Series PR1

AVENTICS™ Series PR1

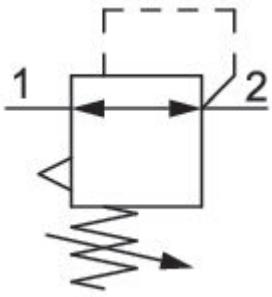
EMERSON.

Precision pressure regulator, Series PR1-RGP

R412010259

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
480 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.1 bar

Regulation range max.
1 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Version
Regulator without pressure gauge

Regulator function
with relieving air exhaust

Pressure supply
single

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.02 kg

Material

Housing material
Die cast zinc

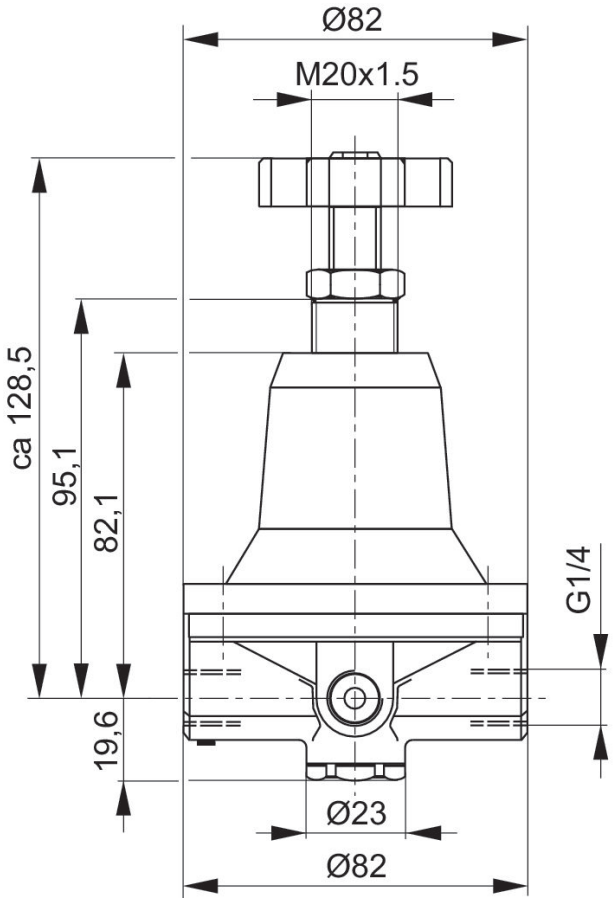
Seal material
Acrylonitrile butadiene rubber

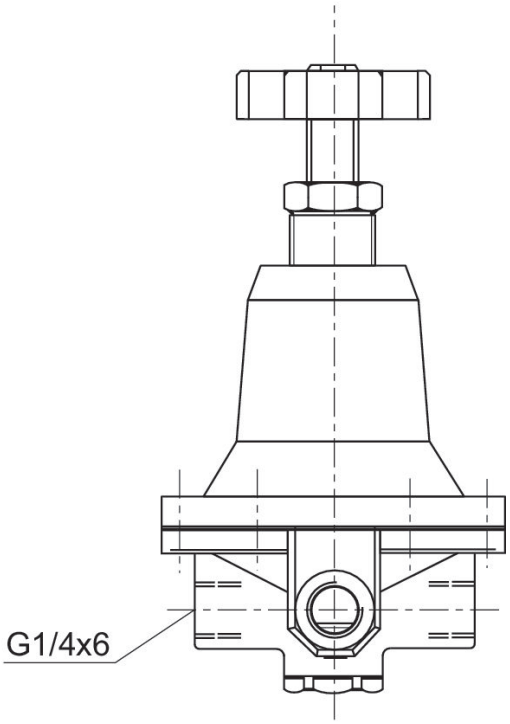
Part No.
R412010259

Technical information

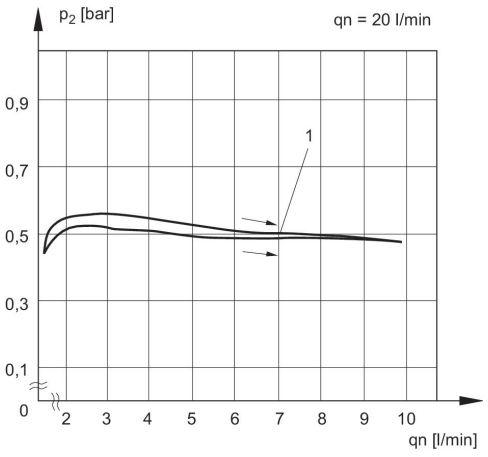
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow with secondary pressure 0,8 bar at Δp = 0,2 bar

Dimensions in mm



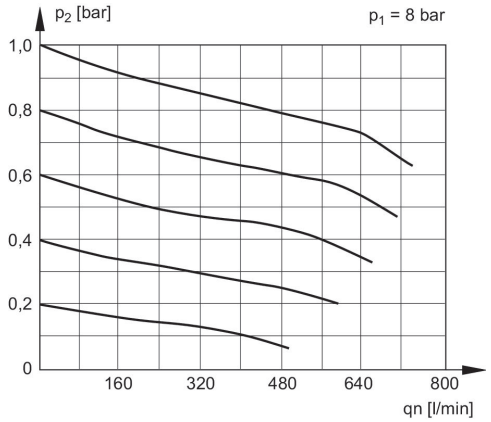


Pressure characteristics curve



p1 = working pressure
p2 = secondary pressure
qn = nominal flow
1) Starting point

Flow rate characteristic, p2 = 0,05 - 7 bar



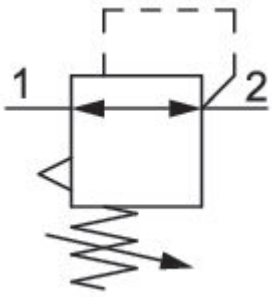
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302445

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
450 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
2 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Material

Housing material
Brass

Seal material
Acrylonitrile butadiene rubber

Pressure supply
single

Internal air consumption q_v max.
2.2 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

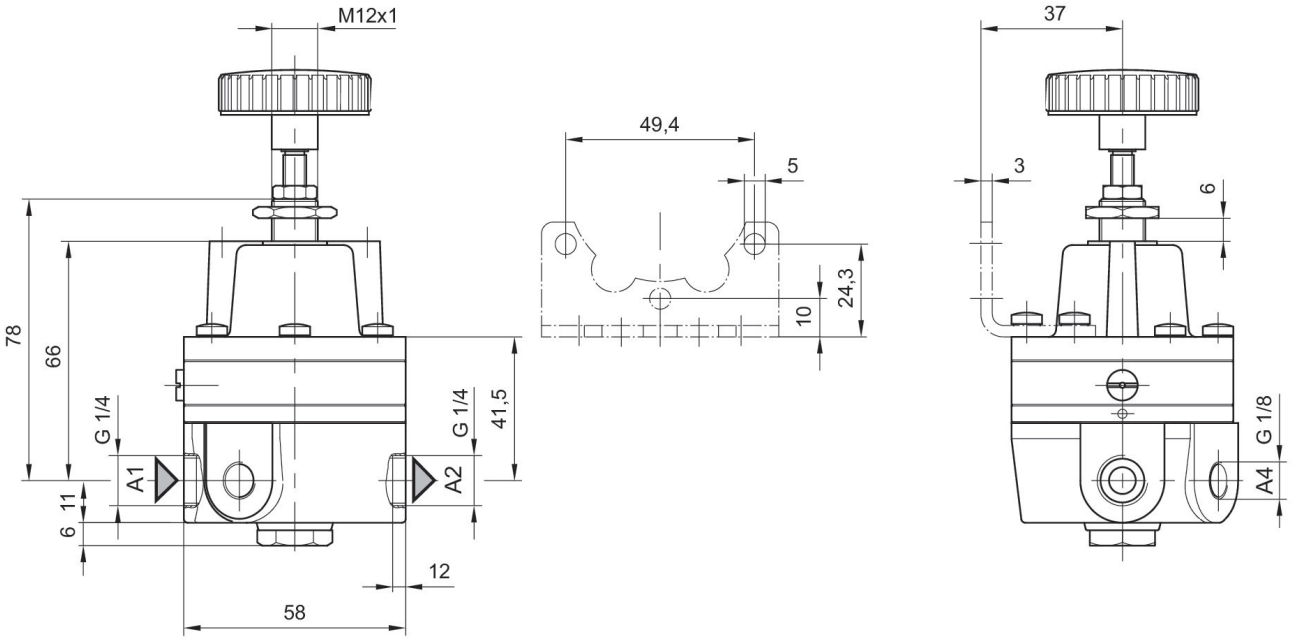
Weight
0.616 kg

Part No.
0821302445

Technical information

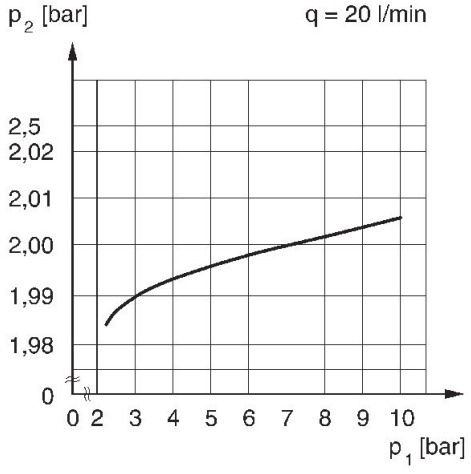
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket 1821332056 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions in mm



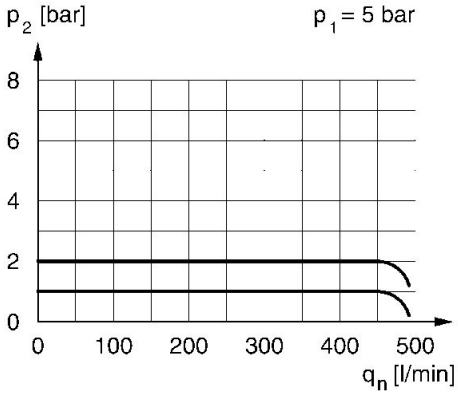
A1 = input
A2 = output
A4 = output

Pressure characteristics curve



p1 = working pressure
p2 = secondary pressure
q = flow rate

Flow rate characteristic, p2 = 0,05 - 2 bar



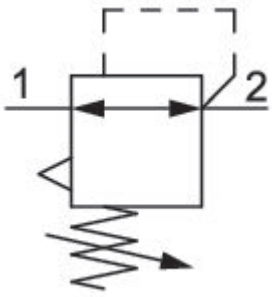
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302446

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
580 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
4 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Material

Housing material
Brass

Seal material
Acrylonitrile butadiene rubber

Pressure supply
single

Internal air consumption q_v max.
3 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

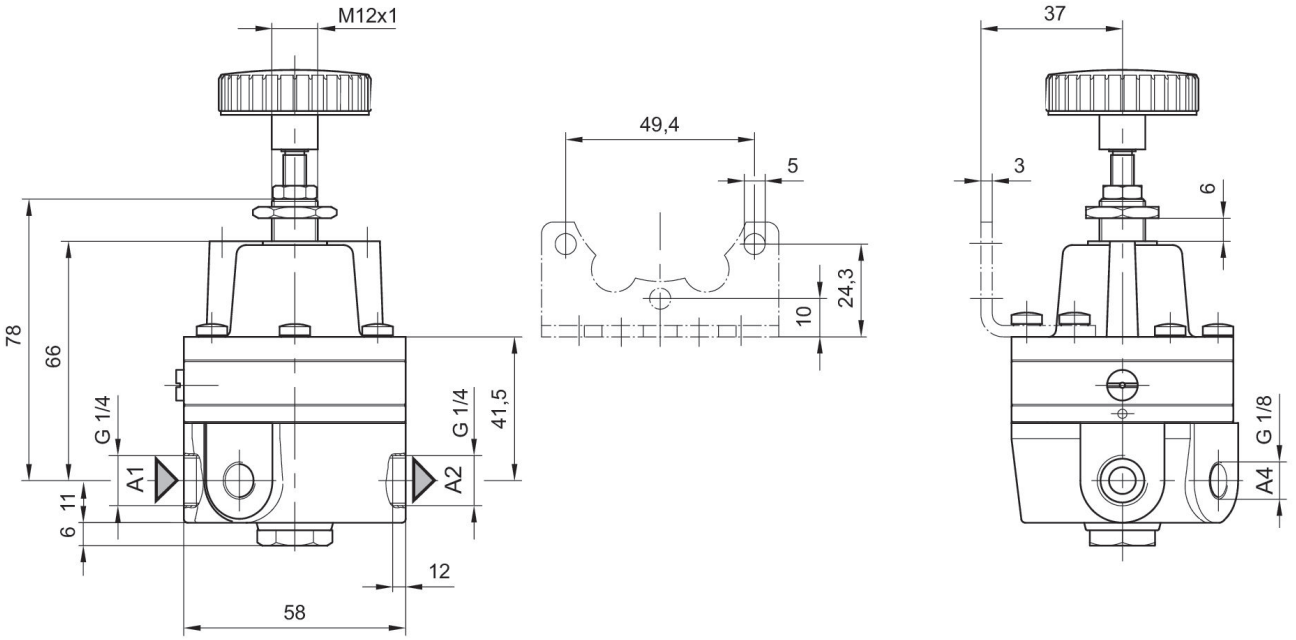
Weight
0.616 kg

Part No.
0821302446

Technical information

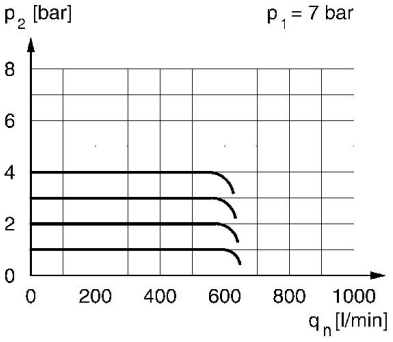
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket 1821332056 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions in mm



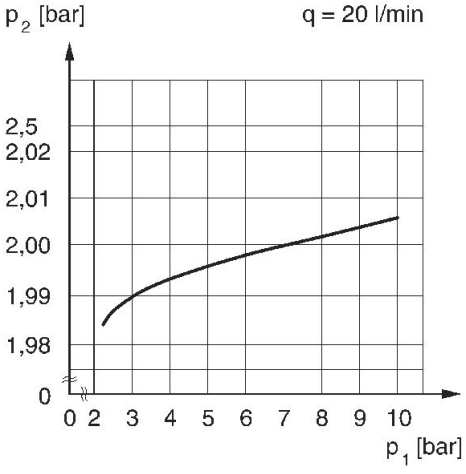
A1 = input
A2 = output
A4 = output

Flow rate characteristic, p2 = 0,05 - 4 bar



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Pressure characteristics curve



