

- > **Port size: 1/4"**  
(ISO G, NPT)
- > **Versatile design for varied applications**
- > **High-precision mechanical pressure regulator**
- > **Highly sensitive and accurate**
- > **Perfect for dead-end applications**
- > **Excellent long term stability**
- > **High forward and relief flow capability**
- > **Low air consumption**



### Technical features

#### Medium:

Oil free, dry air filtered to 25 µm  
 Note: for use with gases other than compressed air please consult NORGREN

#### Operation:

Plunger operated:  
 Dome fitting: Direct linear movement in line with the manostat capsule axis changes the regulated pressure  
 Clevis fitting: Sinusoidal motions to vary the regulated pressure  
 Plunger force:  
 The force required to operate these instruments will be dependent on pressure range full scale and adjustment can be expected to be between 15 and 49 N.

Pre-travel on all instruments allows continuous contact with the operating cam outside of range.  
 Nominal range travel (10% manufacturing tolerance)  
 Lever operated:  
 Lever, mechanism allows the manostat to operate as a pneumatic position converter.  
 An angular movement of 125° ±10% gives a full range adjustment of regulated pressure, e.g. 0,14 ... 2 bar  
**Inlet pressure:**  
 At least 0,2 bar (3 psi) above max required output pressure, up to a maximum of 10 bar (145 psi).

#### Air and gauge ports:

G1/4 or 1/4 NPT

#### Flow capacity:

Up to 500 l/min

#### Hysteresis & repeatability:

Typically < 0,05% at mid range

#### Ambient/Media temperature:

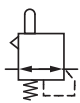
-20 ... +70°C (-4 ... +158°F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35 °F)

#### Materials:

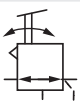
Body: passivated zinc, epoxy painted  
 Springs: Stainless steel  
 Elastomers: NBR  
**Plunger operated:**  
 Mounting plate: Aluminium anodised  
 Operator: Brass, chromium-plated steel  
**Lever operated:**  
 Foot mounting: zinc-plated steel  
 Clevis mounting: Brass  
 Lever and lever accessories: Steel or chromium-plated steel

### Technical data, plunger (clevis/dome) operated, standard models

Symbol	Port size	Pressure range (bar)	Travel range (mm)	Air consumption (l/min)	Regulation accuracy *1) (%)	Weight (kg)	Drawing No.	Model
	G1/4	0,14 ... 2,0	1,65	Typically < 2	0,1	0,90	1	R27-232-RNCG
	G1/4	0,14 ... 4,0	1,65	Typically < 4	0,05	0,90	1	R27-232-RNFG
	G1/4	0,14 ... 8,0	1,65	Typically < 7	0,02	0,90	1	R27-232-RNLG
	G1/4	0,14 ... 2,0	1,65	Typically < 2	0,1	0,90	2	R27-238-RNCG
	G1/4	0,14 ... 4,0	1,65	Typically < 4	0,05	0,90	2	R27-238-RNFG
	G1/4	0,14 ... 8,0	1,65	Typically < 7	0,02	0,90	2	R27-238-RNLG

\*1) % output change for 1 bar supply pressure change at mid-range output

### Technical data, lever operated, standard models

Symbol	Port size	Pressure range (bar)	Rotation range (°)	Operating torque (Nm)	Air consumption (l/min)	Regulation accuracy *1) (%)	Weight (kg)	Drawing No.	Model
	G1/4	0,14 ... 2,0	< 125 ± 10 %	0,14	Typically < 2	0,10	0,93	3	R27-230-RNCG
	G1/4	0,14 ... 4,0	< 125 ± 10 %	0,14	Typically < 4	0,05	0,93	3	R27-230-RNFG
	G1/4	0,14 ... 8,0	< 125 ± 10 %	0,14	Typically < 7	0,02	0,93	3	R27-230-RNLG

\*1) % output change for 1 bar supply pressure change at mid-range output

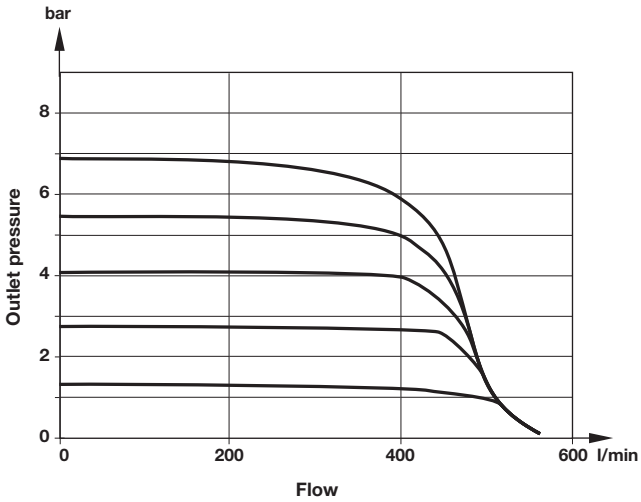
"Other options available include captured bleed, natural gas, gearbox, yoke mount, weatherproof, alternative pneumatic connections and low pressure versions.  
 For options not shown and any specific requirements please contact the Norgren technical department via [www.norgren.com/watsonsmith](http://www.norgren.com/watsonsmith)"

