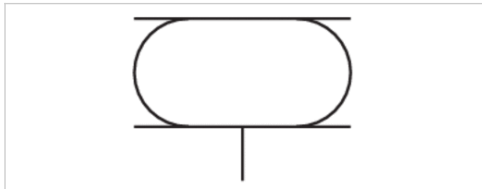


Series BCP

- standard version
- single
- Stroke 34-109 mm



Version	Bellow actuator with cover
Functional principle	Single-acting, retracted without pressure
Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Permissible angle of tilt max.	15 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
0822419001	90 mm	G 1/8	50 mm
R412010198	108 mm	G 1/4	34 mm
0822419002	108 mm	G 1/4	54 mm
R412010199	114 mm	G 1/4	79 mm
0822419003	141 mm	G 3/4	75 mm
1923061000	141 mm	G 3/4	79 mm
R412010197	141 mm	G 3/4	107 mm
0822419004	161 mm	G 3/4	74 mm
1933091000	228 mm	G 3/4	89 mm
1938091000	287 mm	G 3/4	104 mm
2999636900	287 mm	G 3/4	109 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
0822419001	160 mm	2500 ... 5500 N	1,2 kg	Fig. 1	-
R412010198	165 mm	3500 ... 6900 N	1,2 kg	Fig. 2	-
0822419002	180 mm	4500 ... 7500 N	1,2 kg	Fig. 2	-
R412010199	225 mm	4300 ... 10900 N	1,4 kg	Fig. 2	-
0822419003	230 mm	6100 ... 13600 N	2 kg	Fig. 2	-
1923061000	245 mm	6900 ... 14700 N	1,9 kg	Fig. 2	1)
R412010197	250 mm	7000 ... 14000 N	1,9 kg	Fig. 2	1)
0822419004	265 mm	9300 ... 17300 N	2,3 kg	Fig. 3	-

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
1933091000	340 mm	19400 ... 33300 N	3,9 kg	Fig. 3	-
1938091000	400 mm	26100 ... 50000 N	5,9 kg	Fig. 4	-
2999636900	420 mm	35200 ... 52200 N	6,1 kg	Fig. 4	1)

1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

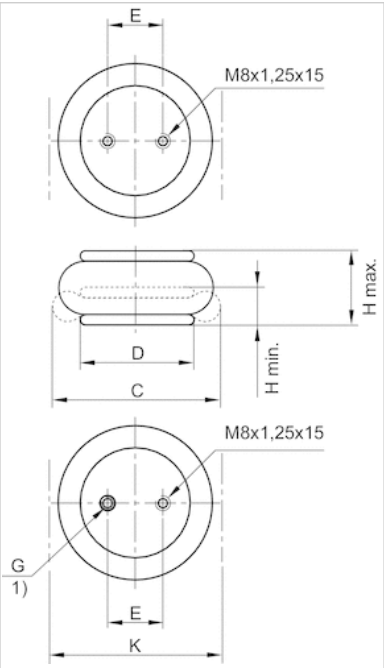
Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.
 Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the “Technical information” document (available in the MediaCentre).
 Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
Front cover	Steel, galvanized
End cover	Steel, galvanized

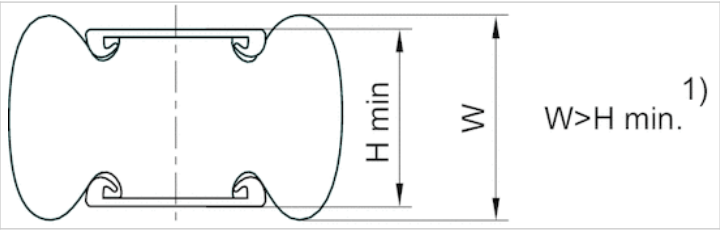
Fig. 1



1) air connection in the mounting hole

Dimensions

Comment



1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellows is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