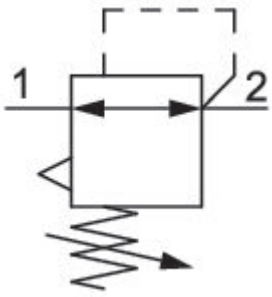
p1 = working pressure
p2 = secondary pressure
q = flow rate

Precision pressure regulator, Series PR1-RGP

0821302447

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
1000 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
7 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Material

Housing material
Brass

Seal material
Acrylonitrile butadiene rubber

Pressure supply
single

Internal air consumption q_v max.
4.1 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

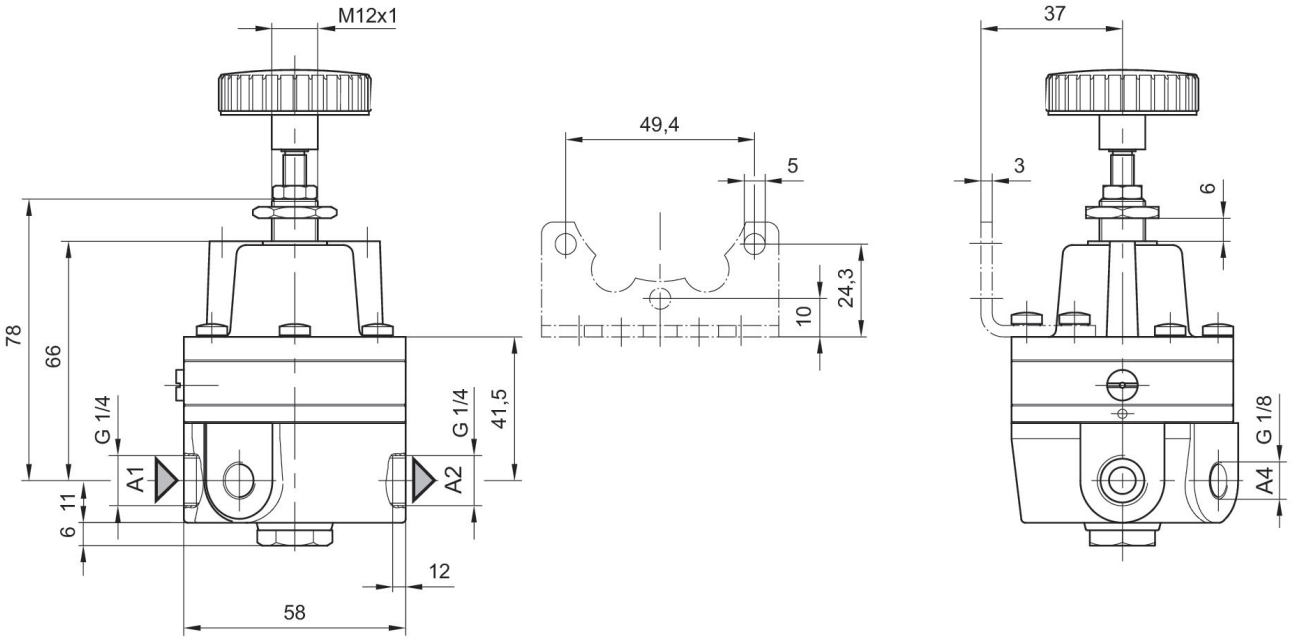
Weight
0.616 kg

Part No.
0821302447

Technical information

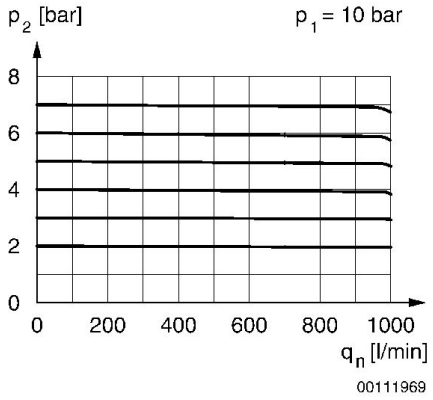
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket 1821332056 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions in mm



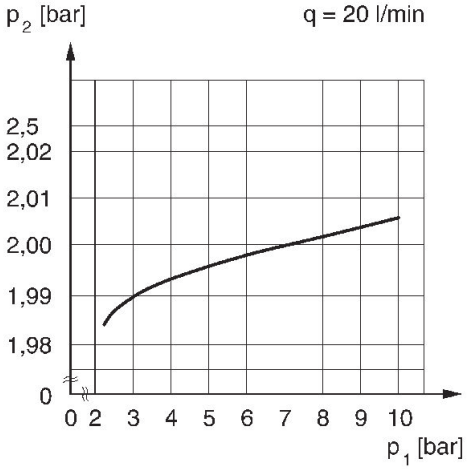
A1 = input
A2 = output
A4 = output

Flow rate characteristic, p2 = 0,05 - 7 bar



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Pressure characteristics curve



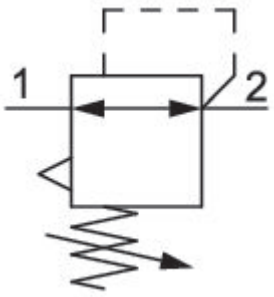
p1 = working pressure
p2 = secondary pressure
q = flow rate

Precision pressure regulator, Series PR1-RGP

0821302173

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/2

Qn =
6500 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
7 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

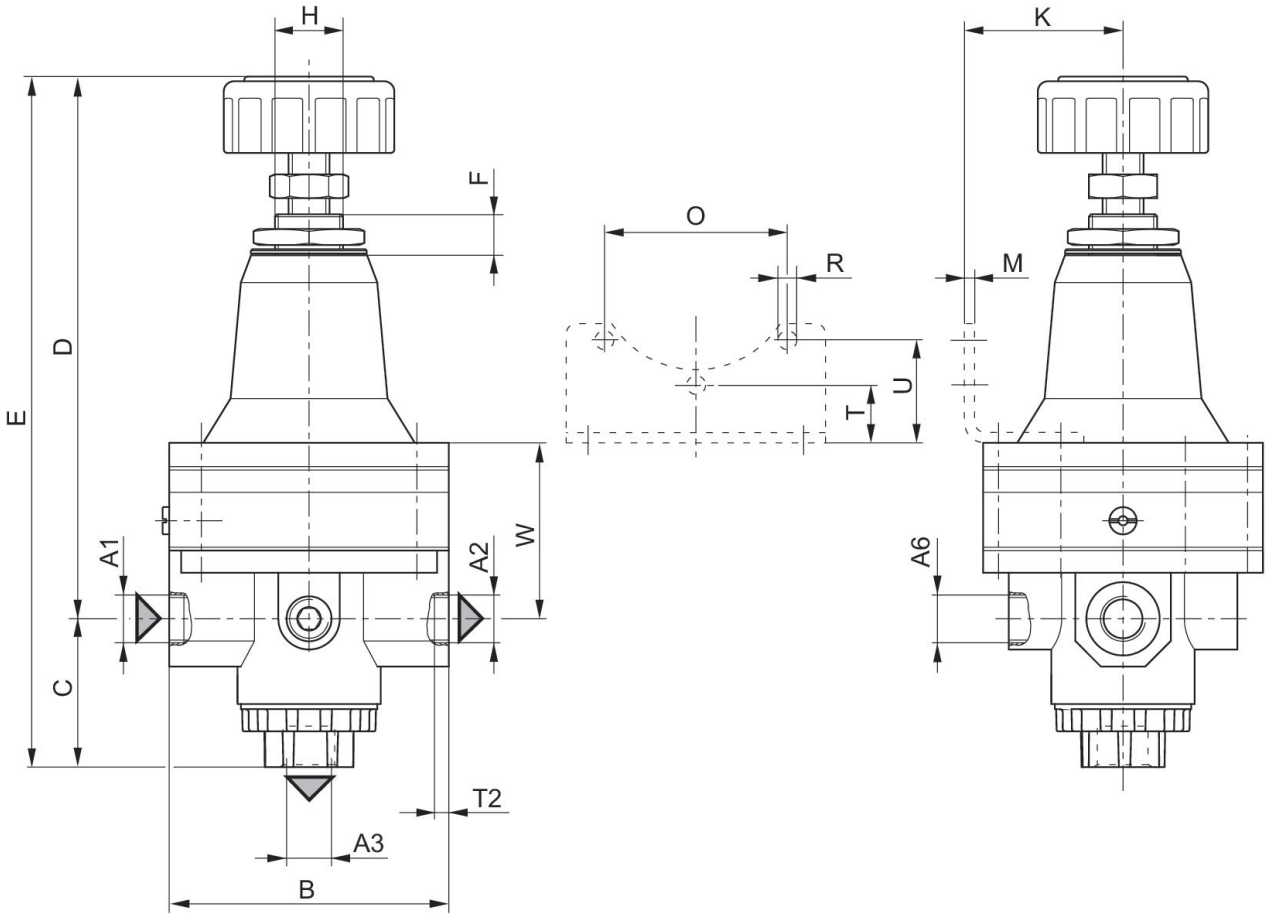
Seal material
Chloroprene rubber

Part No.
0821302173

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



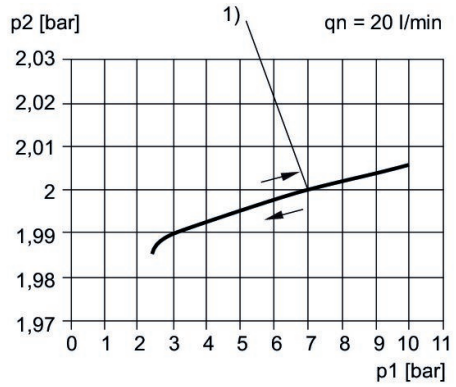
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302173	G 1/2	G 1/2	G 3/8	G 1/4	82	43.5	159	202.5	10

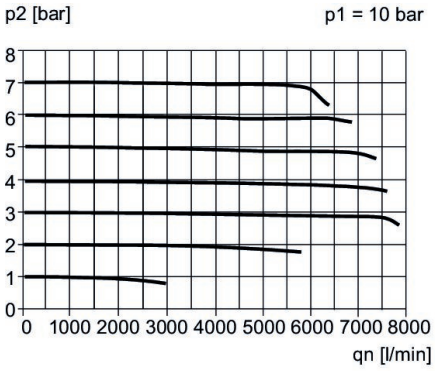
Part No.	H	K	M	O	R	T	T2	U	W
0821302173	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis



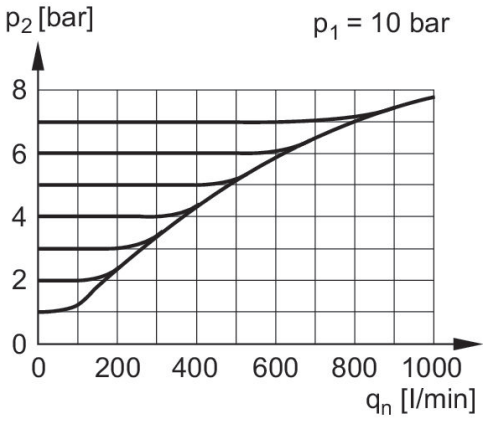
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



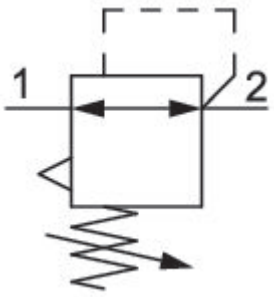
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302554

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 3/8

Qn =
3200 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
3 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

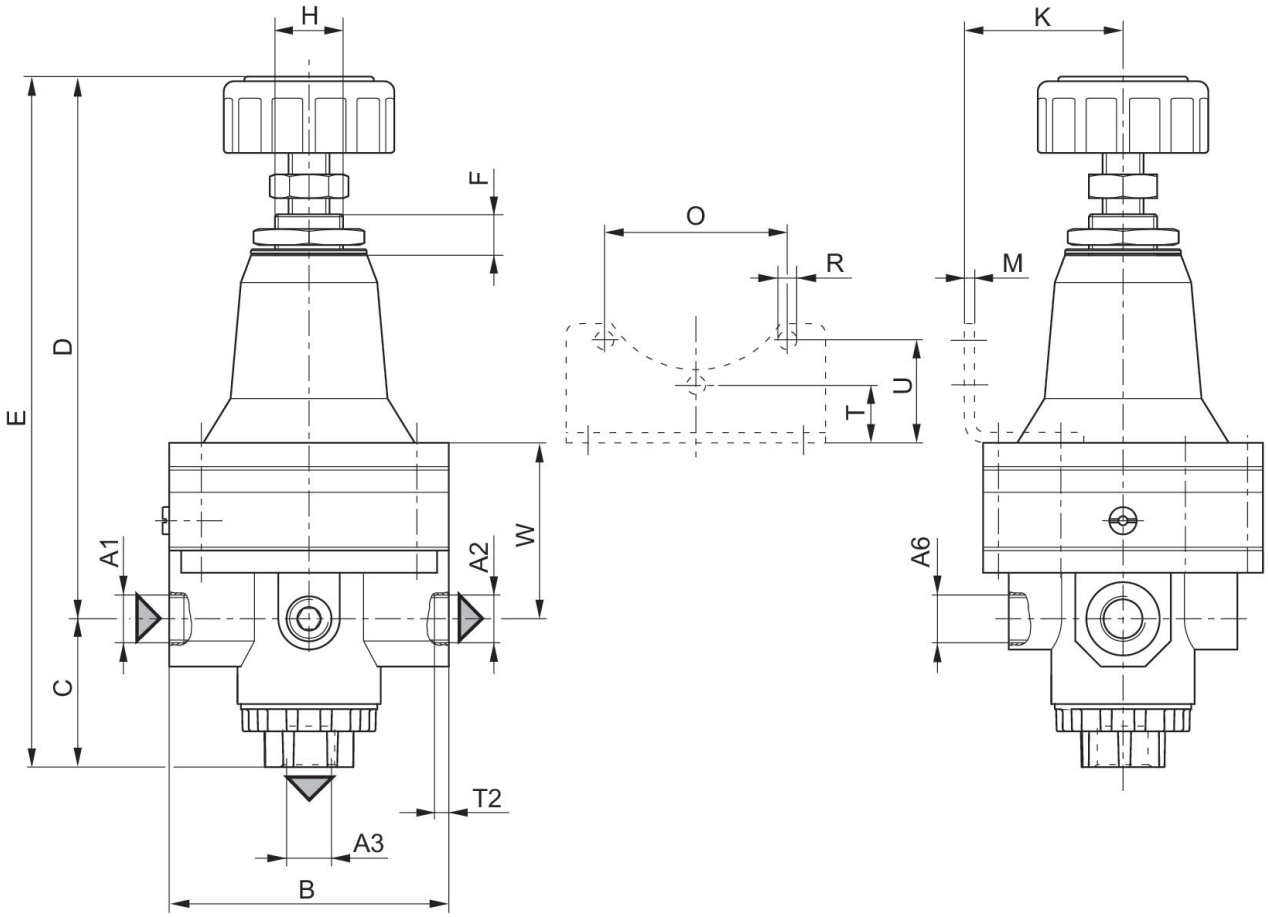
Seal material
Chloroprene rubber

Part No.
0821302554

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

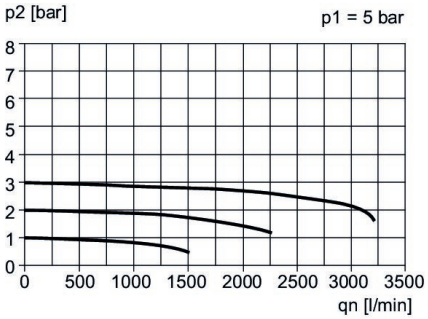
Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302554	G 3/8	G 3/8	G 3/8	G 1/4	82	43.5	159	202.5	10

