



gas flow solutions



Pressure Regulator with incorporated
Safety Shut-Off Valve

REGES

T84 & T88



- ▶ Modular and compact design
- ▶ Fast Response – Stable Control and Rapid Closure
- ▶ Reverse Flow Resistant Regulator
- ▶ High Accuracy
- ▶ Robust Design – High Velocity and Vibration Resistant
- ▶ Non Bleed Direct Shut-Off
- ▶ Easy In-Line Maintenance
- ▶ Inlet Pressure and Flow Independent Valve Latching
- ▶ Low Pressure Drop
- ▶ Low noise with incorporated silencer

Main Features

The inlet pressure balanced valve sleeve of the REGES T-series pressure regulators ensures a flow force independent valve motion, without the use of a complicated balancing construction. Its design enables an outstanding rangeability (better than 1:1000) while maintaining an accurate outlet pressure. The requirement for a start-up run is therefore eliminated and both high and low pressure differentials can be handled. The OptiFlo® valve flow pattern of the REGES T-series results in very high valve flow coefficients.

A SAGES T91 safety shut-off valve is incorporated in the REGES T84 & T88 valve body. The inherent safe design of the SAGES T-series safety shut-off valves ensures a fast non-bleeding and non-venting shut-off. The smart transversal and rotating latching mechanism makes vulnerable valve stem designs, typically through the top flange, obsolete. The simple pressure balanced valve assembly, in combination with a robust mechanical design, enables the valve to cope with high fluid velocities and system vibrations.

Technical Features

- Design Pressure: up to 100bar
- Inlet Pressure Range: up to 100bar
- Design Temperature minimum: down to -30°C
- Design Temperature maximum: up to 100°C

Regulator

- Minimum Differential Pressure: 0.5bar
- Accuracy Class (AC): up to 1
- Lock-up Pressure Class (SG): up to 2.5
- Lock-up Pressure Zone (SZ): up to 2.5

Safety Shut-Off Valve

- Accuracy Class (AG): up to 1
- Closing Time: <0.3s

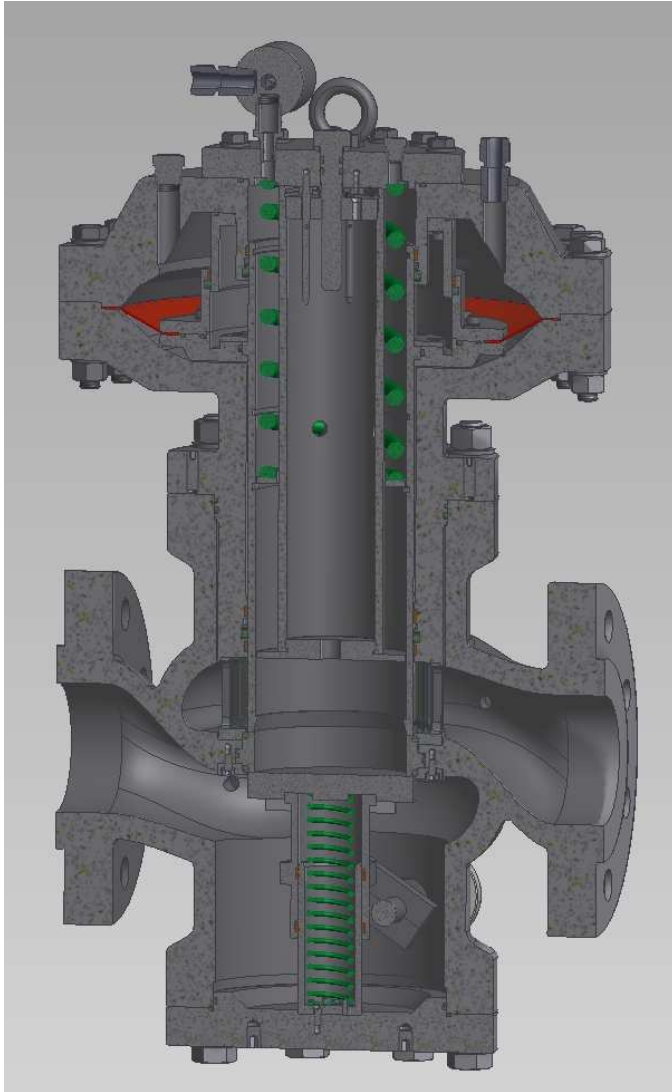
Note: Other pressure and temperature ranges are available on request