1 kN = 1000 N

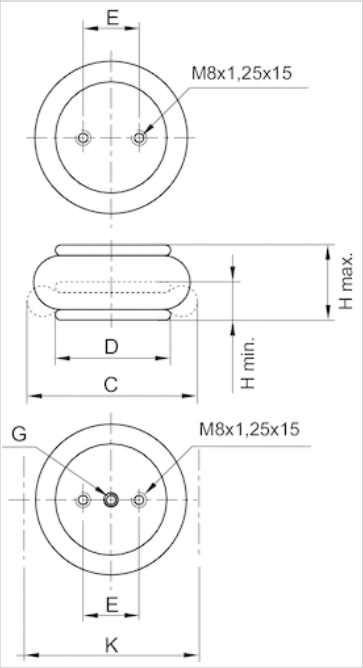
Dimensions

Part No.	Compressed air connection G	H min mm	H max mm	C mm	D mm
0822419001	G 1/8	50 mm	100 mm	145 mm	90 mm

E ±0,5 [mm]	K mm	Return force, min. N
20	160 mm	120 N

Dimensions

Fig. 2



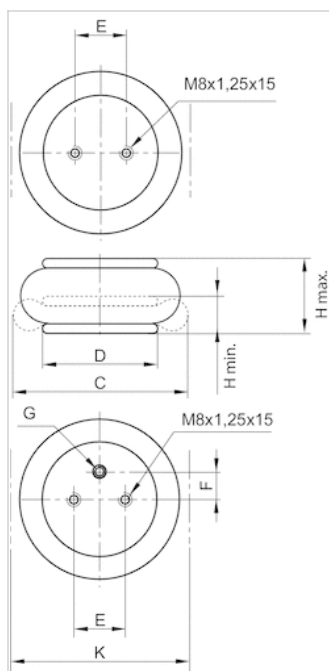
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010198	G 1/4	51 mm	85 mm	150 mm	108 mm
0822419002	G 1/4	51 mm	105 mm	165 mm	108 mm
R412010199	G 1/4	51 mm	130 mm	210 mm	114 mm
0822419003	G 3/4	50 mm	125 mm	215 mm	141 mm
1923061000	G 3/4	51 mm	130 mm	231 mm	141 mm
R412010197	G 3/4	51 mm	158 mm	235 mm	141 mm

E $\pm 0,5$ [mm]	K mm	Return force, min. N
44.5	165 mm	250 N
44.5	180 mm	200 N
44.5	225 mm	45 N
70	230 mm	200 N
70	245 mm	200 N
70	250 mm	200 N

Dimensions

Fig. 3



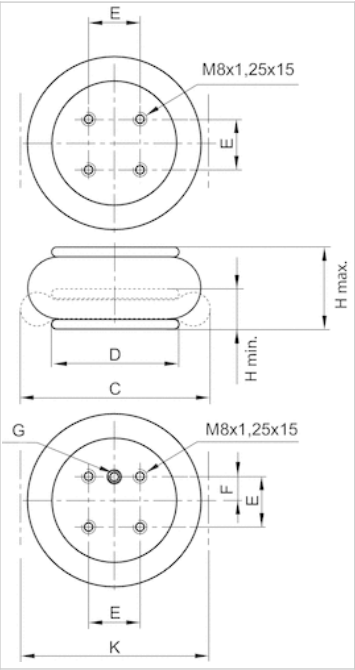
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
0822419004	G 3/4	51 mm	125 mm	250 mm	161 mm
1933091000	G 3/4	51 mm	140 mm	325 mm	228 mm

E $\pm 0,5$ [mm]	F $\pm 0,5$ [mm]	K mm	Return force, min. N
89	38.1	265 mm	200 N
157.5	73	340 mm	300 N