Part No.	H	K	M	O	R	T	T2	U	W
0821302554	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis

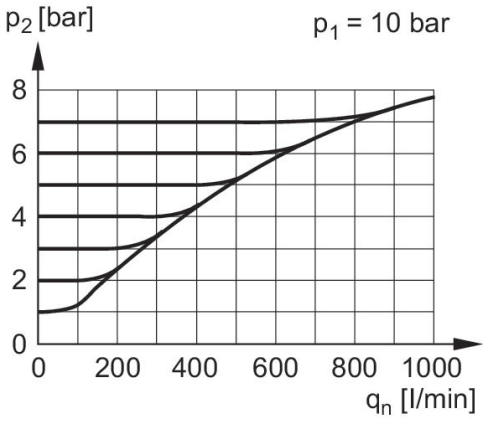
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



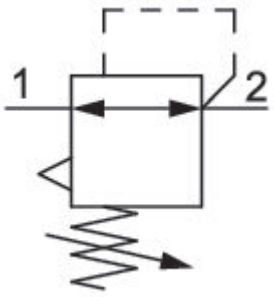
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302555

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 3/8

Qn =
4000 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
5 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

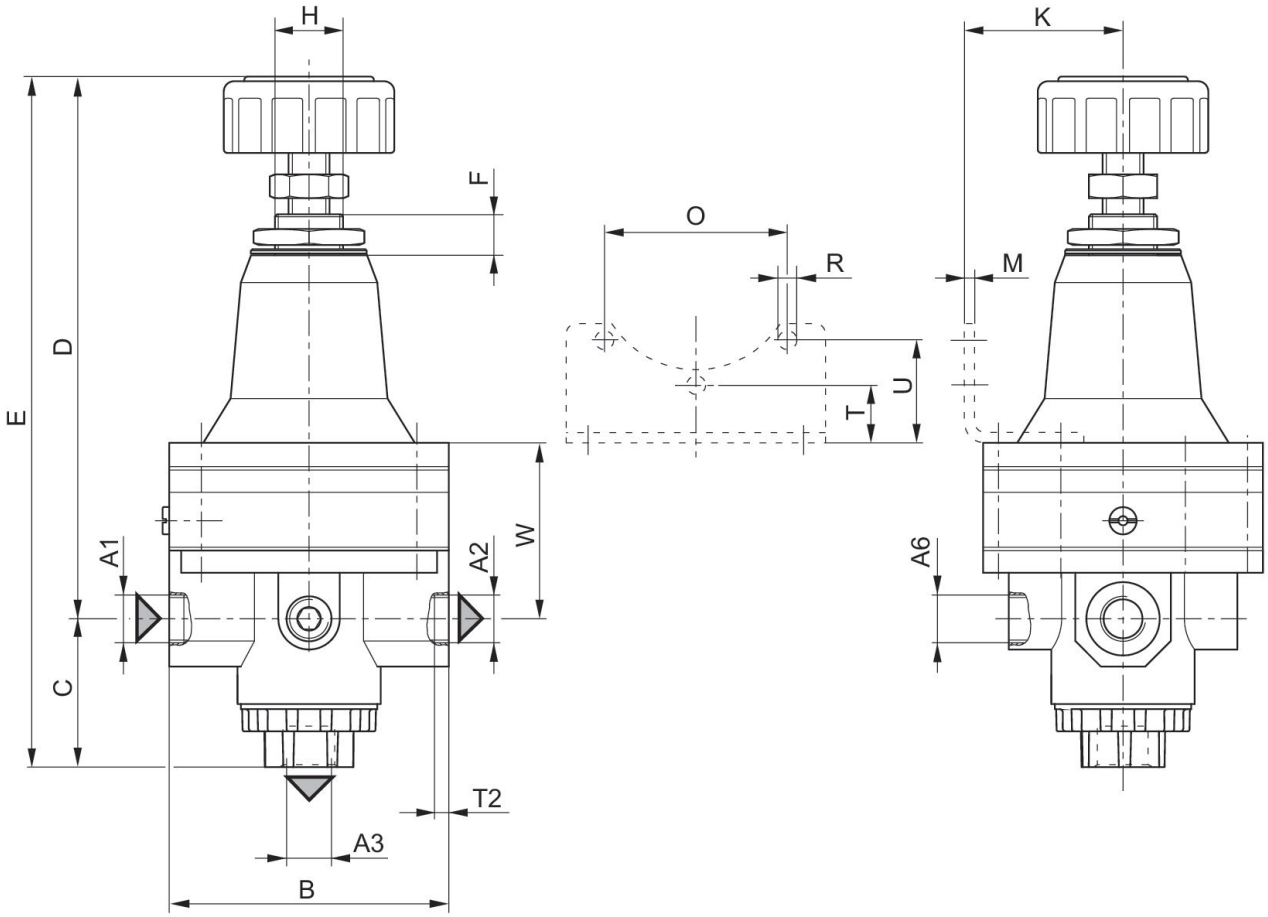
Seal material
Chloroprene rubber

Part No.
0821302555

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



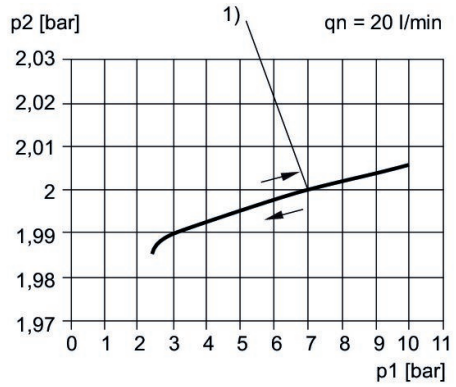
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302555	G 3/8	G 3/8	G 3/8	G 1/4	82	43.5	159	202.5	10

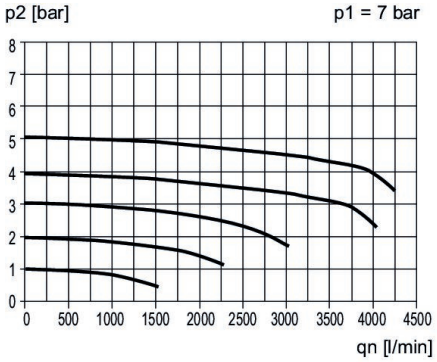
Part No.	H	K	M	O	R	T	T2	U	W
0821302555	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis



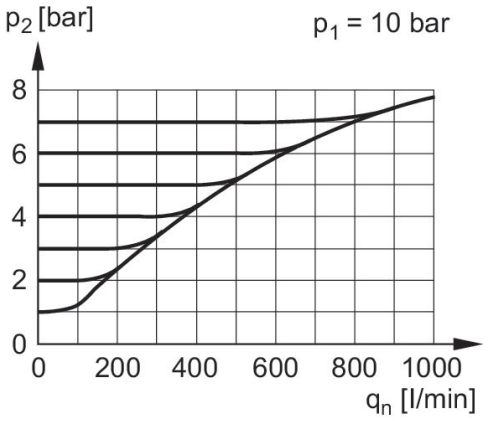
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



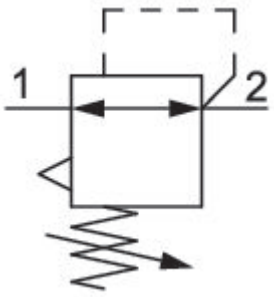
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302556

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 3/8

Qn =
5000 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
7 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

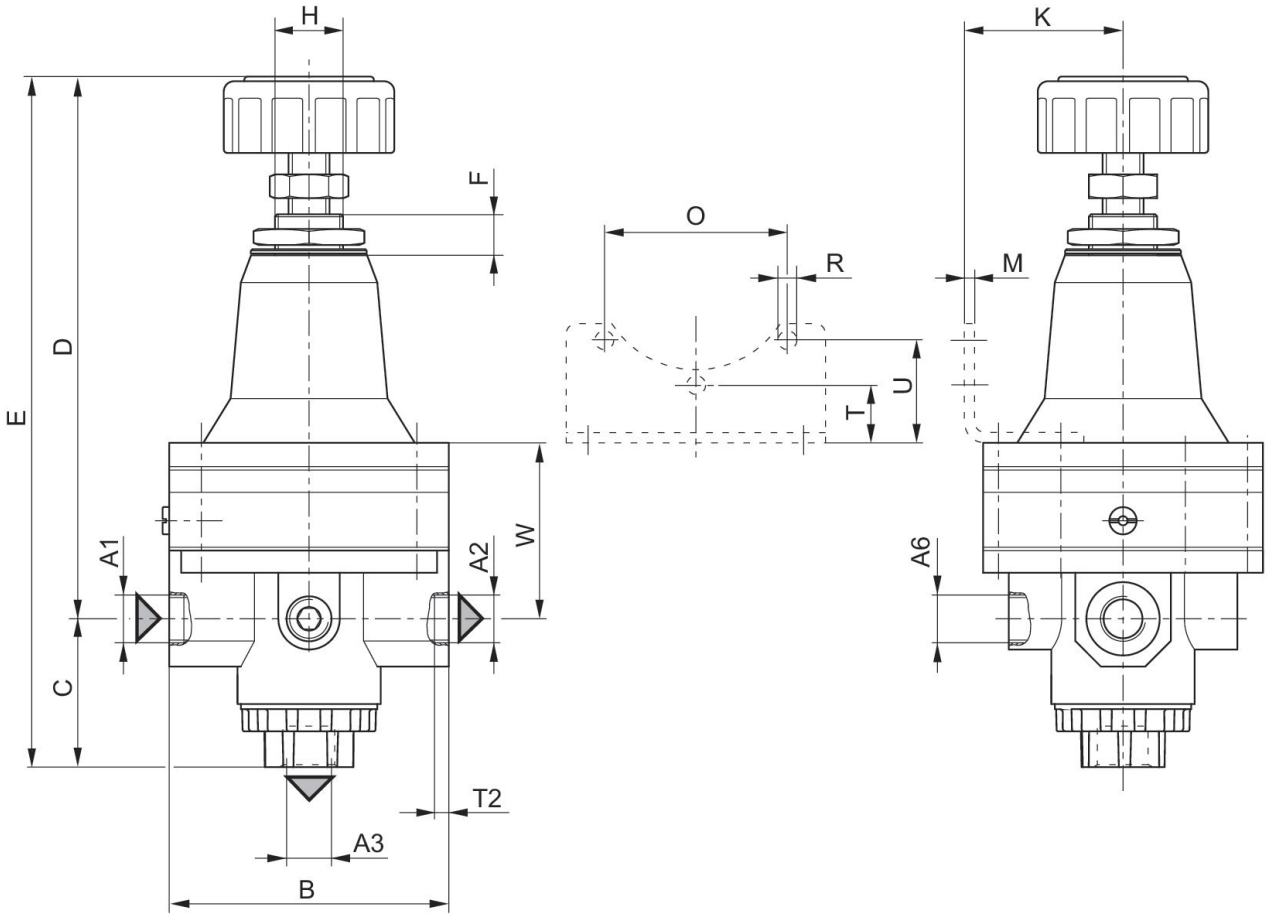
Seal material
Chloroprene rubber

Part No.
0821302556

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



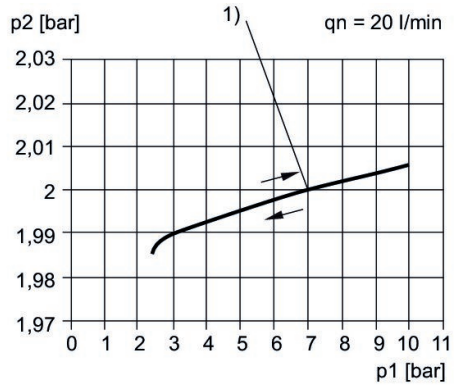
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302556	G 3/8	G 3/8	G 3/8	G 1/4	82	43.5	159	202.5	10

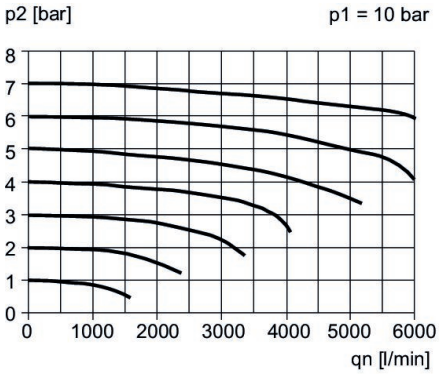
Part No.	H	K	M	O	R	T	T2	U	W
0821302556	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis



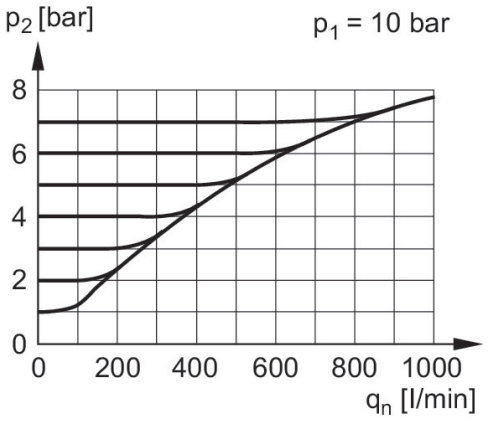
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



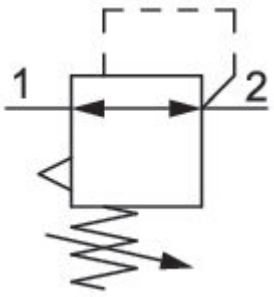
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302565

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
2200 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
3 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