### Option selector

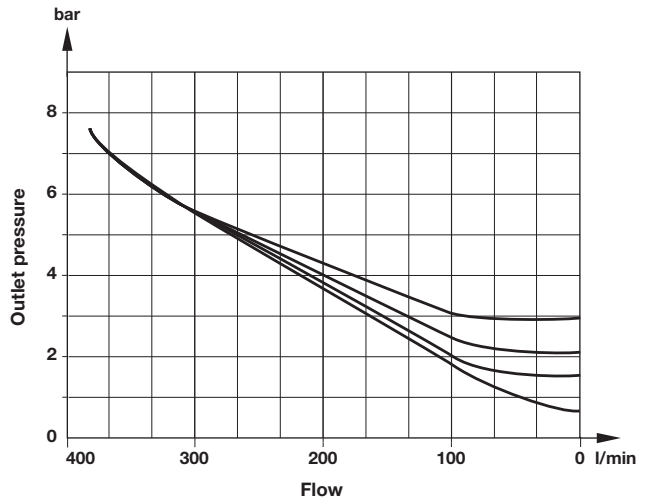
Actuation	Substitute	R27-23★-RN★★		Threads	Substitute
Lever operated	0			NPT	R
Plunger (clevis)	2			ISO G parallel	G
Plunger (dome)	8				
Pressure range	Substitute				
0,14 ... 2,0 bar (2 ... 29 psi)	C				
0,14 ... 4,0 bar (2 ... 58 psi)	F				
0,14 ... 8,0 bar (2 ... 116 psi)	L				

## Flow characteristics

Forward flow (supply pressure 7 bar)

