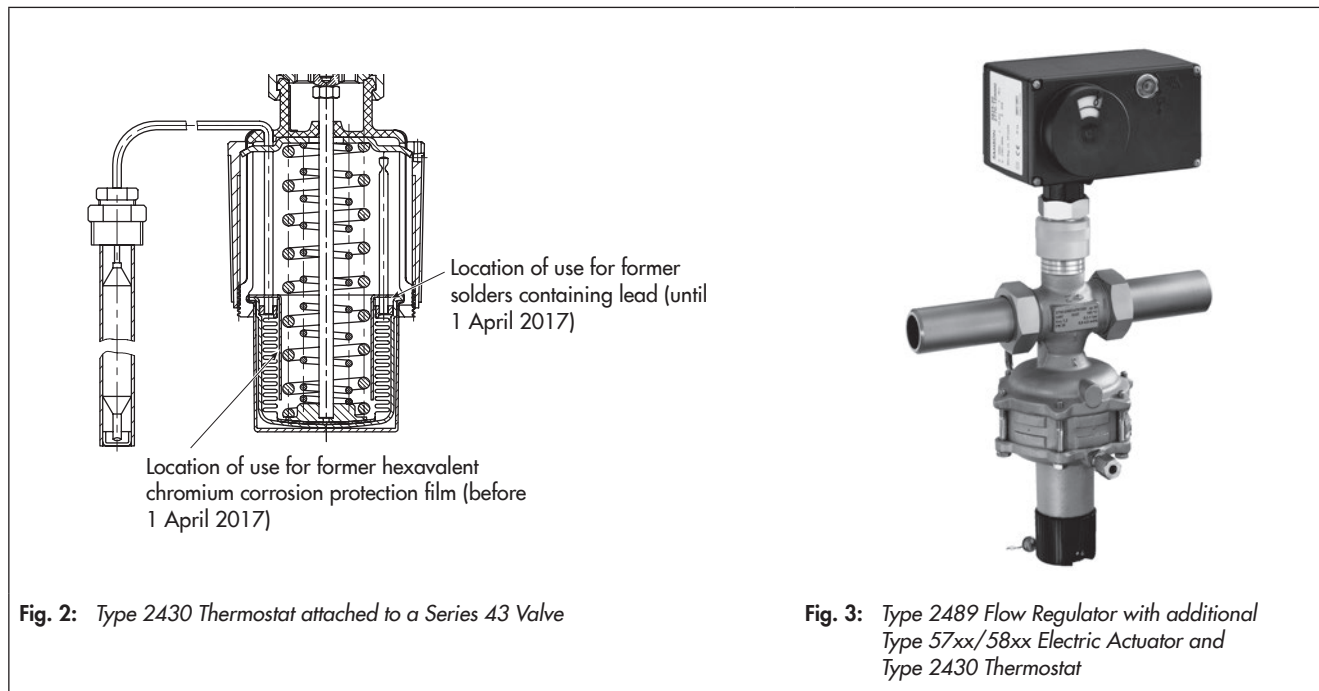


Fig. 2: Type 2430 Thermostat attached to a Series 43 Valve

Fig. 3: Type 2489 Flow Regulator with additional Type 57xx/58xx Electric Actuator and Type 2430 Thermostat

2.3 Information on safe handling

Solders with lead compounds and hexavalent chromium corrosion protection films are hazardous substances in solid materials (see <http://gestis.itrust.de>). They are located in a sealed housing. As a result, no direct contact with the substance will occur under normal, foreseeable conditions and when used as intended. Contact with lead or hexavalent chromium cannot be ruled out when dismantling the thermostat. To prevent such contact and ensure the safe handling of the article, observe the following instructions on safe use:

- Main routes of entry: In the industrial context, lead compounds are mainly absorbed by inhalation (see GESTIS (CLP) hazardous substance database [07783]). The main route of entry for metallic chromium (MC) is via the respiratory tract (see GESTIS (CLP) hazardous substance database [07619]). This especially applies to mechanical processing (section 2.6).
- Sections 2.4 to 2.6 describe the measures to be taken during dismantling by hand and during shredding. The device is often not repaired for cost reasons. The majority of recycling and disposal experts handle heavy metals and explosive gases responsibly and apply good engineering practice.

2.4 Organizational safety measures

- ➔ If more than one low hazard has been identified: Instruction on the hazards and safety measures as specified in the working instructions (TRGS 555) with signed confirmation is required.
- ➔ Instruction must be given before commencing the work and then at least once a year.
- ➔ The MAK Commission's carcinogenic rating for this substance must be clearly indicated.

- Make sure that the workplace limits are observed. If the limits are exceeded, additional protection measures according to the German legislation for hazardous substances (GefStoffV) are necessary.
- Record and retain records.
- The number of employees who handle the hazardous substance must be kept as low as possible.
- The employment restrictions for young people as stipulated in the Youth Labour Act must be observed.
- The job restrictions for pregnant women according to the maternity protection regulations must be observed.
- The job restrictions for breastfeeding women according to the maternity protection regulations must be observed.

2.5 Personal safety measures

Body protection:

- Depending on the risk, wear tight protective clothing.

Respiratory protection:

- In an emergency (e.g. unintentional release of the substance, the occupational exposure limit has been exceeded), respiratory protection must be worn. Consider the maximum period for wear.

Respiratory protection: Particle filter A, Color code white

- Use isolating apparatus for concentrations above the usage limits for filtering apparatus, for oxygen concentrations below 17 %, or in circumstances which are unclear.

Eye protection:

- Wear appropriate eye protection.
- Wear goggles with side shields.

Hand protection:

- Wear safety gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check for defects before wearing. Before removing, wash the gloves well. Store them in a well ventilated location.
- Pay attention to skin care. Skin protection cremes do not protect sufficiently against the substance. Currently, there is no information available regarding suitable glove materials. Experience has shown that polychloroprene, nitrile rubber, butyl rubber, fluorocarbon rubber and polyvinyl chloride are suitable as glove materials for protection against insoluble solid substances.

Industrial hygiene:

- No food or beverages or other articles of consumption must be consumed in the work areas. Suitable areas must be designated for these purposes.
- Avoid contact with skin. In case of contact, wash skin.
- Avoid inhalation of dust.
- Avoid contact with clothing. Change contaminated clothing and clean it thoroughly. The company is responsible for cleaning the work clothing. Before rest breaks, change clothing, if necessary. Separate storage for street clothing and work clothing must be provided if a risk through contamination of work clothing can be expected.
- Wash skin with soap and water before rest breaks and after completing work. Apply moisturizing skincare products after washing. Pay attention to personal hygiene.
- Regularly clean mouth and teeth.

Gas filling of some versions:

- See section 2. Customer information according to Article 33 of the REACH Regulation 1907/2006

2.6 Environmental protection measures

- Avoid subjecting the thermostat to mechanical machining processes (e.g. drilling, grinding, hammering) or heat solders wherever possible.
- Use an extraction system if dust is created during machining. Make sure the dust is not released into the sewage system.
- Individual components are to be replaced by properly trained and instructed staff only. Make sure that these instructions are available to the staff before replacing any components.
- Use the article as specified in the mounting and operating instructions (EB) or data sheet (T).
- **Waste treatment procedure during gas filling:** EWC code 16 05 04* Gases in pressure containers (including halons) containing hazardous substances according to Directive 2008/98/EC

2.7 Manufacturer address

- In cases of doubt, contact SAMSON's material compliance experts at: compliance@samson.de
- For up-to-date information: ► REACH pages on the SAMSON website.