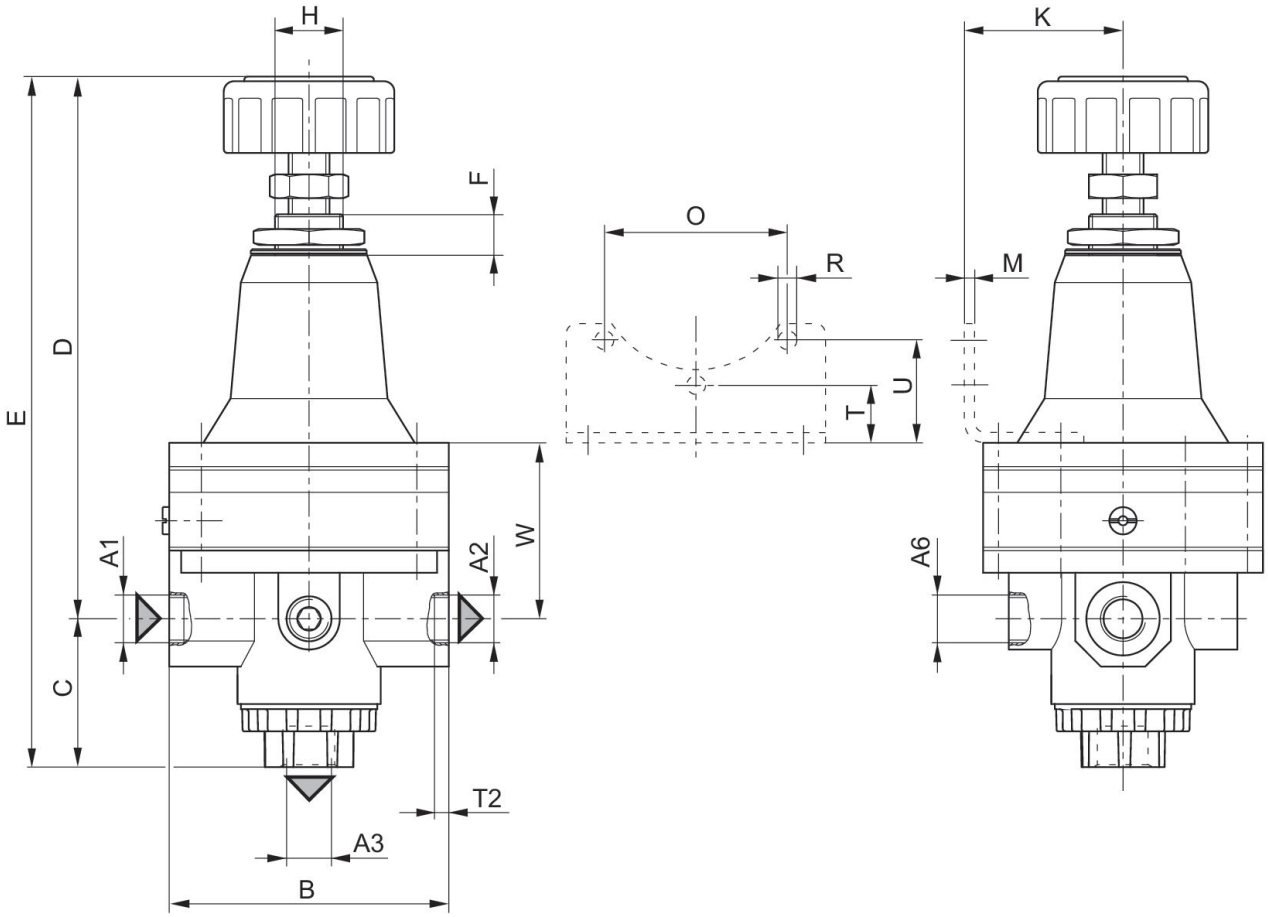
Seal material
Chloroprene rubber

Part No.
0821302565

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



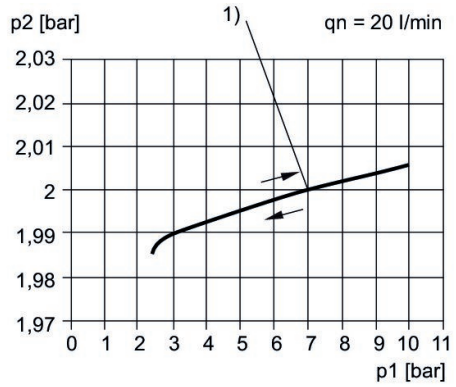
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302565	G 1/4	G 1/4	G 3/8	G 1/4	82	43.5	159	202.5	10

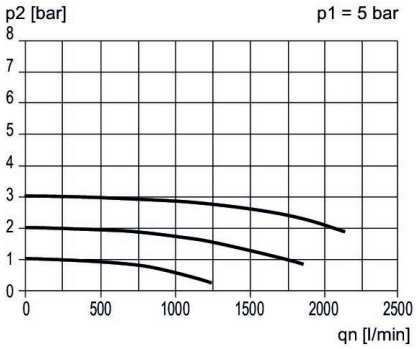
Part No.	H	K	M	O	R	T	T2	U	W
0821302565	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis



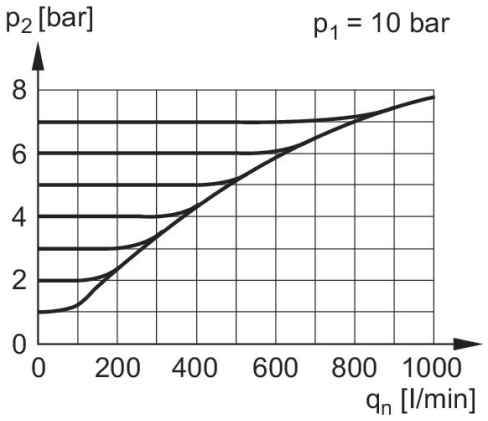
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



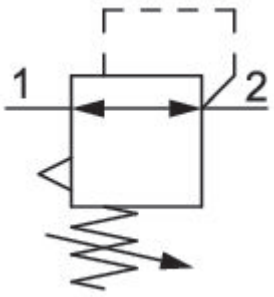
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302566

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
2600 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
5 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

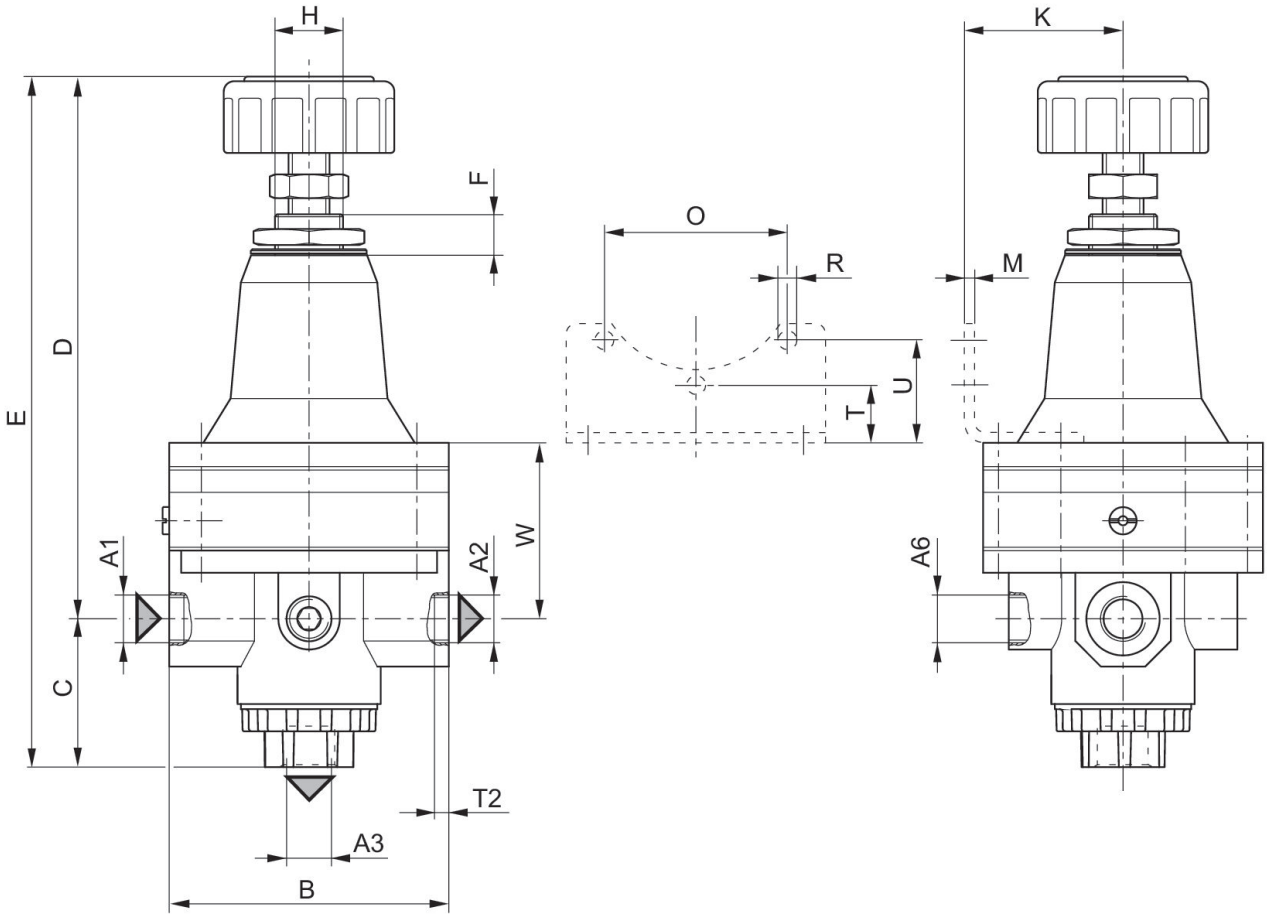
Seal material
Chloroprene rubber

Part No.
0821302566

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



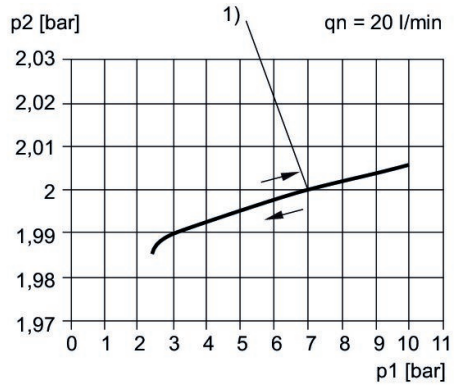
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302566	G 1/4	G 1/4	G 3/8	G 1/4	82	43.5	159	202.5	10

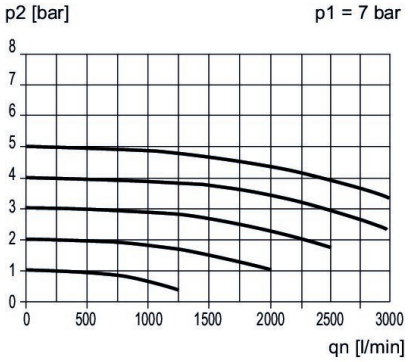
Part No.	H	K	M	O	R	T	T2	U	W
0821302566	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis



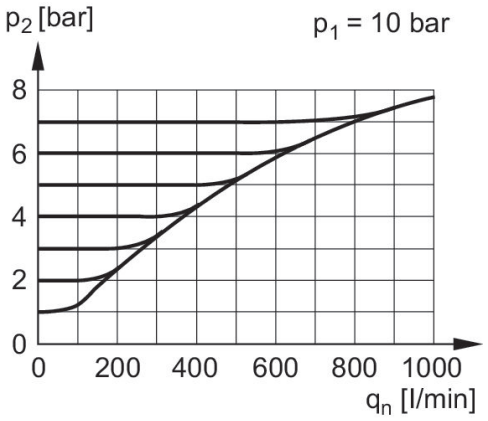
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



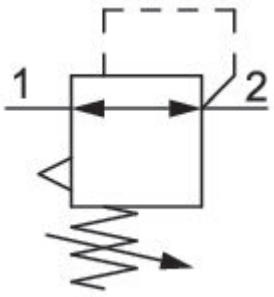
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302567

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/4

Qn =
3000 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
7 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Mechanical

Regulator function
with relieving air exhaust

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Weight
1.5 kg

Material

Housing material
Die cast zinc

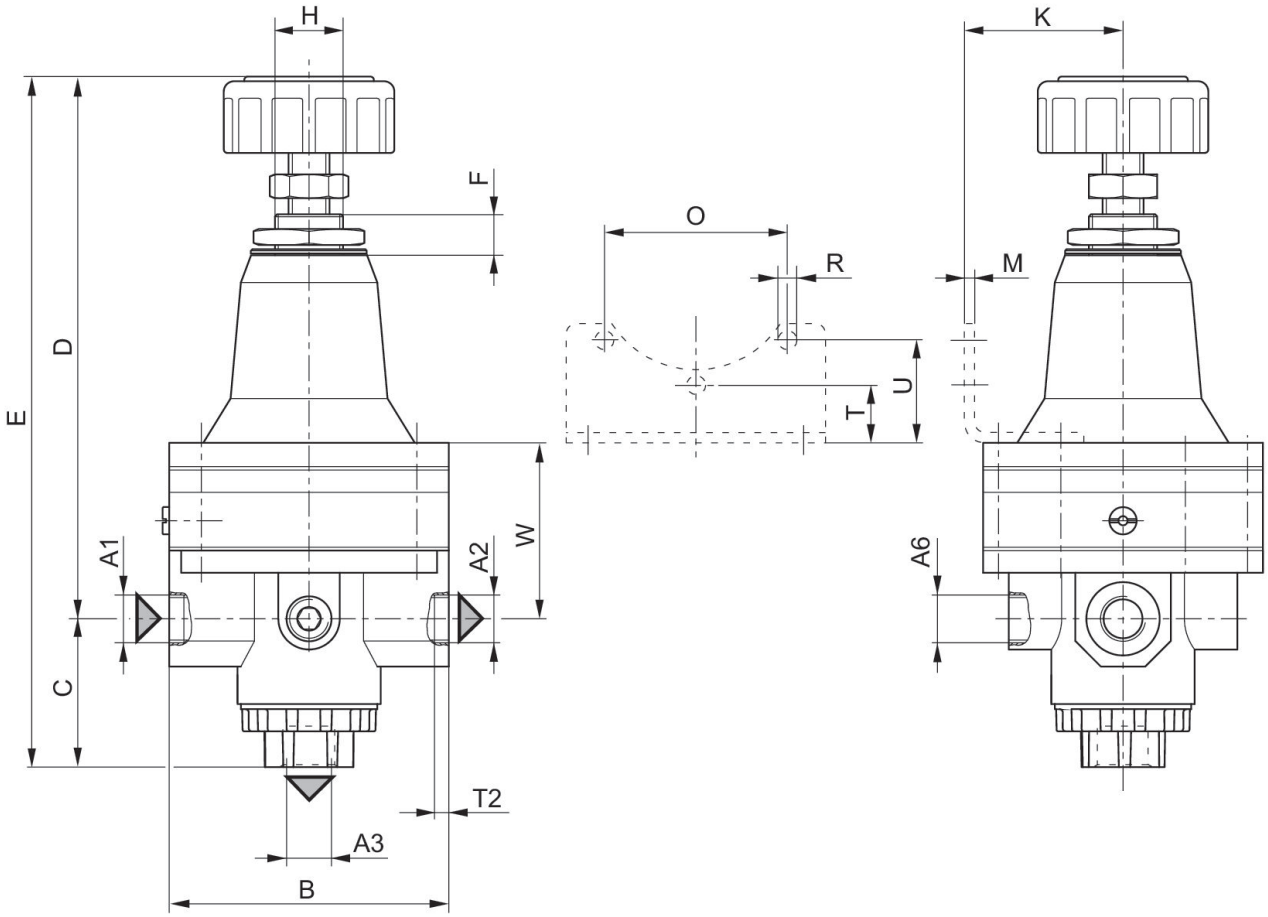
Seal material
Chloroprene rubber

Part No.
0821302567

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

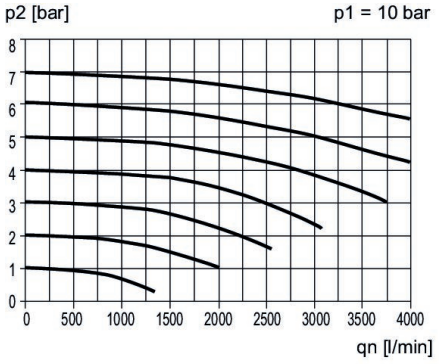
Part No.	A1	A2	A3	A6	B	C	D	E	F
0821302567	G 1/4	G 1/4	G 3/8	G 1/4	82	43.5	159	202.5	10