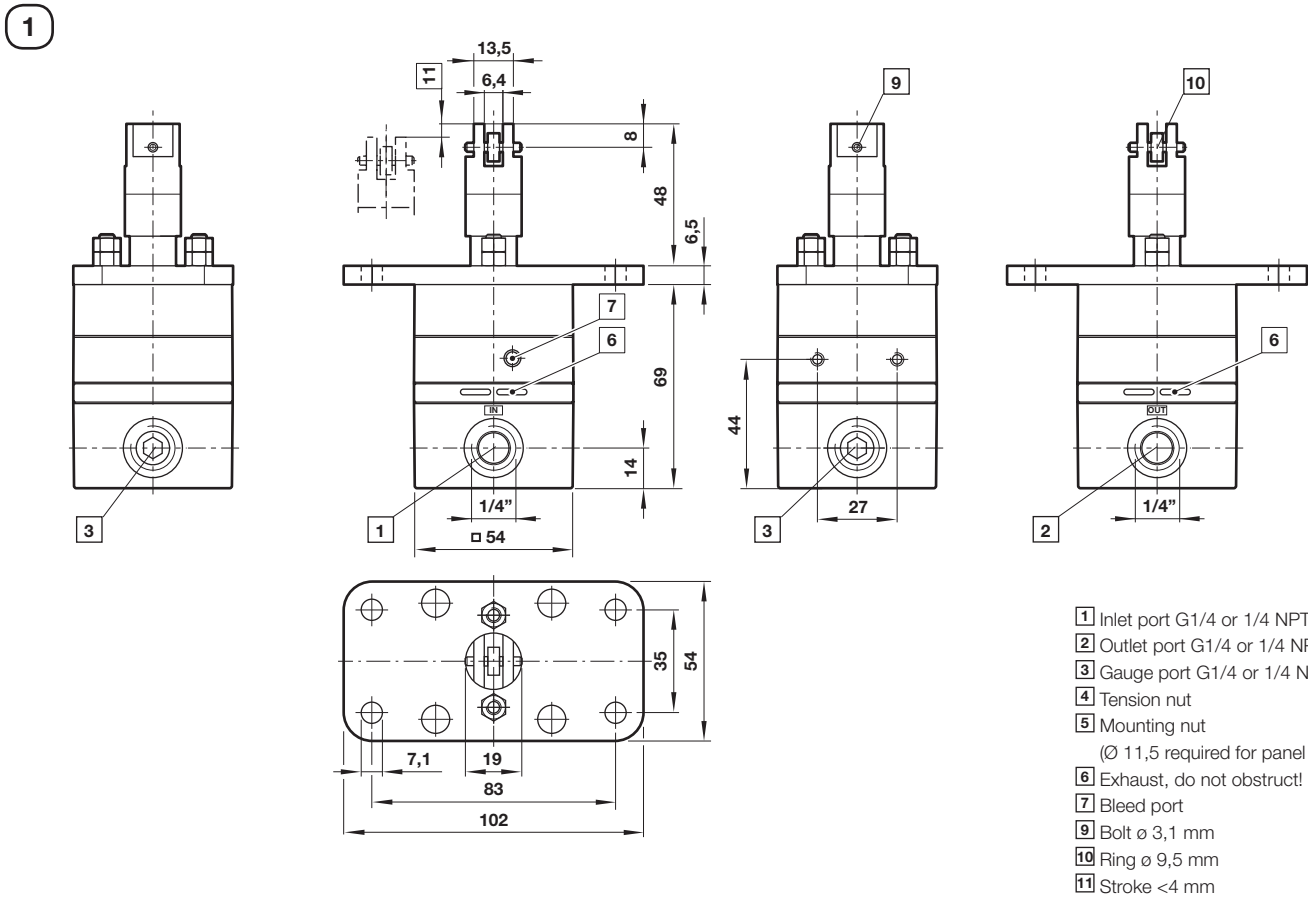


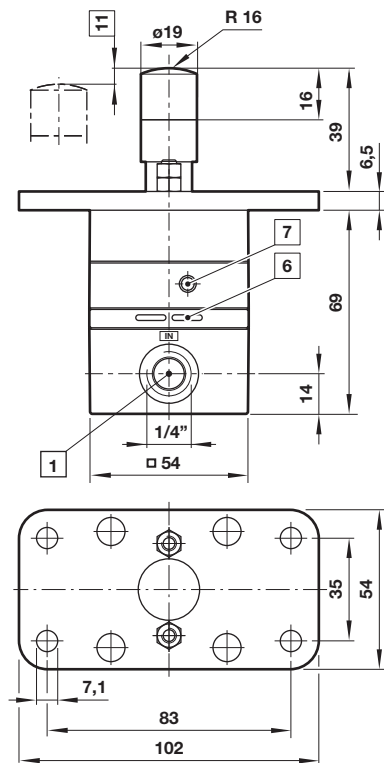
Relief flow (supply pressure 7 bar)



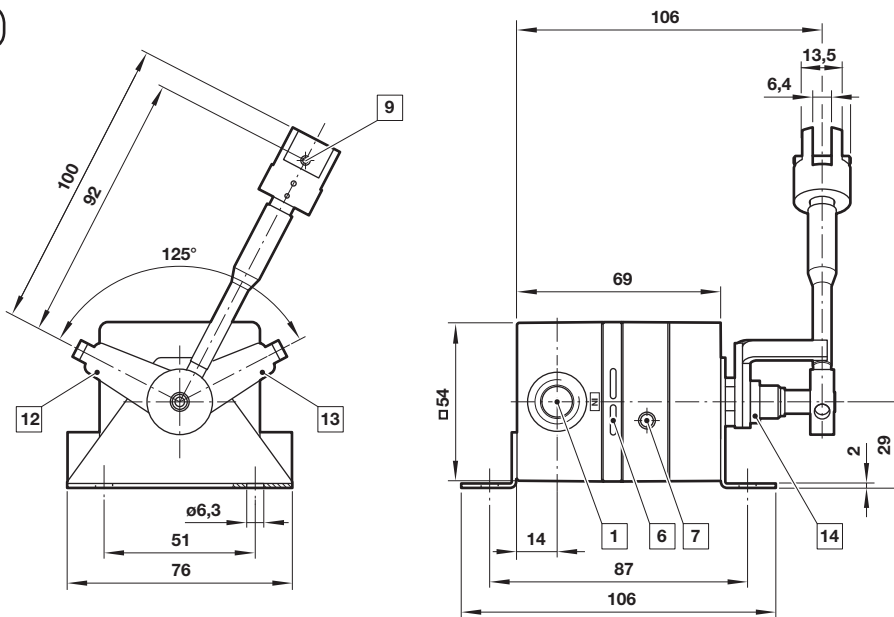
## Dimensions

Dimensions in mm  
Projection/First angle



**2**

 Dimensions in mm  
 Projection/First angle


- 1** Inlet port G1/4 or 1/4 NPT
- 6** Exhaust, do not obstruct!
- 7** Bleed port
- 11** Stroke <math>< 4</math> mm

**Missing dimension/information see page 2**
**3**


- 1** Inlet port G1/4 or 1/4 NPT
- 6** Exhaust, do not obstruct!
- 7** Bleed port
- 9** Bolt  $\phi 3,1$  mm
- 12** Rotation start point (min. output)
- 13** Adjustable rotation range (max. output)
- 14** Loosen nut to adjust zero and range stops

## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under

### »Technical features/data«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.