

# Spectrotec



**Dome loaded pressure regulators  
for industrial gases**

# Pressure regulator U12 E



Pressure regulator U12 E- G 1 m

## Performance factors for evaluation of flow rates for pressure regulator U12 E

Performance factor	$L_5$ (5% pressure drop)	6
	$L_{10}$ (10% pressure drop)	7,5
	$L_{max}$	9
Outlet pressure variations [%] relating to inlet pressure variation		2,7

The outlet pressure and accordingly the accuracy will be determined by the pilot pressure regulator ST 2000 (page 5).

### Product features

- Dome loaded diaphragm line pressure regulator
- Remote controlled pressure regulation (e.g. process control or cutting machines)
- For flow rates up to 300 m<sup>3</sup>/h air
- Pressure control with process gas by small pressure regulator ST 2000
- Single-stage with high control accuracy
- Outlet pressure reduction by special vent hole in the diaphragm assembly
- Central filter in the pressure regulator
- Pressure regulator with integrated relief valve
- Accessories like wall brackets and in-/ outlet fittings are also available
- Approved for use with oxygen

### Attention:

For the U12 special fittings with orifice holes have to be used to ensure a correct function of the pressure regulator.

### Technical data

<b>Type</b>	single-stage
<b>Flow rate Q</b>	max. 300 m <sup>3</sup> /h
<b>Inlet pressure P<sub>1</sub></b>	max. 40 bar*
<b>Outlet pressure P<sub>2</sub></b>	4 ... 30 bar
<b>Materials</b>	
Body:	brass
Diaphragm:	NBR
Valve seat regulator:	PA
<b>In- and outlets</b>	
In- / outlet (body):	G 1/2"- female
Pressure gauge ports:	G 1/4"- female
Pressure gauge connection:	G 3/8"- male
Outlet relief valve:	G 3/8"- male
<b>Temperature range</b>	-30°C to +60°C
<b>Leak rate</b>	<10 <sup>-4</sup> mbar l/s He
<b>Weight</b>	approx. 2,8 kg

\*higher inlet pressure upon request

In- and outlet fittings:  
see data sheet "fittings"

### Ordering information:

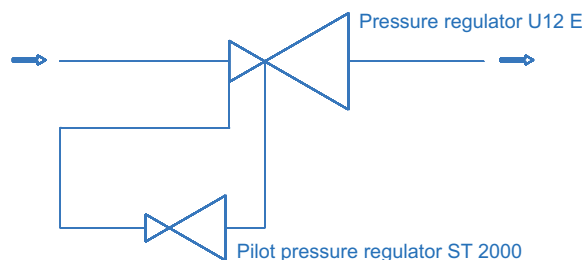
**U12 E- G 1/2 f**

#### In- / outlet

art. no.

G 1/2 f - G 1/2" female 717.08955  
G 1 m - G 1" male 717.00741

### Diagram for process gas controlled dome loaded pressure regulator



# Pressure regulator U22 E

spectro**tec**



Pressure regulator U22 E- G 1 m

## Performance factors for evaluation of flow rates for pressure regulator U22 E

Performance factor	$L_5$ (5% pressure drop)	7
	$L_{10}$ (10% pressure drop)	8,5
	$L_{max}$	10
Outlet pressure variations [%] relating to inlet pressure variation		2

The outlet pressure and accordingly the accuracy will be determined by the pilot pressure regulator ST 2000 (page 6).

### Product features

- Dome loaded diaphragm line pressure regulator
- Remote controlled pressure regulation (e.g. process control or cutting machines)
- For flow rates up to 600 m<sup>3</sup>/h air
- Pressure control with process gas by small pressure regulator ST 2000
- Single-stage with high control accuracy
- Outlet pressure reduction by special vent hole in the diaphragm assembly
- Central filter in the pressure regulator
- Pressure regulator with integrated relief valve
- Accessories like wall brackets and in-/ outlet fittings are also available
- Approved for use with oxygen

### Technical data

<b>Type</b>	single-stage
<b>Flow rate Q</b>	max. 600 m <sup>3</sup> /h
<b>Inlet pressure P<sub>1</sub></b>	max. 40 bar
<b>Outlet pressure P<sub>2</sub></b>	4 ... 30 bar
<b>Materials</b>	
Body:	brass
Diaphragm:	NBR
Valve seat regulator:	PA
<b>In- and outlets</b>	
In- / outlet (body):	G 1/2"- female G 1"- male
Pressure gauge ports:	G 1/4"- female
Pressure gauge connection:	G 3/8"- male
Outlet relief valve:	G 3/8"- male
<b>Temperature range</b>	-30°C to +60°C
<b>Leak rate</b>	<10 <sup>-4</sup> mbar l/s He
<b>Weight</b>	approx. 6,8 kg