Dimensions

Fig. 4

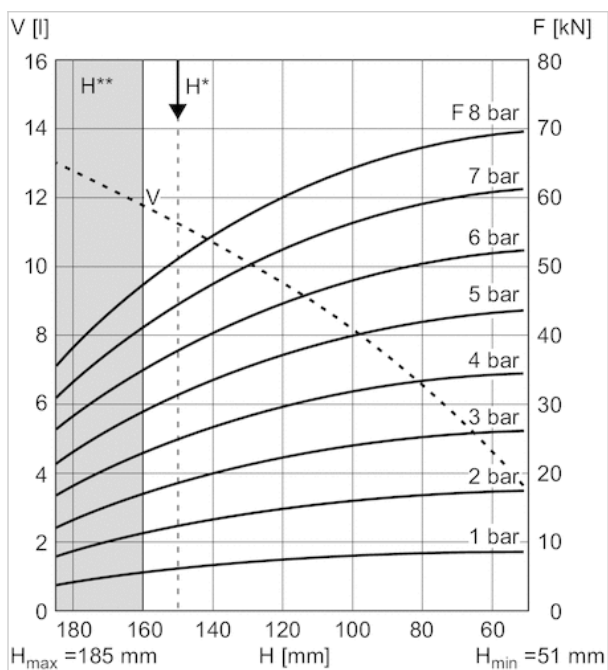


Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
1938091000	G 3/4	51 mm	155 mm	385 mm	287 mm
2999636900	G 3/4	51 mm	160 mm	405 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
158.8	79.4	400 mm	300 N
158.8	79.4	420 mm	300 N

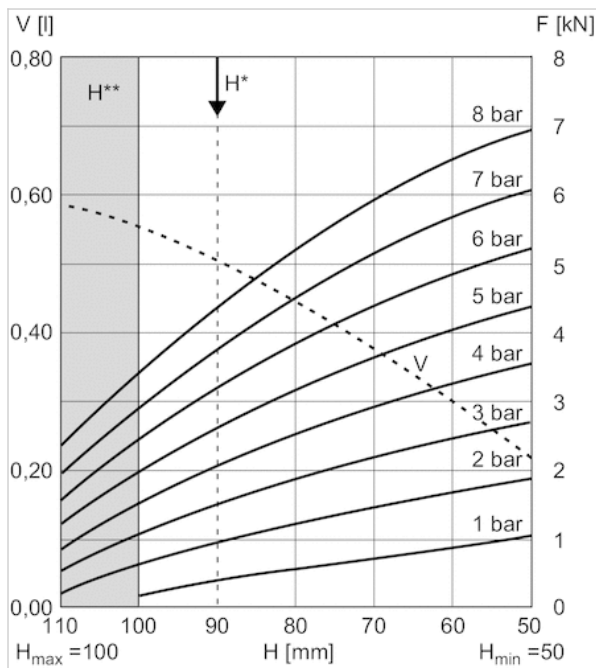
Force-displacement diagram 2999636900



V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

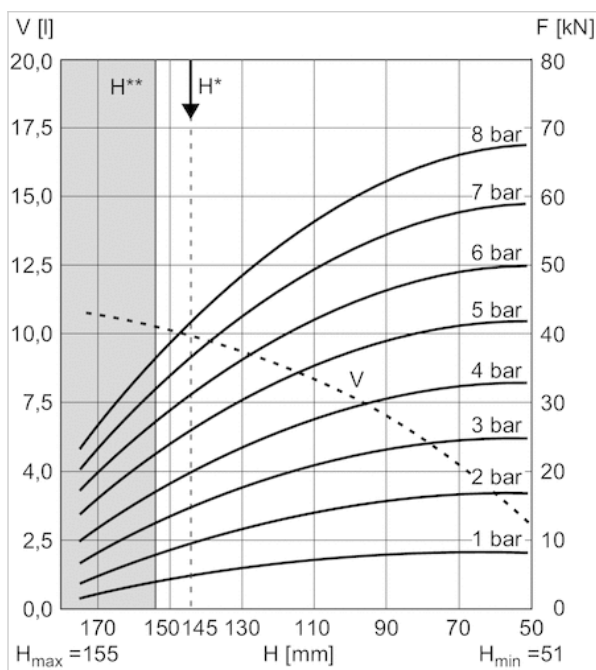
Diagrams

Force-displacement diagram 0822419001



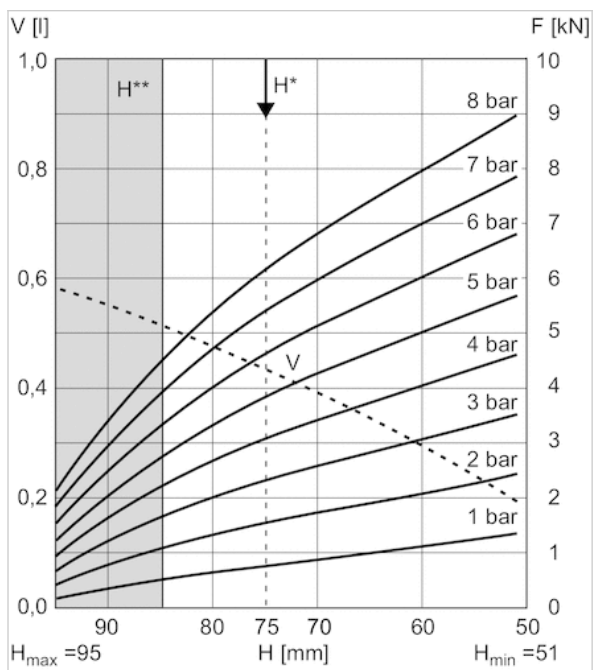
V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 1938091000