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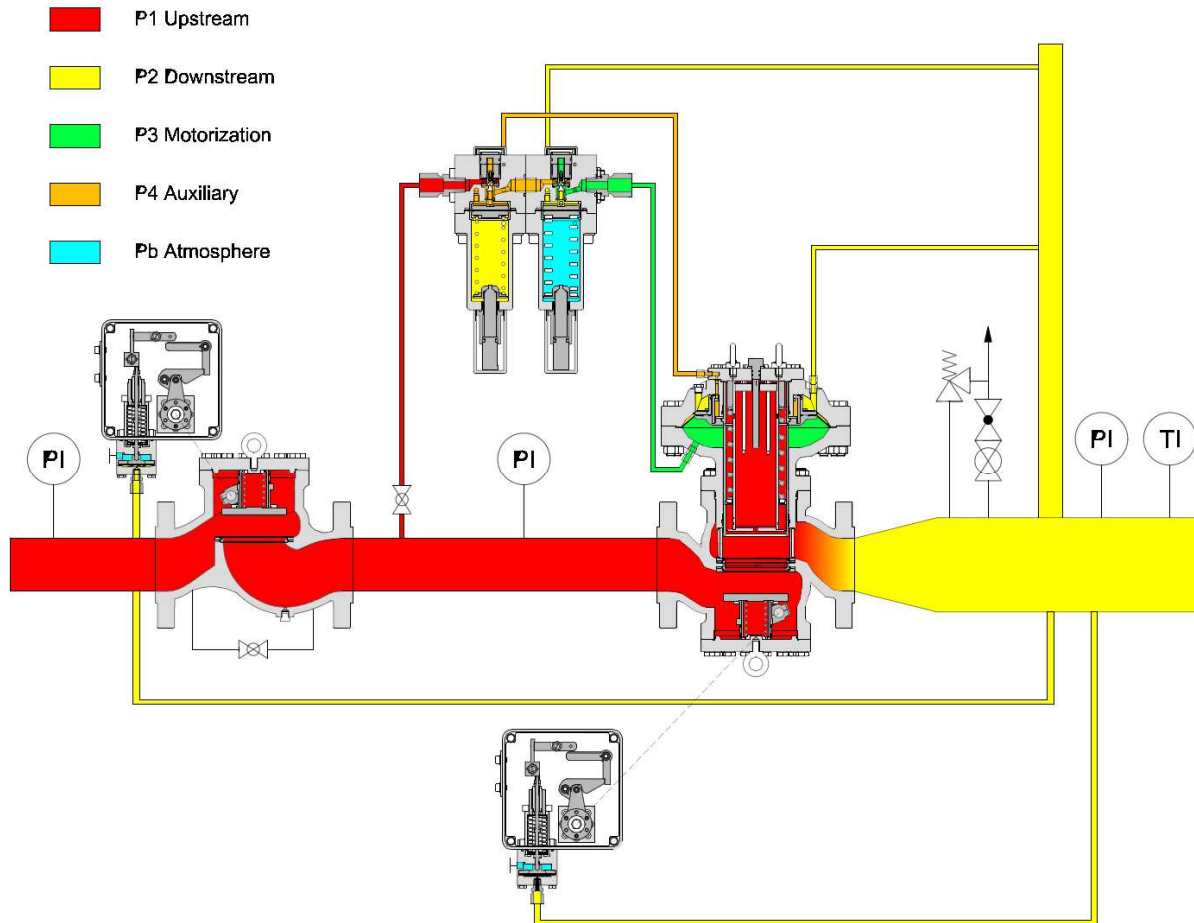
Overview