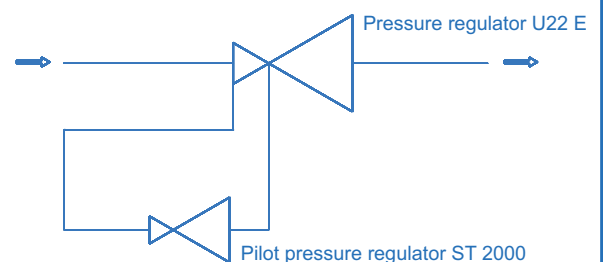
In- and outlet fittings:  
see data sheet "fittings"

### Ordering information:

**U22 E- G 1 m**

In- / outlet	art. no.
G 1/2 f - G 1/2" female	717.08956
G 1 m - G 1" male	717.08086

### Diagram for process gas controlled dome loaded pressure regulator



# Pressure regulator U42 E



Pressure regulator U42 E- G 1 1/4 m

## Performance factors for evaluation of flow rates for pressure regulator U42 E

Performance factor	$L_5$ (5% pressure drop)	10
	$L_{10}$ (10% pressure drop)	11,5
	$L_{max}$	13
Outlet pressure variations [%] relating to inlet pressure variation		5

The outlet pressure and accordingly the accuracy will be determined by the pilot pressure regulator ST 2000 (page 6).

### Product features

- Dome loaded diaphragm line pressure regulator
- Remote controlled pressure regulation (e.g. process control or cutting machines)
- For flow rates up to 2.000 m<sup>3</sup>/h air
- Pressure control with process gas by small pressure regulator ST 2000
- Single-stage with high control accuracy
- Outlet pressure reduction by special vent hole in the diaphragm assembly
- Central filter in the pressure regulator
- Pressure regulator with integrated relief valve
- Accessories like wall brackets and in-/ outlet fittings are also available
- Approved for use with oxygen

### Technical data

<b>Type</b>	single-stage
<b>Flow rate Q</b>	max. 2.000 m <sup>3</sup> /h
<b>Inlet pressure P<sub>1</sub></b>	max. 40 bar
<b>Outlet pressure P<sub>2</sub></b>	10 ... 30 bar
<b>Materials</b>	
Body:	brass
Diaphragm:	EPDM
Valve seat:	PTFE
<b>In- and outlets</b>	
In- / Outlet (body):	G 1 1/4" - male
Pressure gauge ports:	G 1/4" - female
Outlet relief valve:	G 3/4" - female
<b>Temperature range</b>	-30°C to +60°C
<b>Leak rate</b>	<10 <sup>-4</sup> mbar l/s He
<b>Weight</b>	approx. 14 kg

In- and outlet fittings:  
see data sheet "fittings"

### Ordering information:

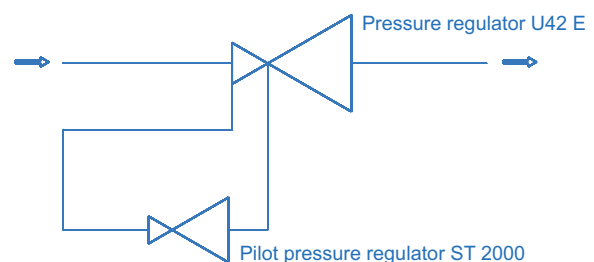
**U42 E- G 1 1/2 f**

#### In- / outlet

art. no.

G 1 1/2 f - G 1 1/2" female 717.08957  
 G 1 1/4 m - Inlet: G 1 1/4" male  
 Outlet: G 1 1/2" male  
 717.00396

### Diagram for process gas controlled dome loaded pressure regulator



# Pressure regulator U42 F



Pressure regulator U42 F- G 1 1/4 m

## Performance factors for evaluation of flow rates for pressure regulator U42 F

Performance factor	$L_5$ (5% pressure drop)	10,5
	$L_{10}$ (10% pressure drop)	12
	$L_{max}$	13,5
Outlet pressure variations [%] relating to inlet pressure variation		5

The outlet pressure and accordingly the accuracy will be determined by the pilot pressure regulator ST 2000 (page 6).

