



gas flow solutions



Pressure Regulator

# REGES

T81 & T82



- ▶ Modular and compact design
- ▶ Fast Response – Stable Control
- ▶ Reverse Flow Resistant Regulator
- ▶ High Accuracy
- ▶ Robust Design – High Velocity and Vibration Resistant
- ▶ Easy In-Line Maintenance
- ▶ Low Pressure Drop
- ▶ Low noise with incorporated silencer

## Main Features

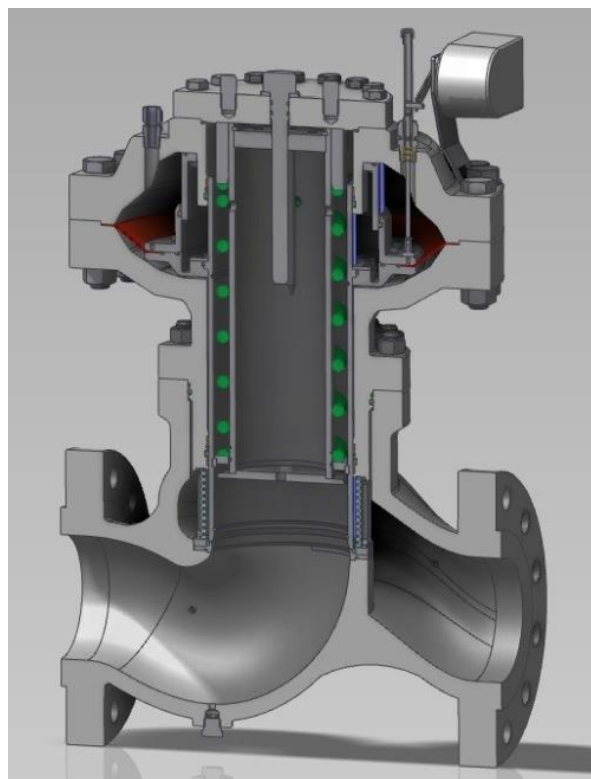
The inlet pressure balanced valve sleeve of the REGES T-series pressure regulators ensures a flow force independent valve motion, without the use of a complicated balancing construction. Its design enables an outstanding rangeability (better than 1:1000) while maintaining an accurate outlet pressure. 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.

## Technical Features

- Design Pressure: up to 250bar
- Inlet Pressure Range: up to 250bar
- Design Temperature minimum: down to -30°C
- Design Temperature maximum: up to 150°C
- 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