Part No.	H	K	M	O	R	T	T2	U	W
0821302567	M20x1,5	47	3	54	4	17	16	30	51.6

Hysteresis

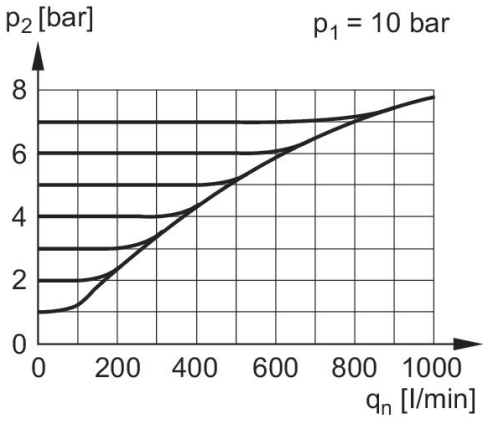
p1 = working pressure
p2 = secondary pressure
q = flow rate
1) * starting point

Flow rate characteristic



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



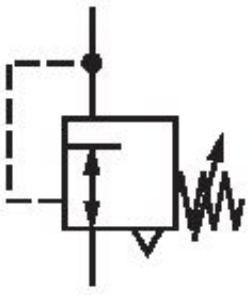
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Precision pressure regulator, Series PR1-RGP

0821302165

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/2

Qn =
5600 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Pneumatically

Regulator function
with relieving air exhaust

Material

Housing material
Die cast zinc

Seal material
Chloroprene rubber

Pressure supply
single

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Control pressure max.
10 bar

Weight
1.25 kg

Part No.
0821302165

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

Relieving exhaust (≤ 10 mbar over set pressure)

Mounting: mounting bracket R412004872 or installation in piping

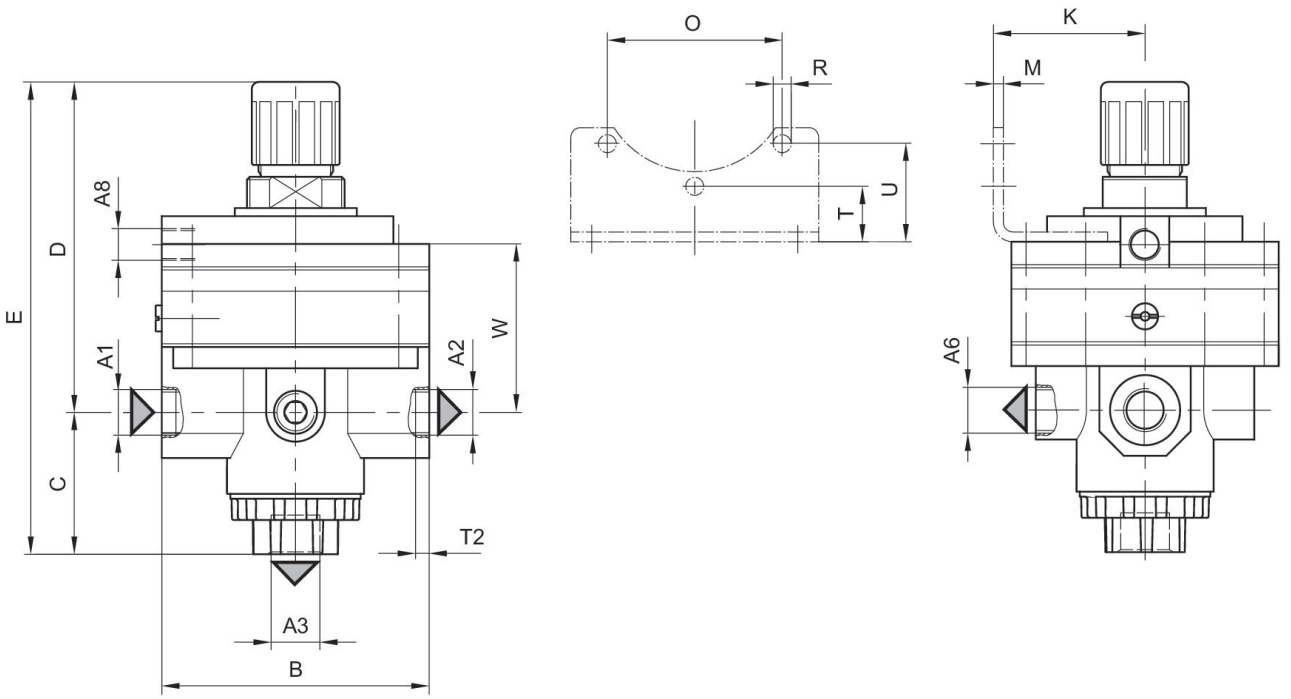
Notice: This product may only be operated with oil-free, dry compressed air.

Internal air consumption depending on adjustment range

Suitable for use in Ex zones 1, 2, 21, 22.

Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



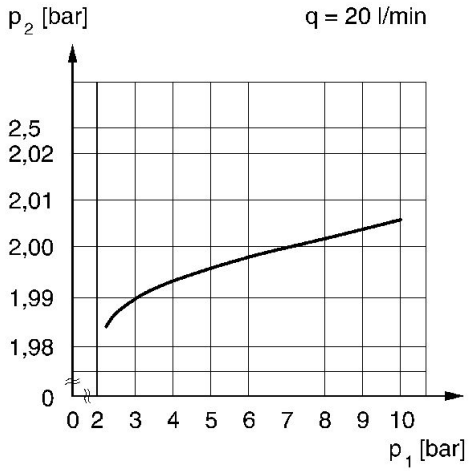
A1 = input
A2 = output
A3 = output
A6 = output

Dimensions in mm

Part No.	A1	A2	A3	A6	A8	B	C	D	E
0821302165	G 1/2	G 1/2	G 3/8	G 1/4	G 1/8	82	43.5	100.5	144

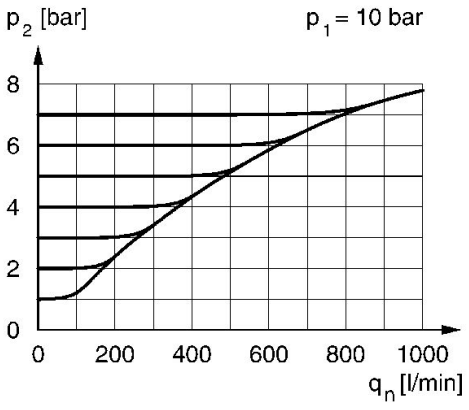
Part No.	J	K	M	O	R	T	T2	U	W
0821302165	16	47	3	54	4	17	16	30	51

Pressure characteristics curve



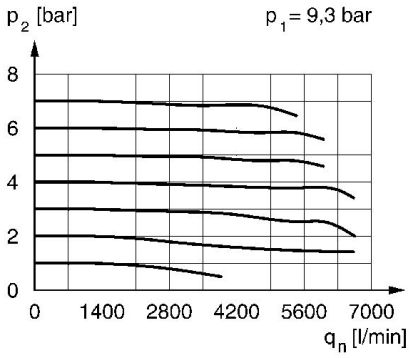
p1 = working pressure
p2 = secondary pressure
q = flow rate

exhaust characteristics (contact limit < 10 mbar)



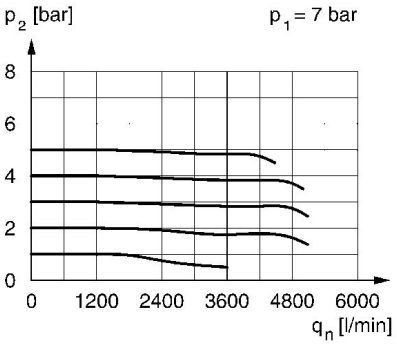
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Flow rate characteristic, p2 = 0,05 - 7 bar



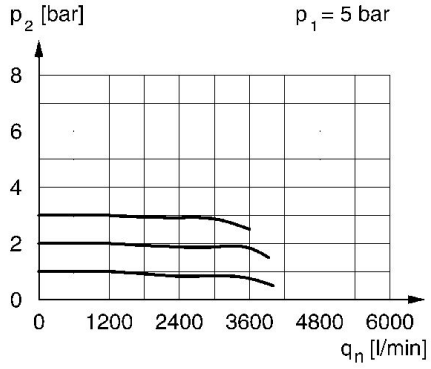
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Flow rate characteristic, p2 = 0,05 - 5 bar



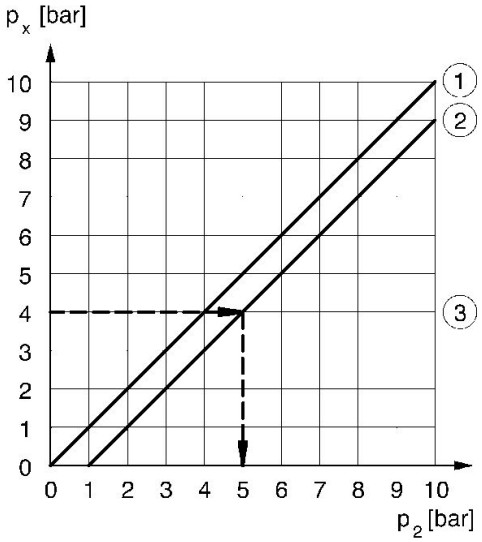
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Flow rate characteristic, p2 = 0,05 - 3 bar



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

control pressure characteristic



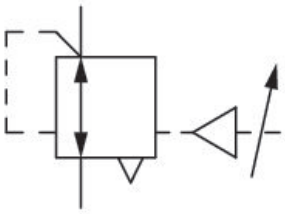
px = control pressure
p2 = secondary pressure
1) Pneumatically operated
2) Man. adjustment up to 1 bar

Precision pressure regulator, Series PR1-RGP

0821302052

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 3/8

Qn =
5600 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Pneumatically

Regulator function
with relieving air exhaust

Pressure supply
single

Material

Housing material
Die cast zinc

Seal material
Chloroprene rubber

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Control pressure max.
10 bar

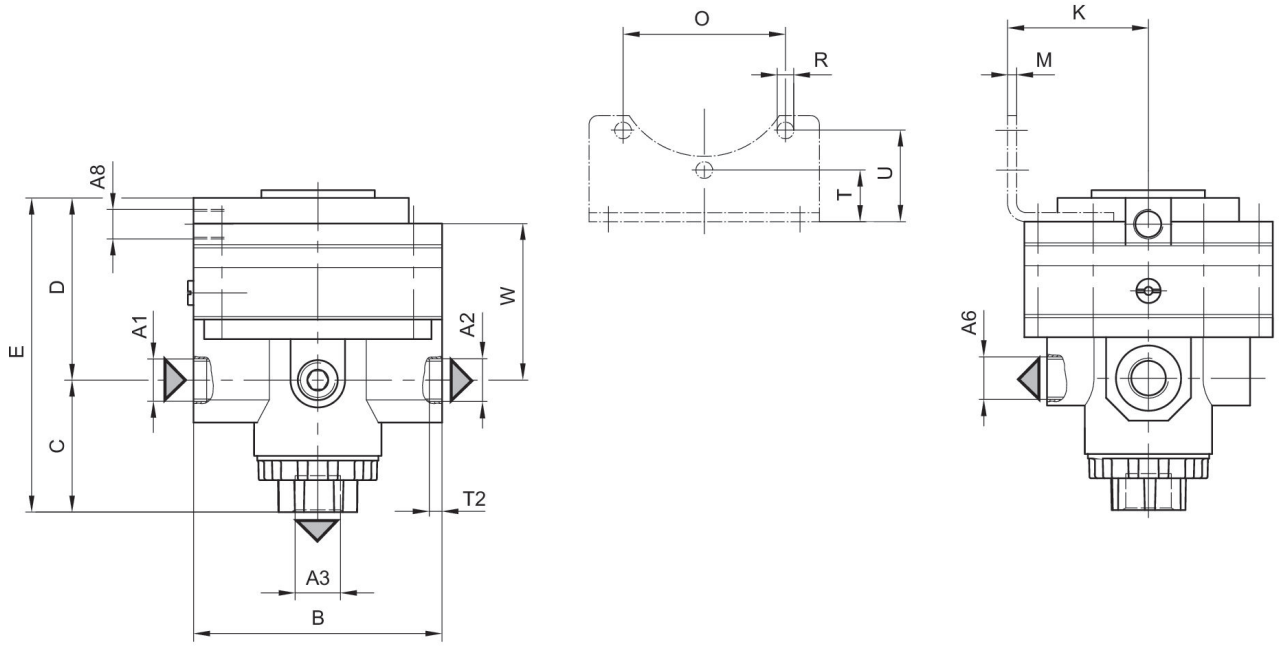
Weight
1.26 kg

Part No.
0821302052

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



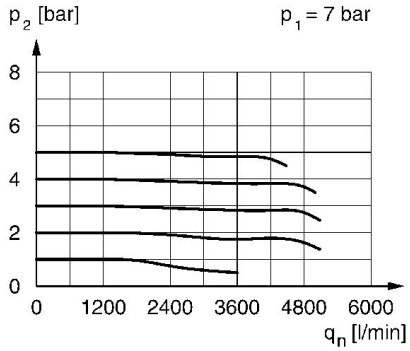
A1 = input
A2 = output
A3 = relieving exhaust
A6 = pressure gauge connection
A8 = Pilot connection

Dimensions in mm

Part No.	A1	A2	A3	A6	A8	B	C	D	E
0821302052	G 3/8	G 3/8	G 3/8	G 1/4	G 1/8	82	43.5	65.5	108

