

Safety Relief Valve RLT Serie 1/2" - 2"

Main Features



Spring Loaded RLT Serie Safety Relief Valves
According to EU/2014/68 and EN4126-1

- Fast response
- Accuracy and sensitivity
- Easy maintenance
- Rugged construction for durability
- Easy maintenance

Technical Features

Maximum allowable pressure –PS	RLTxx 1b 1bar RLTxx 6b 6bar RLTxx 25b 25bar
Maximum allowable overpressure	RLTxx 1b 1bar RLTxx 6b 6bar RLTxx 25b 25bar
Setting range (Who)	RLTxx 1b 16 – 1000 mbar RLTxx 6b 700 – 1500 mbar RLTxx 25b 0.5 – 25 bar
Allowable temperature –TS ⁽¹⁾	-20 °C to +60 °C
Inlet gas temperature	-20 °C to +60 °C
Accuracy class –AC	up to 2.5% depending on model and setting pressure
Nominal size –DN	1/2" 3/4" 1" 1 1/4" 1 1/2" 2" Threaded DN25 DN40 DN50 Flanged
Connections	Threaded Rp EN or NPT ASME Flanged PN16, PN25 according to ISO 7005 Class 150 RF according to ASME B16.5 and

⁽¹⁾ Low temperature version -40°C: available on request

Metarials

Body	RLT 1b and 6b Aluminium, RLT25b EN-GJS 500-7
Covers	Aluminium
Seat	Brass
Internal Parts	Stainless steel and brass
Seals	NBR EN549
Diaphragm	NBR EN549

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Standards and certificates

Applied directives:

Pressure Equipment Directive –PED

(EU) EU/2014/68



Compliance with the regulations of the applied directives is verified by the adherence to the following standards / regulations:

- EU Desing Examination Certificate EN4126-1
- EAC Conformity mark TP TC010/2011 TP TC016/2011
- UkrSepro Tecnical Regulations for Pressure Equipment UA.TR.012C.0368



The relevant valid edition of the standards can be found in the declaration of conformity!

Use

General Gases :

Natural gas, town gas, propane, butane, air, nitrogen or all non-corrosive gases

Suitable for use with previously filtered gaseous fluids, it is mainly used for medium and low pressure natural gas systems.

Hydrogen Ready :

Suitability of natural gas-hydrogen mixtures or pure hydrogen.

When using the RLT series, a manufacturer's declaration and notified body reports can be provided on request.

Biogas or Biomethane Version :

Suitable for biogases and recycling gases

– up to maximum 1% by volume H₂S, dry

– up to maximum 1% by volume NH₃,

dry No non-ferrous metals (except in very small quantities found in the plastic components)

Biogas version of RLT Series are also designed for slightly aggressive, dry gases.

Gases according such as biogases, landfill gases, sewage gases, other recycled gases, process gases, and air. The chemical composition and aggressiveness of each biogas or recycled gas is different, not constant, and dependent on several factors.

The aggressiveness of the gas notably increases:

- as the hydrogen sulfide content H₂S increases

- with the moisture content of the gas, condensation is not permitted inside the regulator

In consultation with Gastech, users must decide whether the materials used for the RLT Series are suitable for the intended types of recycling gas. These gases can vary in terms of both their composition and the respective concentration of the components.

As a result, it is not possible to make any warranties or definitive statements regarding service life. An assessment should be carried out to determine the suitability of the gas used.



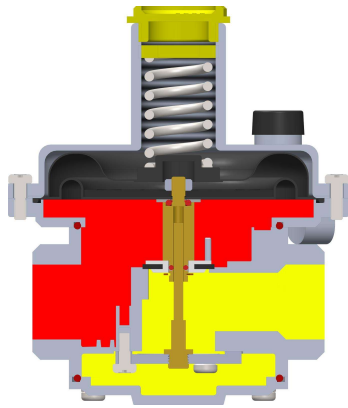
For safety reasons, we strongly recommend

- A visual inspection of the RLT Serie regulator at intervals of 3 to 6 months
- Function and leakage tests

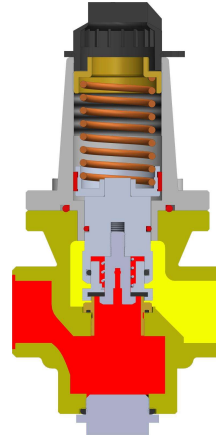
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**Desing,
Operational Diagram**

 Inlet Pressure
 Vent Pressure

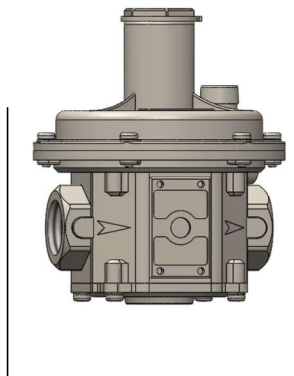


RLTxx /1b or 6b

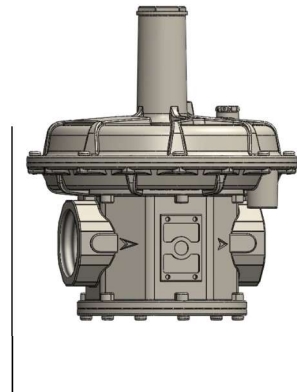


RLTxx/25b

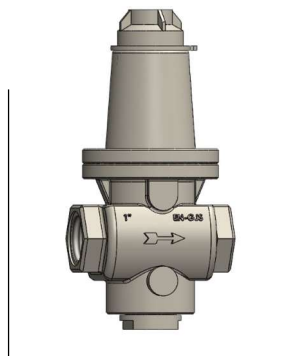
Configurations



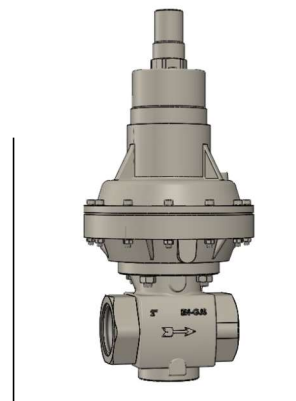
Safety Relief Valve
RLT 15-20-25 /1b



Safety Relief Valve
RLT 32-40-50 /1b



Safety Relief Valve
RLT 15-20-25 /25b




Safety Relief Valve
RLT 32-40-50 /25b

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Capacity Tables for RLTxx1b or 6b versions