Material Specification

- Body: A352 LCC QT
- Casings: A352 LCC QT or P335NH
- Covers: P355NH
- Regulator Valve Sleeve: Chromated S355N
- Safety Valve: Nickel + PTFE Coated S355N

Installation



Valve Data & Sizing

Sub-critical flow behaviour

$$Q = \frac{13,57}{\sqrt{d \cdot (t_u + 273)}} \cdot C_g \cdot \frac{p_u + p_b}{2} \cdot \sin \left(K_1 \cdot \sqrt{\frac{p_u - p_d}{p_u + p_b}} \right)_{deg} \quad \text{when } \frac{p_u + p_b}{p_d + p_b} < \frac{K_1^2}{K_1^2 - 8100}$$

Critical flow behaviour

$$Q = \frac{13,57}{\sqrt{d \cdot (t_u + 273)}} \cdot C_g \cdot \frac{p_u + p_b}{2} \quad \text{when } \frac{p_u + p_b}{p_d + p_b} \geq \frac{K_1^2}{K_1^2 - 8100}$$

Where: C_g = flow coefficient (-) • d = relative density; air=1 (-) • K_1 = body shape factor (-) • p_u = pressure upstream of the regulator (bar-g) • p_d = pressure downstream of the regulator (bar-g) • p_b = ambient atmospheric pressure (bar-a) • t_u = gas temperature at the inlet of the regulator (°C)

Nominal Diameter Size	DN	25	50	80	100
		1"	2"	3"	4"
Flow Coefficient	C_g	488	2145	4631	7742
Body Shape Factor	K_1	107	107	107	107
Face to Face Length (in mm) 300#/600#/PN50/PN110	L	216	292	356	432

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Model Code

REGES	T84	A	-	04	06	R	-	0	0	0	0	-	0	0	N	0	-	B
	a	b		c	d	e		f	g	h	i		j	k	l	m		n

Configuration (a)

T84: Spring Close Regulator

T88: Spring Open Regulator

Function (b)

A: Active Regulator

M: Monitor Regulator

Size (c)

01: 1"

02: 2"

03: 3"

04: 4"

Pressure Class (d)

03: 300#

06: 600#

Connections (e)

R: Flanged Raised Face (RF)

J: Flanged Ring Type Joint (RTJ)

W: Welding Ends

Seals (f)

0: Basic Seals (-30°C / 80°C)

1: Elevated Temperature Seals (-10°C / 100°C)

2: High Temperature Seals (-5°C / 150°C)

3: Anti-Explosive Decompression Seals (0°C / 170°C)

4: Very High Temperature Seals (0°C / 200°C)

7: Enhanced Performance Seals (-20°C / 90°C)

Metal Design (g)

0: Metal Design Standard (-20°C / 100°C)

E: Metal Design Extended (-30°C / 120°C)

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	<i>a</i>	<i>b</i>		<i>c</i>	<i>d</i>	<i>e</i>		<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>		<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>		<i>n</i>

Fittings (i)

- 0: Steel Fittings acc. DIN 2353
- 1: Stainless Steel Fittings acc. DIN 2353
- 2: Double Ferrule Steel Fittings
- 3: Double Ferrule Stainless Steel Fittings

Position Monitoring (j)

- 0: No Position Indication
- 1: Local Position Indication
- 2: Local Indication + Position Transmitter
- 3: Local Indication + Limit Switch Open
- 4: Local Indication + Limit Switch Closed
- 5: Local Indication + Limit Switch Open + Limit Switch Closed

Electrical Classification (k)

- 0: No Electrical Items
- I: Eex-i
- D: Eex-d

Junction Box (l)

- N: No Junction Box
- E: Eex-e
- D: Eex-d

Remote Operation (m)

- 0: No Electrical Items
- X: Remote On/Off Operation
- E: Remote Control with Electric Setting Element
- P: Remote Control with Pneumatic Setting Element

Silencing (n)

- 0: No Silencing
- B: Silentflo© Silencer
- C: TwinSil© Silencer
- D: Multistage Drilled Cage Silencer
- E: HySil© Silencer