### Product features

- Dome loaded diaphragm line pressure regulator
- Remote controlled pressure regulation (e.g. process control or cutting machines)
- For flow rates up to 2.200 m<sup>3</sup>/h air
- Pressure control with separate gas by small pressure regulator ST 2000
- Single-stage with high control accuracy
- Outlet pressure reduction by special vent hole in the diaphragm assembly for outlet pressures > 4 bar
- Central filter in the pressure regulator
- Pressure regulator with integrated relief valve
- Accessories like wall brackets and in-/ outlet fittings are also available
- Approved for use with oxygen

### Technical data

<b>Type</b>	single-stage
<b>Flow rate Q</b>	max. 2.200 m <sup>3</sup> /h
<b>Inlet pressure P<sub>1</sub></b>	max. 40 bar
<b>Outlet pressure P<sub>2</sub></b>	0,5 ... 30 bar
<b>Materials</b>	
Body:	brass
Diaphragm:	EPDM
Valve seat:	PTFE
<b>In- and outlets</b>	
In- / Outlet (body):	G 1 1/4" - male
Pressure gauge ports:	G 1/4" - female
Outlet relief valve:	G 3/4" - female
<b>Temperature range</b>	-30°C to +60°C
<b>Leak rate</b>	<10 <sup>-4</sup> mbar l/s He
<b>Weight</b>	approx. 14 kg

In- and outlet fittings:  
see data sheet "fittings"

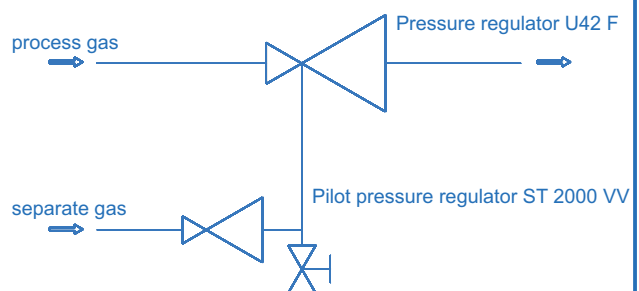
### Ordering information:

**U42 F- G 1 1/4m - G 1 1/2m**

**In- / outlet** art. no.

G 1 1/4 m - Inlet: G 1 1/4" male  
Outlet: G 1 1/2" male  
60BE0038

### Diagram for separate gas controlled dome loaded pressure regulator

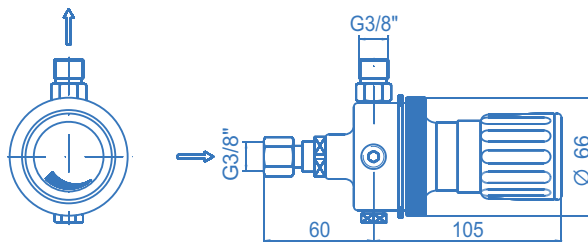


# Pilot pressure regulator ST 2000

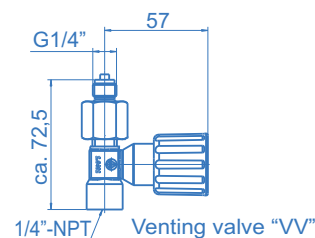
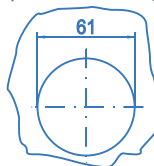


Pilot pressure regulator ST 2000

## Dimensions and connections



Bore template for panel mounting



### Product features

- Pilot pressure regulator for dome loaded pressure regulators controlled with process or separate gas
- For U12, U22 and U42
- Single-stage with high control accuracy
- Operation reliability by central filter in pressure regulator
- Dust protected adjusting spindle
- Central filter in the pressure regulator
- Outlet pressure limitation by special adjustment
- For panel mounting
- Ergonomically designed
- Approved for use with oxygen

### Technical data

<b>Type</b>	single-stage
<b>Inlet pressure <math>P_1</math></b>	max. 40 bar
<b>Outlet pressure <math>P_2</math></b>	0,5 - 30 bar

### Materials

Body:	brass
Bonnet:	brass
Diaphragm:	EPDM
Valve seat:	PA

### In- and outlets

Inlet:	G 3/8"- female
Outlet:	G 3/8"- male*

**Temperature range** -30°C to +60°C

**Leak rate** <math>10^{-4}</math> mbar l/s He

**Weight** approx. 1,6 kg

\*G 1/2"- male: upon request

Ordering information:  
Pressure regulator ST 2000

**ST 2000 - 40 - 1,5 - VV**

**Inlet pressure  $P_1$**

**Outlet pressure  $P_2$**  art. no.

1,5	- max. 1,5 bar*	717.05640
4	- max. 4 bar*	717.05641
10	- max. 10 bar	717.05642
20	- max. 20 bar	717.05643
30	- max. 30 bar	717.05644