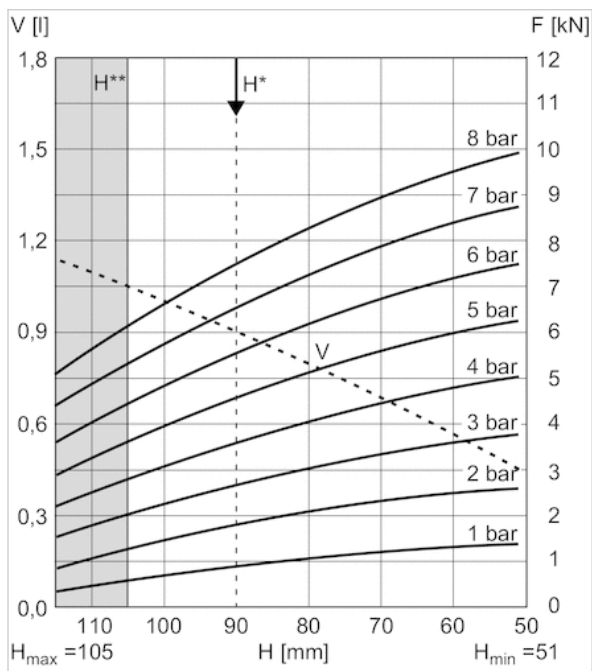
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010198



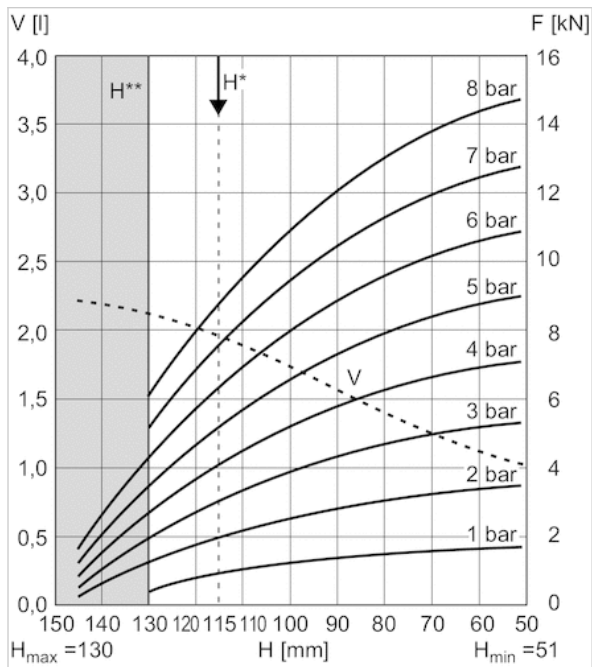
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 0822419002



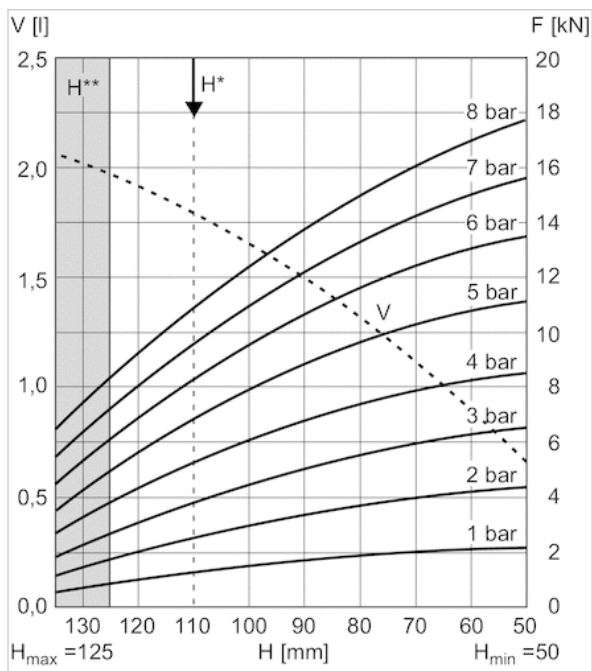
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram R412010199