Note: Other pressure and temperature ranges are available on request

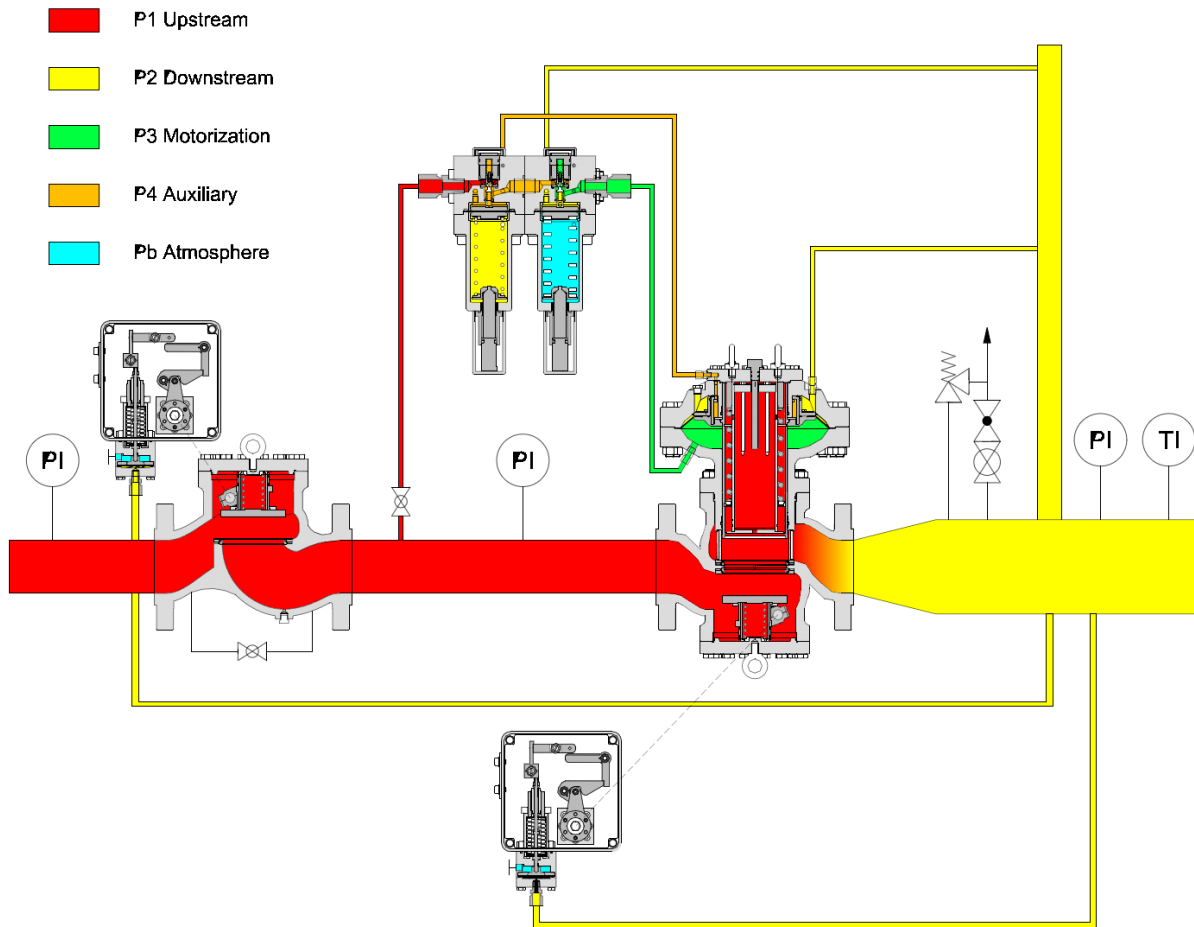
## Overview



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## 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	150	200	250	300	400
		1"	2"	3"	4"	6"	8"	10"	12"	16"
Flow Coefficient	$C_g$	500	2200	4750	7940	16120	29810	40710	54840	88560
Body Shape Factor	$K_1$	107.0	107.0	107.0	107.0	113.7	113.7	113.7	108.6	107.0
Face to Face Length (in mm) 300#/600#/PN50/PN110	$L$	216	292	356	432	559	660	787	838	1194
Face to Face Length (in mm) 900#/1500#	$L$	254	368	470	546	705	832	991	1130	

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## Model Code

REGES	T82	A	-	04	06	R	-	0	N	0	1	-	0	0	N	0	-	B
	a	b		c	d	e		f	g	h	i		j	k	l	m		n

### Configuration (a)

T81: Spring Close Regulator

T82: Spring Open Regulator

### Function (b)

A: Active Regulator

M: Monitor Regulator

### Size (c)

01: 1"

02: 2"

03: 3"

04: 4"

06: 6"

08: 8"

10: 10"

12: 12"

16: 16"

20: 20"

### Pressure Class (d)

03: 300#

06: 600#

09: 900#

15: 1500#

25: 2500#

### 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 / 120°C)

### Metal Design (g)

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

L: Metal Design Extended Low (-30°C / 100°C)

H: Metal Design Extended High (-20°C / 150°C)

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<b>REGES</b>	<b>T82</b>	<b>A</b>	<b>-</b>	<b>04</b>	<b>06</b>	<b>R</b>	<b>-</b>	<b>0</b>	<b>N</b>	<b>0</b>	<b>1</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>N</b>	<b>0</b>	<b>-</b>	<b>B</b>
	<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>

**Material Category (h)**

- 0: Standard Gas Service
- 1: Sour Gas Service acc. NACE MR01-75 - Downstream Application
- 2: Sour Gas Service acc. NACE MR01-75 - High Risk of SSC, Downstream Application
- 3: Air Service
- 4: Water Service
- 5: Oil Service
- 6: Gas Service Stainless Steel Internals

**Fittings (i)**

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

**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

**Electrical Connections (l)**

- N: No Electrical Connections
- F: Flying Leads
- M: M20x1.5 Electrical Connection
- A: 1/2" NPT Electrical Connection
- I: Junction box Ex-i
- E: Junction box Ex-e
- D: Junction box Ex-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

<b>REGES</b>	<b>T82</b>	<b>A</b>	<b>-</b>	<b>04</b>	<b>06</b>	<b>R</b>	<b>-</b>	<b>0</b>	<b>N</b>	<b>0</b>	<b>1</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>N</b>	<b>0</b>	<b>-</b>	<b>B</b>
	<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>

**Silencing (n)**

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