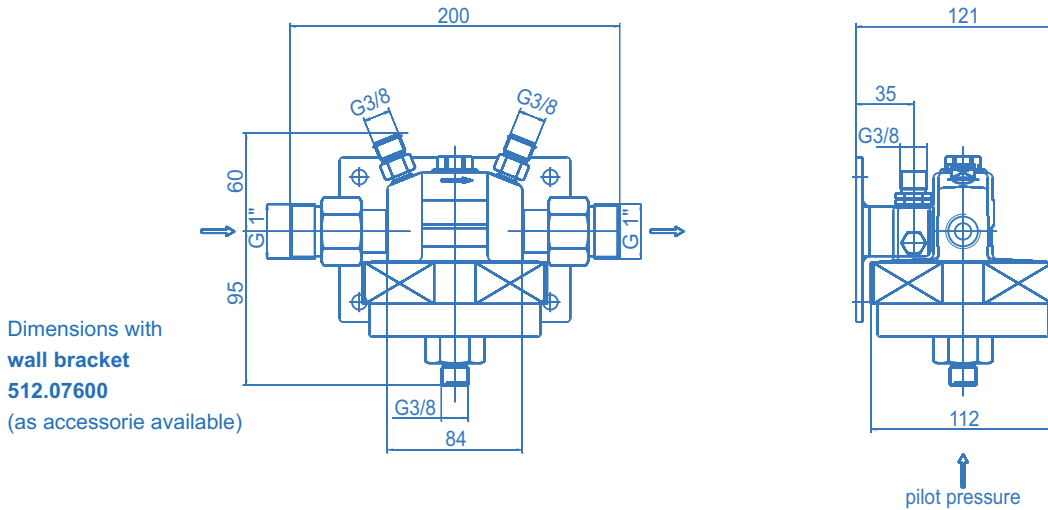
**Venting valve**

VV	- with venting valve**
0	- without venting valve

\* Only with separate gas

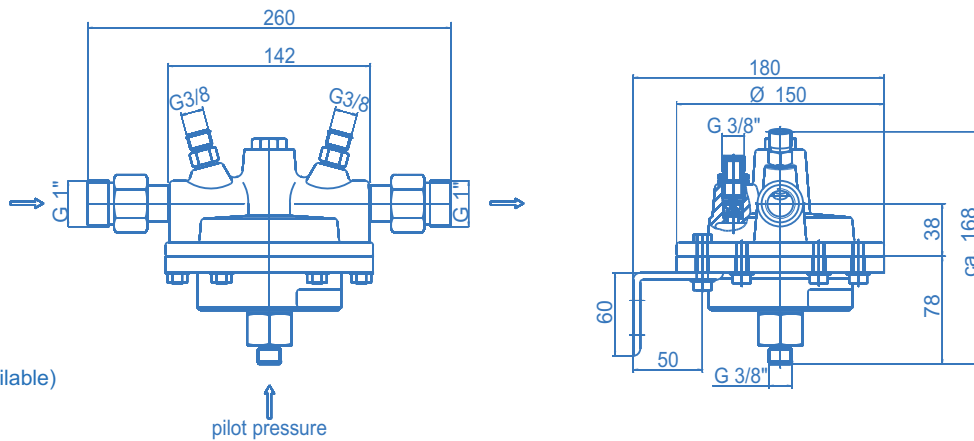
\*\* For pressure control with separate gas a venting valve is necessary to relief the control pressure.

## Dome loaded pressure regulator U12



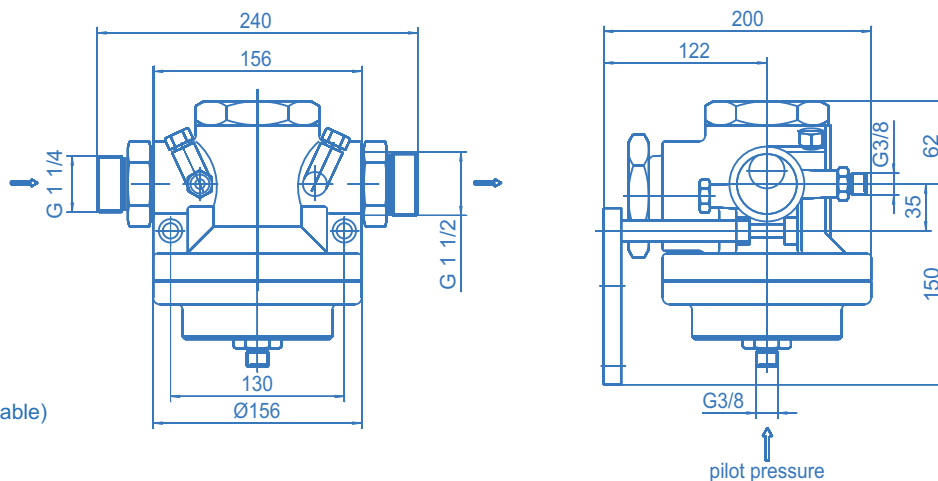
Dimensions with  
wall bracket  
**512.07600**  
(as accessories available)

## Dome loaded pressure regulator U22



Dimensions with  
wall bracket  
**723.16762**  
(as accessories available)

## Dome loaded pressure regulator U42



Dimensions with  
wall bracket  
**512.45350**  
(as accessories available)