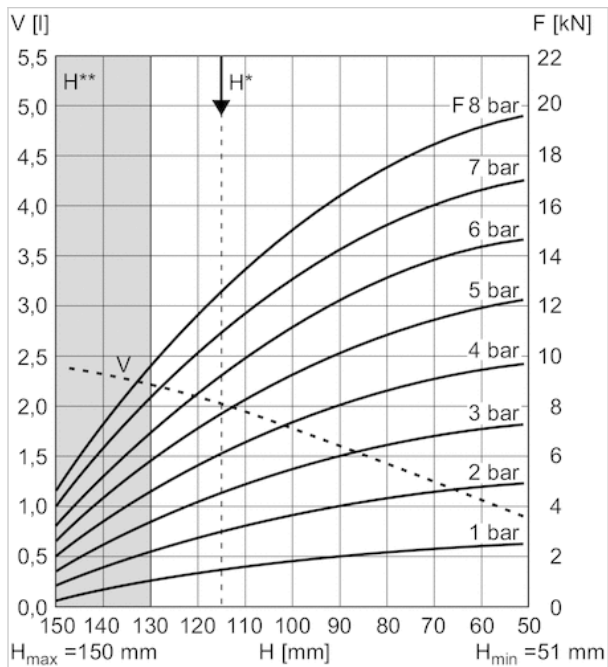
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram 0822419003



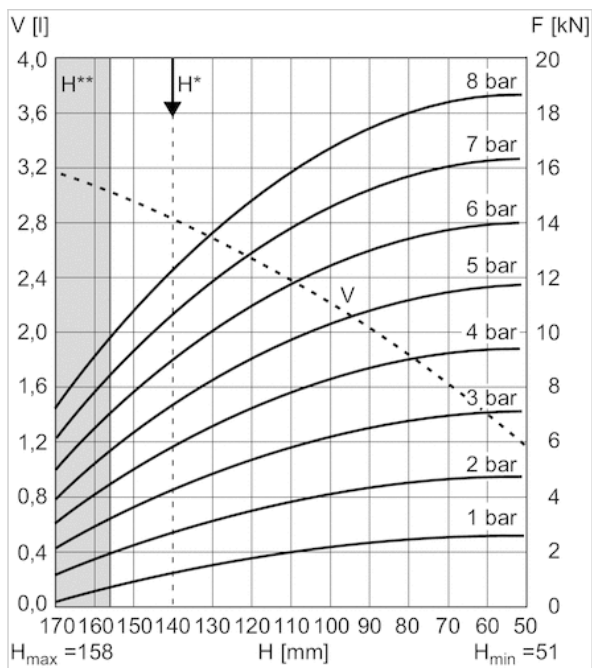
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 1923061000



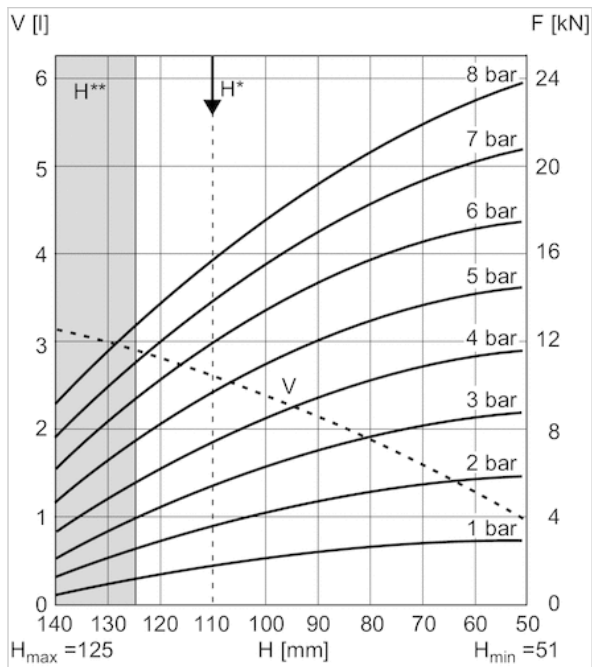
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010197