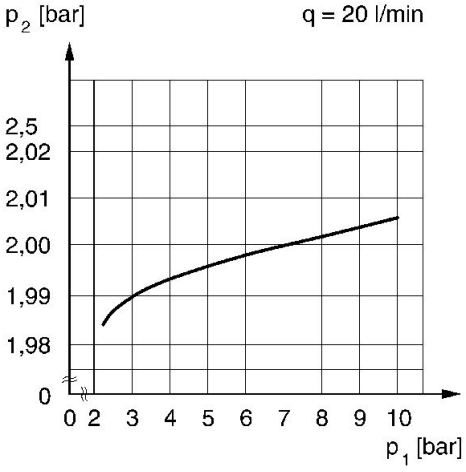
Part No.	K	M	O	R	T	T2	U	W
0821302052	47	3	54	4	17	16	30	51

Flow rate characteristic, p2 = 0,05 - 5 bar



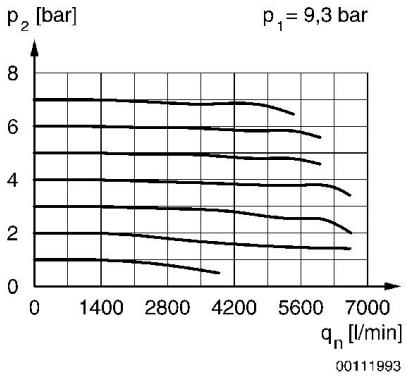
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Pressure characteristics curve



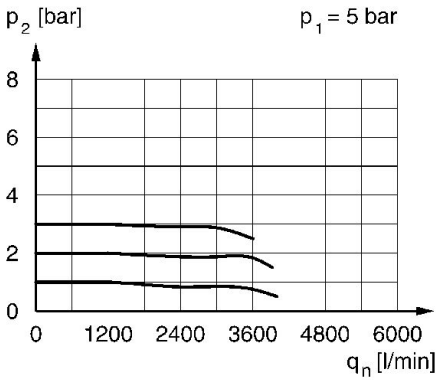
p1 = working pressure
p2 = secondary pressure
q = flow rate

Flow rate characteristic, p2 = 0,05 - 7 bar



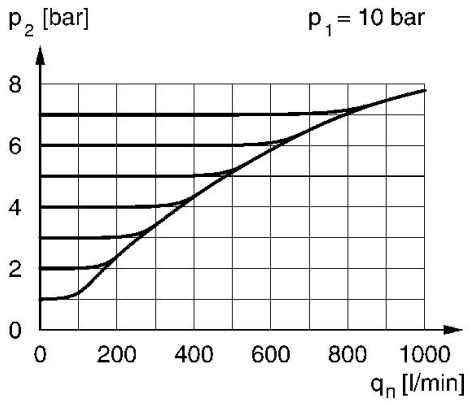
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Flow rate characteristic, p2 = 0,05 - 3 bar



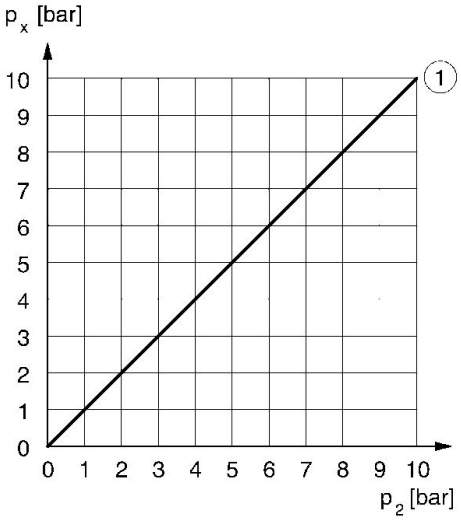
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

control pressure characteristic



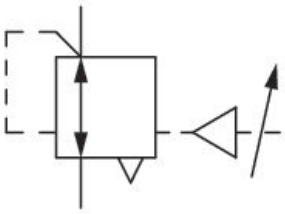
px = control pressure
p2 = secondary pressure
1) Pneumatically operated

Precision pressure regulator, Series PR1-RGP

0821302055

General series information
PR1

- The AVENTICS Series PR1/PR2 is designed for applications that demand fast responses to the slightest fluctuation in compressed air. They can be adjusted precisely and are an alternative to electronic pressure regulators. Precision pressure regulators are used to achieve extremely accurate pressure control independent from the pilot pressure and the flow rate. They offer high performance and flexibility, combined with increased reliability.



Technical data

Industry
Industrial

Function
Precision pressure regulator

Parts
Precision pressure regulator

Port
G 1/2

Qn =
5600 l/min

Mounting orientation
Any

Regulator type
Diaphragm-type pressure regulator

Regulation range min.
0.05 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max
16 bar

Min. ambient temperature
-35 °C

Max. ambient temperature
60 °C

Activation
Pneumatically

Regulator function
with relieving air exhaust

Pressure supply
single

Material

Housing material
Die cast zinc

Seal material
Chloroprene rubber

Internal air consumption q_v max.
6 l/min

Medium
Compressed air
Neutral gases

Recommended pre-filtering
5 µm

Control pressure max.
10 bar

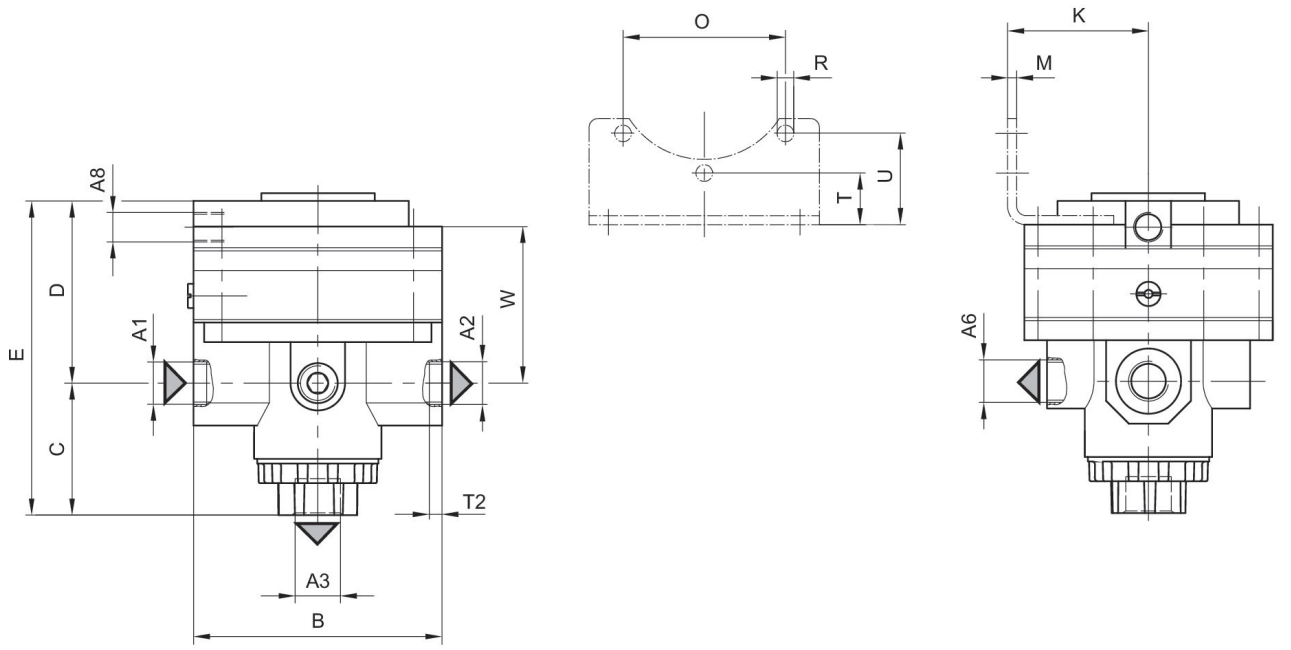
Weight
1.26 kg

Part No.
0821302055

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
Relieving exhaust (≤ 10 mbar over set pressure)
Mounting: mounting bracket R412004872 or installation in piping
Notice: This product may only be operated with oil-free, dry compressed air.
Internal air consumption depending on adjustment range
Nominal flow Qn with secondary pressure p2 = 6 bar at Δp = 1 bar

Dimensions



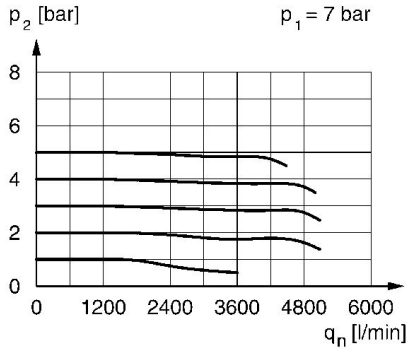
A1 = input
A2 = output
A3 = relieving exhaust
A6 = pressure gauge connection
A8 = Pilot connection

Dimensions in mm

Part No.	A1	A2	A3	A6	A8	B	C	D	E
0821302055	G 1/2	G 1/2	G 3/8	G 1/4	G 1/8	82	43.5	65.5	108

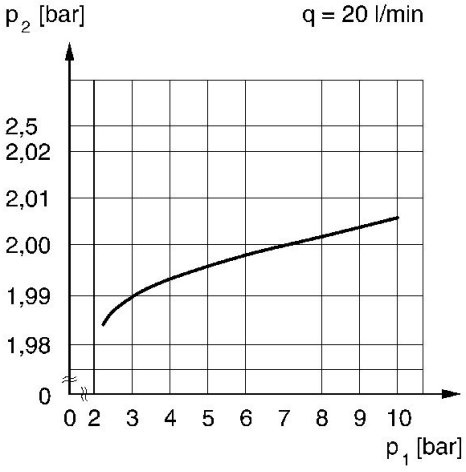
Part No.	K	M	O	R	T	T2	U	W
0821302055	47	3	54	4	17	16	30	51

Flow rate characteristic, p2 = 0,05 - 5 bar



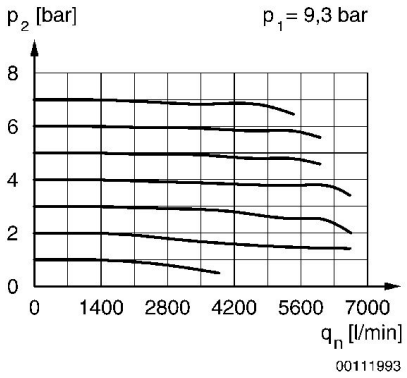
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Pressure characteristics curve



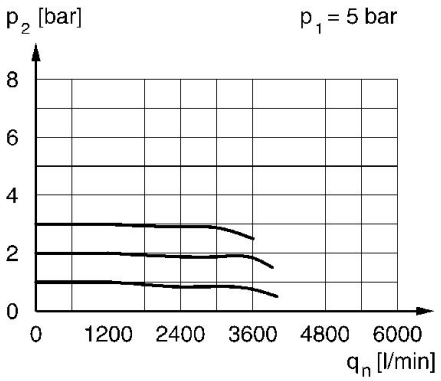
p1 = working pressure
p2 = secondary pressure
q = flow rate

Flow rate characteristic, p2 = 0,05 - 7 bar



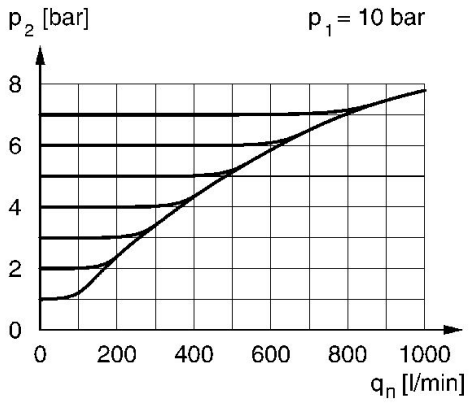
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

Flow rate characteristic, p2 = 0,05 - 3 bar



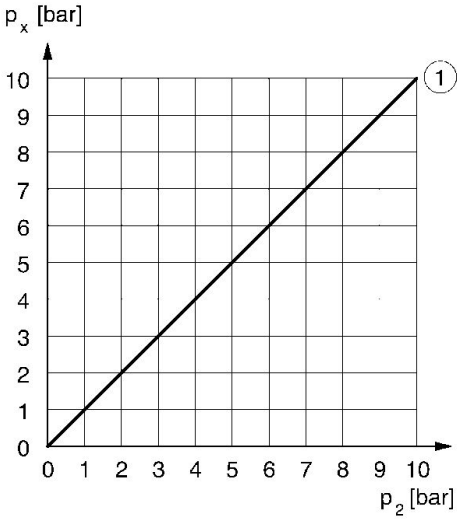
p1 = working pressure
p2 = secondary pressure
qn = nominal flow

exhaust characteristics (contact limit < 10 mbar)



p1 = working pressure
p2 = secondary pressure
qn = nominal flow

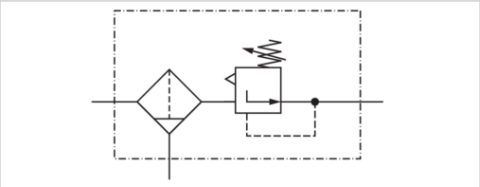
control pressure characteristic



px = control pressure
p2 = secondary pressure
1) Pneumatically operated

Precision filter pressure regulator, Series PR1-FRE

- G 1/4
- filter porosity 10 µm



Version	1-part
Parts	Precision filter pressure regulator
Mounting orientation	vertical
Working pressure min./max.	0.2 ... 16 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air Neutral gases
Max. particle size	5 µm
Nominal flow Qn	750 l/min
Regulator type	Diaphragm-type pressure regulator
Regulator function	with relieving air exhaust
Adjustment range min./max.	See table below
Pressure supply	single
Filter reservoir volume	11.5 cm³
Filter element	exchangeable
Condensate drain	Manual
Max. Internal air consumption	0.01 l/min
Weight	0.975 kg

Technical data

Part No.	Port	filter porosity	Flow	Adjustment range min./max.	Condensate drain
			Qn		
0821300410	G 1/4	10 µm	750 l/min	0.1 ... 2 bar	Manual
0821300411	G 1/4	10 µm	750 l/min	0.2 ... 5 bar	Manual