Diameter	Set Pressure (mbar)												
	25	30	50	80	100	150	200	300	350	500	700	1000	1500
1/2"	26	27	27	28	28	30	31	33	35	39	44	51	64
3/4"	47	47	48	49	50	53	55	59	62	68	78	91	114
1"	73	74	75	77	79	82	86	93	96	107	121	142	178
1 1/4"	188	189	192	198	202	211	220	238	247	274	310	365	455
2"	294	295	301	309	315	329	343	371	386	428	485	570	711

 Capacity values measured at pressures 10% above the set point.
These values are valid for natural gas of $\rho_n = 0.61 \text{ kg/m}^3$ and $t = 15^\circ\text{C}$

Flow Calculations for RLTxx/25b version

For a 0.6 specific gravity natural gas, sizing of relief valve is usually made on the basis of KG flow rate coefficients. Flow capacity at the pressures 10% above the set point conditions are related by the following formula;

$$Q_{\text{mass}} = KG \times 264,18 \times A \times P_{\text{set}} \times \sqrt{\frac{M}{T}}$$

$$Q_{\text{volume}} = Q_{\text{mass}} \times 1,475$$

Acronyms

Q_{mass}	Maximum relief capacity in (kg /h)
P_{set}	absolute set pressure + %10 in (bar)
KG	Flow rate coefficient
A	Diameter surface in (cm ²)
M	Molecular weight of fluid in (kg/kmol)
T	Temperature of Naturalgas at inlet (K)

Flow rate coefficient

Size	25 1"	40 1 1/2"	50 2"
KG	0,36	0,45	0,50

Correction factor for non-natural gas applications

The flow rates are indicated for a 0.6 specific gravity natural gas. To determine the volumetric flow rate for gases other than natural gas, multiply or calculate the values in the capacity tables using the sizing equations with a correction factor. The table below lists correction factors for some common gases:

Gas Type	Density ratio to air	Conversion factor
Air	1.00	0.77
Butane	2.00	0.55
Propane	1.52	0,63
Propane+Air Mix	1.2	0,71
Hydrogen	0.07	2.94
Nitrogen	0.97	0.79
Carbondioxide	1.52	0.63

Use the following formula to calculate the correction factor for gases not listed above. In the formula, d is the specific gravity of the gas.

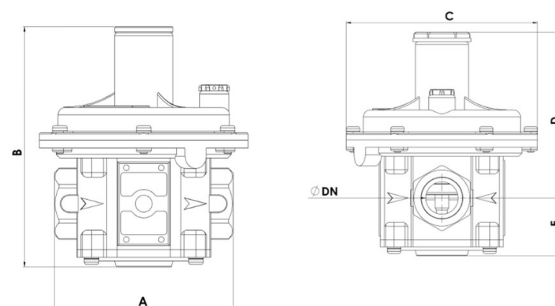
$$\text{Conversion factor} = \sqrt{\frac{0.6}{d}}$$

Stm3 /h /reference conditions 15 °C, 1 barg

Stm3 /h x 0.94795 = Nm3 /h Nm3/h reference conditions 0 °C, 1 barg

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Dimensions and Weights



RL T Serie 1b and 6b version


DN	A	B	C	D	E
Rp. 1/2"	120	165	140	122	42
Rp. 3/4"	120	165	140	122	42
Rp. 1"	120	165	140	122	42
Rp. 1 1/4"	160	260	225	197	64
Rp. 1 1/2"	160	260	225	197	64
Rp. 2"	160	260	225	197	64

RL T Serie 25b version, Threaded Connection

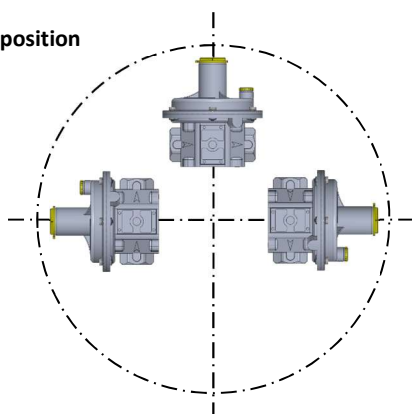
DN	A	B	C	D	E
Rp. 1"	102	215	90	153	62
Rp. 1 1/2"	102	215	90	153	62
Rp. 2"	156	460	210	390	70

RL T Serie 25b version, Flanged Connection

DN	A	B	C	D	E
DN25	222	460	215	395	65
DN40	222	460	215	395	65
DN50	254	550	215	430	70

 All diameters are millimeter

Mounting position








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Color of Products

Standard Colors Natural Aluminium

Optional Colors

You can choose one or more of the following colors.

Part	RAL Code	Color
All Parts	1021	
All Parts	3000	
All Parts	9005	
All Parts	6011	
All Parts	5010	

 delivery times and price may vary in optional color options.

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NOTES

For more information, contact your local sales representative or agency.



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