Nominal flow with secondary pressure 6.3 bar at Δp = 1 bar

Technical information

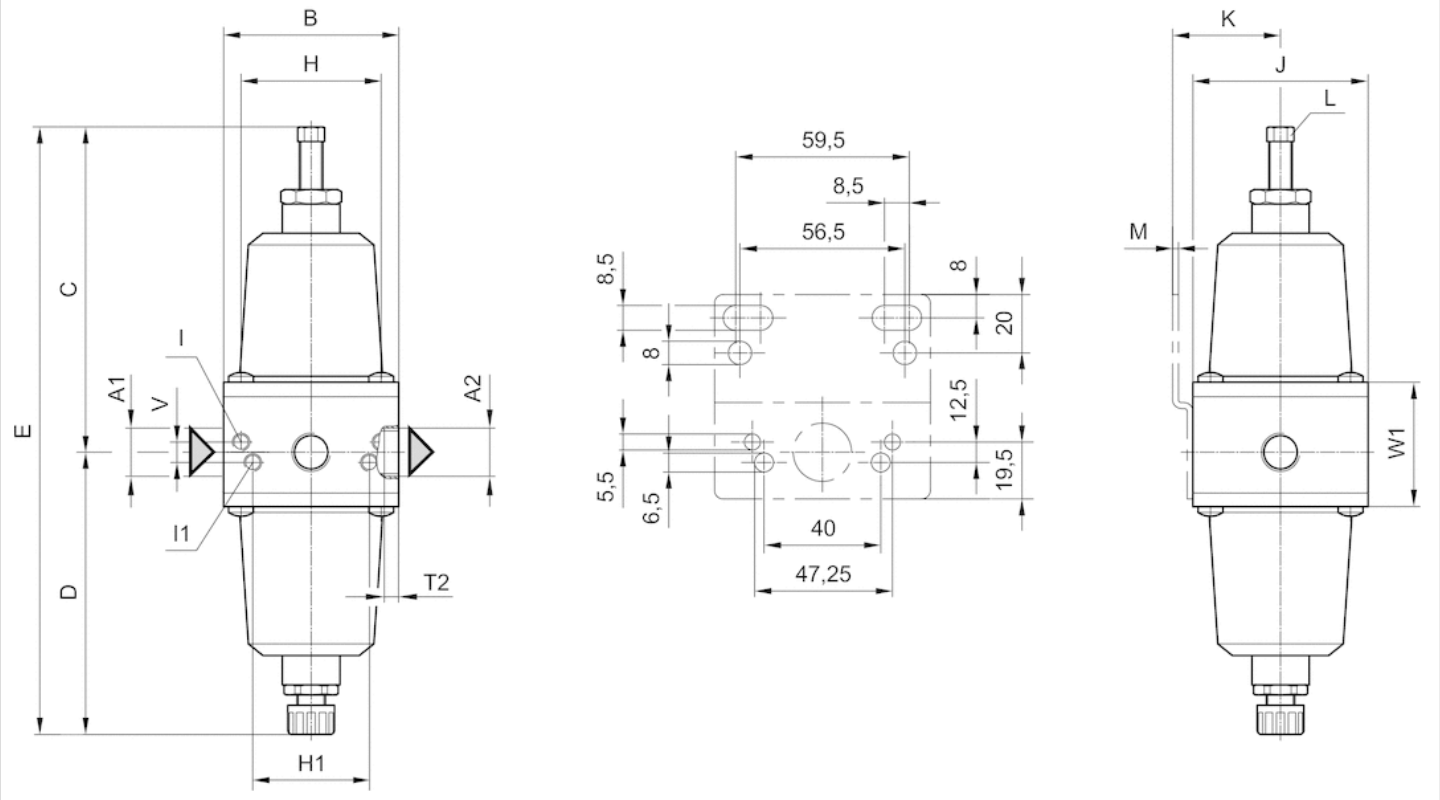
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

Technical information

Material	
Housing	Die cast zinc
Seals	Acrylonitrile butadiene rubber
Reservoir	Die cast zinc
Filter insert	Polyethylene

Dimensions

Dimensions



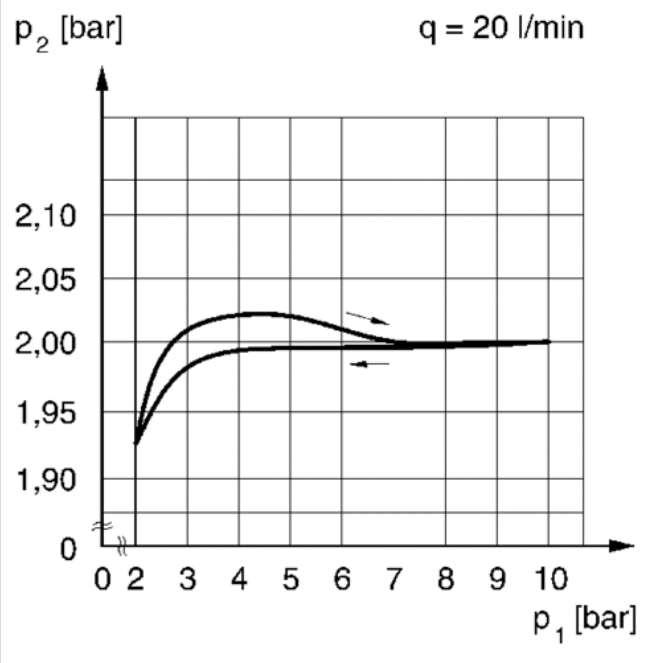
A1 = input
A2 = output

Dimensions in mm

A1	A2	B	C	D	E	H	H1	I	I1	J	K	L	M	T2	V	W1
G 1/4	G 1/4	60	120	96	216	48	40	M5	M6	60	37	8	2	6	7	42.5

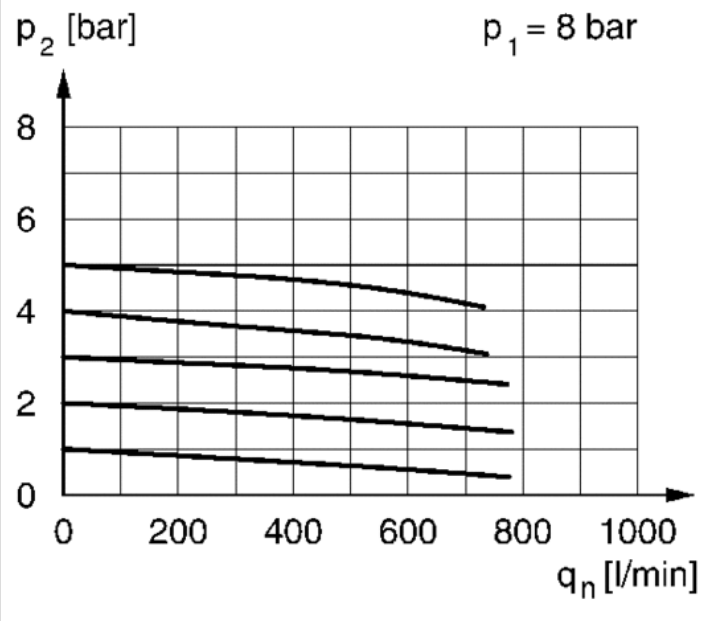
Diagrams

Pressure characteristics curve



p1 = working pressure
p2 = secondary pressure
q = flow rate

Flow rate characteristic, p2 = 0,2 - 5 bar



p1 = Working pressure
p2 = Secondary pressure
qn = Nominal flow

Mounting bracket, Series PR1-MBR-...-W02

Weight 0.104 kg

Technical data

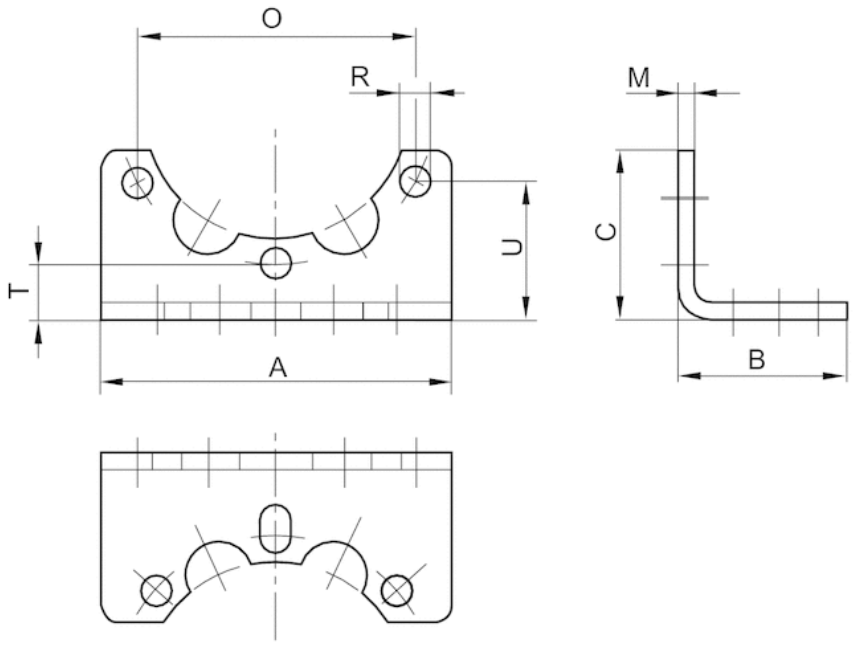
Part No.
1821332055
1821332056

Technical information

Material	
Housing	Steel, galvanized

Dimensions

Dimensions



Dimensions

Part No.	A	B	C	M	O	R	T	U	Material	Surface	Weight
1821332055	76	35	35	3	54	4	17	30	Steel	galvanized	0.104 kg
1821332056	62	30	30	3	49.4	5.5	13.5	24.5	Steel	galvanized	0.104 kg

Mounting bracket, Series MU1/PR1-MBR-...-W02

- for MU1, PR1

Ambient temperature min./max. -40 ... 60 °C

Technical data

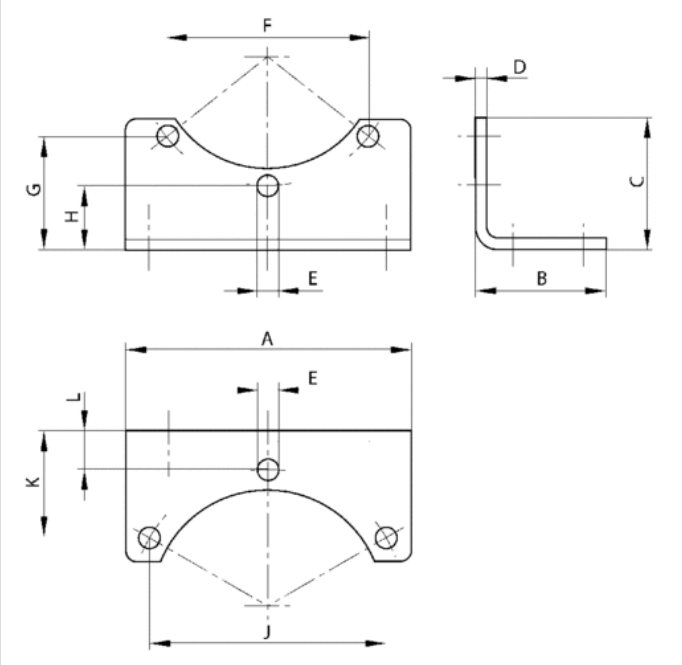
Part No.	for
R412004872	MU1, PR1

Technical information

Material	
Housing	Steel, galvanized

Dimensions

Dimensions



Dimensions

Part No.		A	B	C	D	E	F	G	H	J	K	L
R412004872	G1	76	35	35	3	5.5	53.6	30.1	17	63.2	28.8	10.5

Pressure gauge, Series PG1-SAS

- Back port
- Background color Black
- Scale color White, Grey
- Viewing window Polystyrene
- Units bar
- Units psi

Version	Bourdon tube pressure gauge
Standardization	EN 837-1
Class	2,5
Ambient temperature min./max.	-40 ... 60 °C
Medium	Compressed air
Main scale unit (outside)	bar
Main scale color (outside)	White
Secondary scale unit (inside)	psi
Secondary scale color (inside)	Grey
Background color	Black
Pointer color	White
Weight	See table below

Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value
R412003853	G 1/8	40 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
R412003854	G 1/8	40 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
R412003855	G 1/8	40 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.1
R412003856	G 1/8	40 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
R412003857	G 1/8	40 mm	0 bar ... 8	0 bar ... 10	0 ... 10 bar	0.2
R412003858	G 1/8	40 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5
R412004407	G 1/4	40 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
R412004408	G 1/4	40 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
R412004409	G 1/4	40 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.1
R412004410	G 1/4	40 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
R412004411	G 1/4	40 mm	0 bar ... 8	0 bar ... 10	0 ... 10 bar	0.2
R412004412	G 1/4	40 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5
R412004413	G 1/4	50 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
R412004414	G 1/4	50 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
R412004415	G 1/4	50 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.1
R412004416	G 1/4	50 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
R412004417	G 1/4	50 mm	0 bar ... 8 bar	0 bar ... 10 bar	0 ... 10 bar	0.2
R412004418	G 1/4	50 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5
R412007898	G 1/4	50 mm	0 bar ... 20	0 bar ... 25	0 ... 25 bar	1

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value
R412004419	G 1/4	63 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
R412004420	G 1/4	63 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
R412004421	G 1/4	63 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.1
R412004422	G 1/4	63 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
R412004423	G 1/4	63 mm	0 bar ... 8	0 bar ... 10	0 ... 10 bar	0.2
R412004424	G 1/4	63 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5

Part No.	Weight	Fig.	
R412003853	0.08 kg	Fig. 4	-
R412003854	0.08 kg	Fig. 4	-
R412003855	0.08 kg	Fig. 4	-
R412003856	0.08 kg	Fig. 4	-
R412003857	0.08 kg	Fig. 4	-
R412003858	0.08 kg	Fig. 4	-
R412004407	0.08 kg	Fig. 1	-
R412004408	0.08 kg	Fig. 1	-
R412004409	0.08 kg	Fig. 1	-
R412004410	0.08 kg	Fig. 1	-
R412004411	0.08 kg	Fig. 1	-
R412004412	0.08 kg	Fig. 1	-
R412004413	0.09 kg	Fig. 2	-
R412004414	0.09 kg	Fig. 2	-
R412004415	0.09 kg	Fig. 2	-
R412004416	0.09 kg	Fig. 2	-
R412004417	0.09 kg	Fig. 2	1)
R412004418	0.09 kg	Fig. 2	1)
R412007898	0.09 kg	Fig. 2	-
R412004419	0.1 kg	Fig. 3	-
R412004420	0.1 kg	Fig. 3	-
R412004421	0.1 kg	Fig. 3	-
R412004422	0.1 kg	Fig. 3	-
R412004423	0.1 kg	Fig. 3	-
R412004424	0.1 kg	Fig. 3	-

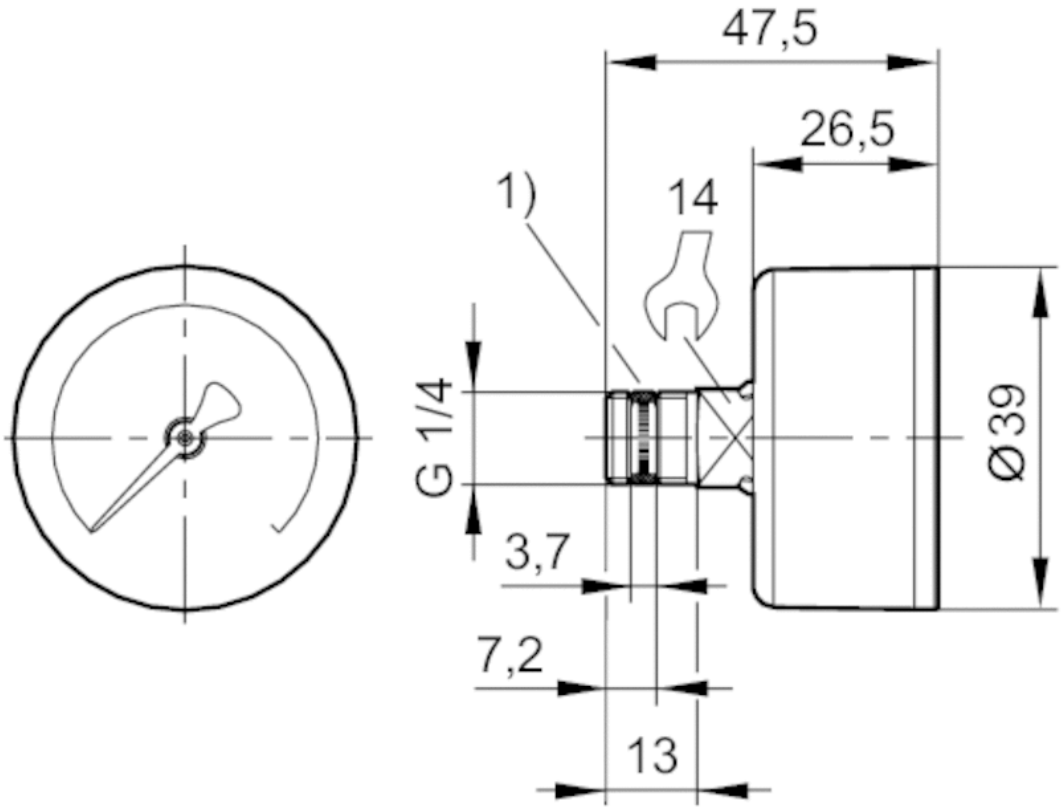
1) Suitable for use in Ex zones 1, 2, 21, 22.

Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass
Viewing window	Polystyrene
Seal	Polytetrafluorethylene

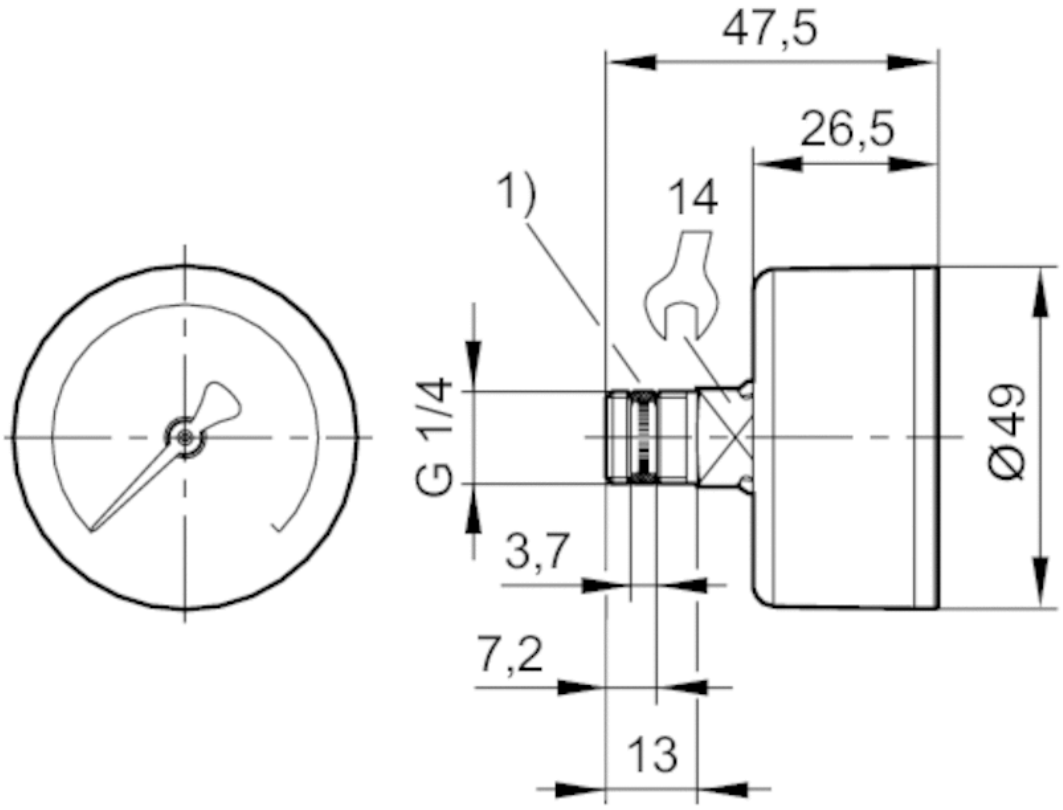
Dimensions

Dimensions in mm, Fig. 1



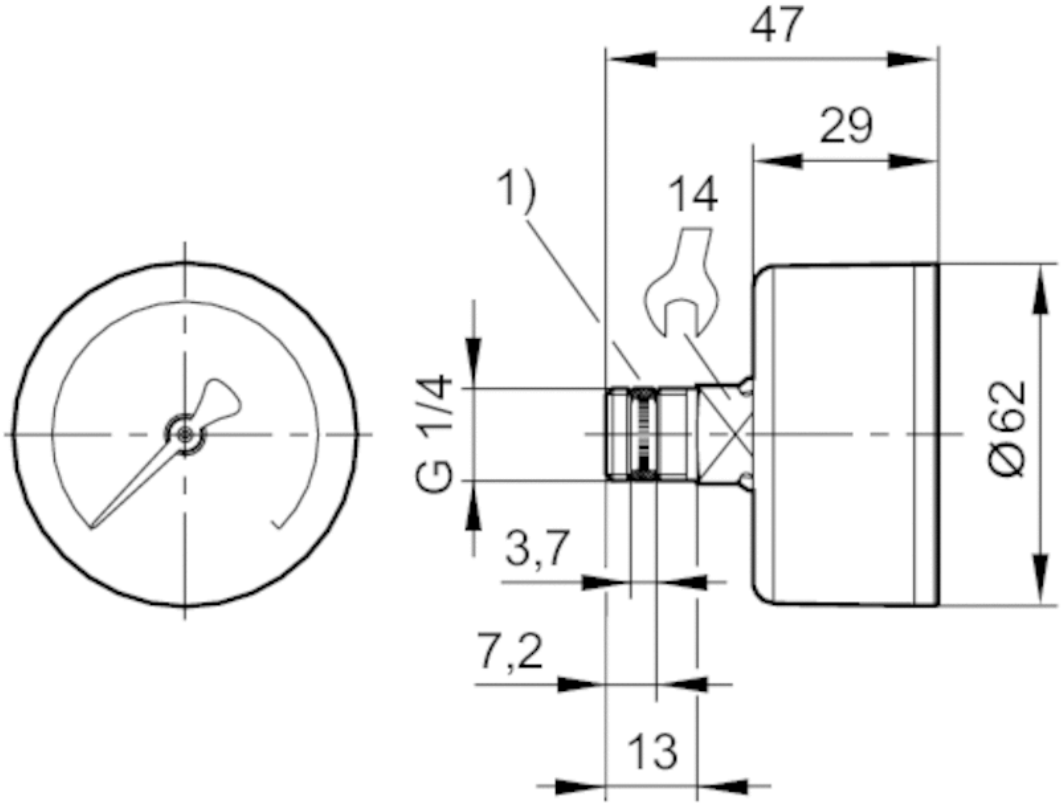
1) Gasket thread

Dimensions in mm, Fig. 2



1) Gasket thread

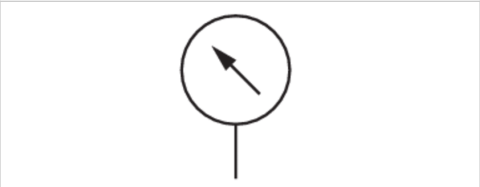
Dimensions in mm, Fig. 3



1) Gasket thread

Pressure gauge, Series PG1-SAS-ADJ

- Back port
- with adjustable work area display
- Background color Black
- Scale color White, Grey
- Viewing window Polystyrene
- Units bar
- Units psi



Version	Bourdon tube pressure gauge
Version	with adjustable work area display
Standardization	EN 837-1
Class	2,5
Ambient temperature min./max.	-40 ... 60 °C
Medium	Compressed air
Work area	adjustable work area display
Work Area Display, Color	Red Green
Main scale unit (outside)	bar
Main scale color (outside)	White
Secondary scale unit (inside)	psi
Secondary scale color (inside)	Grey
Background color	Black
Pointer color	White
Weight	0.1 kg

Technical data

Part No.	Compressed air connection	Nominal diameter	Range of application	Display range	Operating pressure	Scale value
R412007867	G 1/4	50 mm	0 bar ... 1.2	0 bar ... 1.6	0 ... 1.6 bar	0.05
R412007868	G 1/4	50 mm	0 bar ... 2	0 bar ... 2.5	0 ... 2.5 bar	0.1
R412007869	G 1/4	50 mm	0 bar ... 3.2	0 bar ... 4	0 ... 4 bar	0.1
R412007870	G 1/4	50 mm	0 bar ... 4	0 bar ... 6	0 ... 6 bar	0.2
R412007871	G 1/4	50 mm	0 bar ... 8	0 bar ... 10	0 ... 10 bar	0.2
R412007872	G 1/4	50 mm	0 bar ... 12	0 bar ... 16	0 ... 16 bar	0.5

Technical information

To set the operating range, the cover (inspection glass) must be removed. To do this, carefully lift the inspection glass by inserting a pointed or flat object in the slot provided for this purpose on the housing circumference.

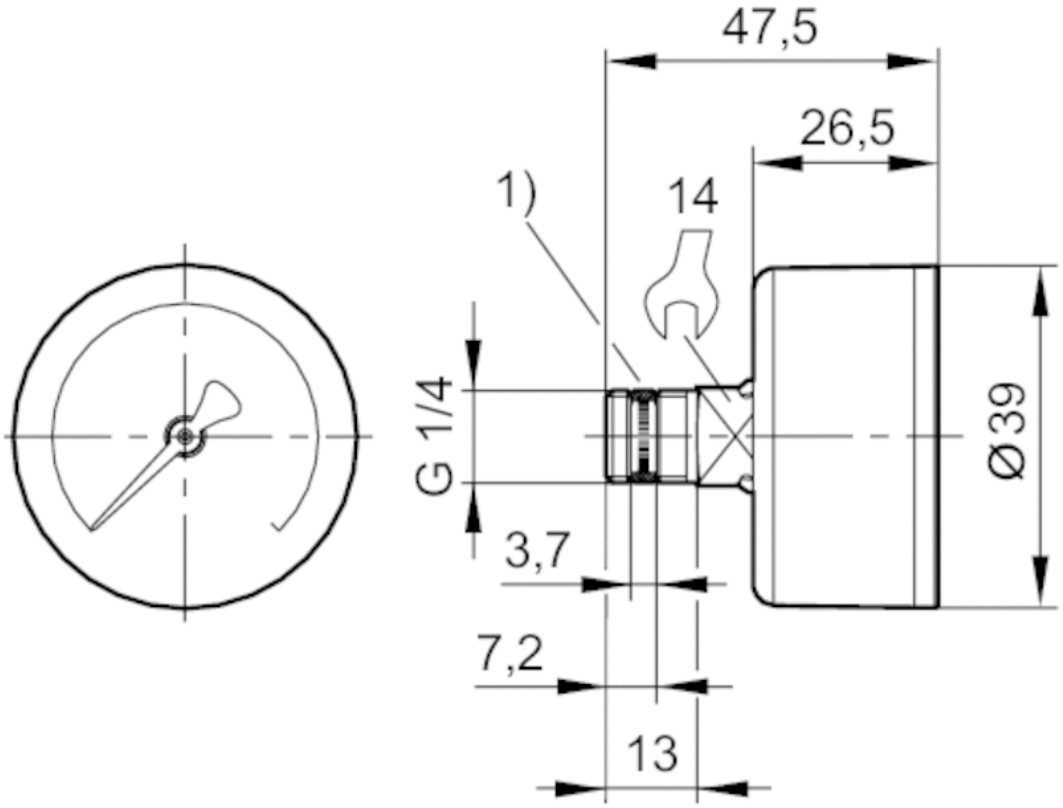
Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass

Material	
Viewing window	Polystyrene
Seal	Polytetrafluorethylene

Dimensions

Dimensions in mm, Fig. 1

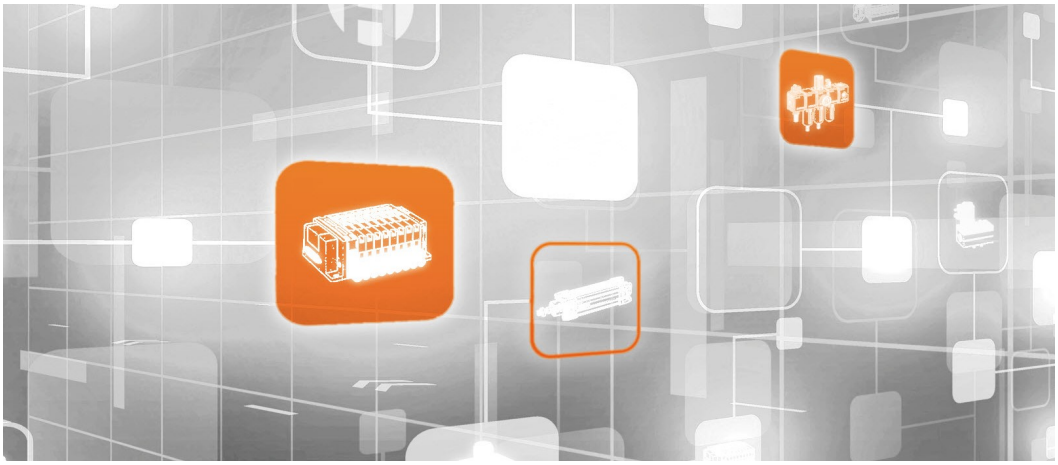


1) Gasket thread

Dimensions in mm

Compressed air connection	Nominal diameter	Ø A	B	C	D	E	F	SW
G 1/4	50 mm	49	47.5	26.5	13	7.2	3.7	14

Efficient pneumatic solutions, our program: cylinders and drives, valves and valve systems, air supply management



Visit us: Emerson.com/Aventics

Your local contact: Emerson.com/contactus

Emerson.com

Facebook.com/EmersonAutomationSolutions

LinkedIn.com/company/Emerson-Automation-Solutions

Twitter.com/EMR_Automation

2022-08-05

EMERSON

CONSIDER IT SOLVED™