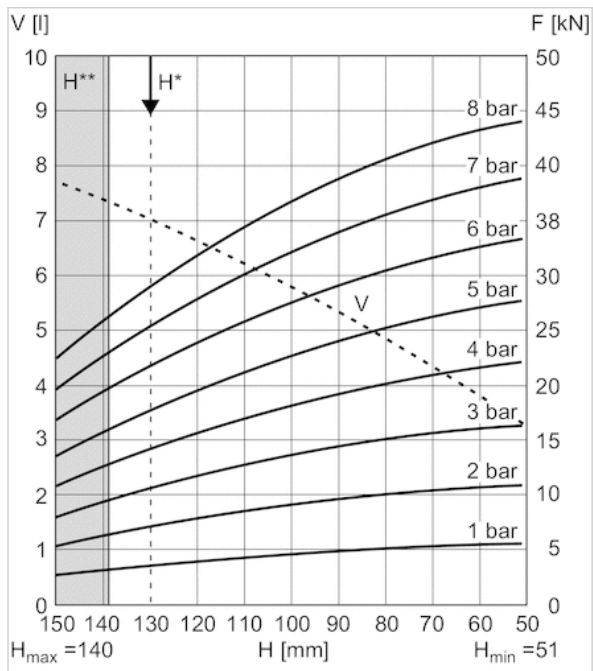
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram 0822419004



V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

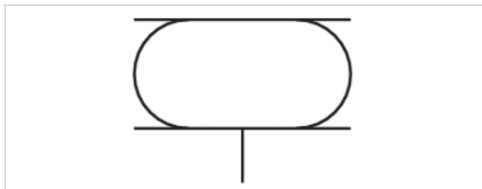
Force-displacement diagram 1933091000



V = volume
 H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Series BCP

- standard version
- double
- Stroke 95-253 mm



Version	Bellow actuator with cover
Functional principle	Single-acting, retracted without pressure
Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Permissible angle of tilt max.	20 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
0822419040	90 mm	G 1/8	95 mm
0822419041	108 mm	G 1/4	108 mm
2999640000	141 mm	G 1/4	123 mm
0822419042	141 mm	G 3/4	130 mm
1922161000	141 mm	G 3/4	153 mm
0822419043	161 mm	G 3/4	165 mm
R412010042	161 mm	G 3/4	183 mm
2999619400	161 mm	G 3/4	223 mm
1933181000	228 mm	G 3/4	190 mm
2999638300	228 mm	G 3/4	223 mm
1938191000	287 mm	G 3/4	193 mm
R412010200	287 mm	G 3/4	223 mm
2999610900	287 mm	G 3/4	253 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
0822419040	160 mm	2100 ... 5600 N	1,3 kg	Fig. 1	-
0822419041	180 mm	3500 ... 8700 N	1,5 kg	Fig. 2	-
2999640000	215 mm	5000 ... 12600 N	2,1 kg	Fig. 2	-
0822419042	230 mm	7000 ... 13000 N	2,3 kg	Fig. 2	1)
1922161000	235 mm	7700 ... 14800 N	2,3 kg	Fig. 2	1)
0822419043	250 mm	7700 ... 20000 N	3 kg	Fig. 3	-

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R412010042	265 mm	8700 ... 20100 N	3,2 kg	Fig. 3	1)
2999619400	275 mm	8200 ... 19500 N	3,5 kg	Fig. 3	1)
1933181000	340 mm	17000 ... 35400 N	4,8 kg	Fig. 3	-
2999638300	355 mm	20500 ... 36800 N	5,1 kg	Fig. 3	1)
1938191000	400 mm	27400 ... 49600 N	6,9 kg	Fig. 4	-
R412010200	415 mm	27800 ... 52600 N	7,3 kg	Fig. 4	1)
2999610900	420 mm	30000 ... 55000 N	7,7 kg	Fig. 4	1)

1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.

Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS

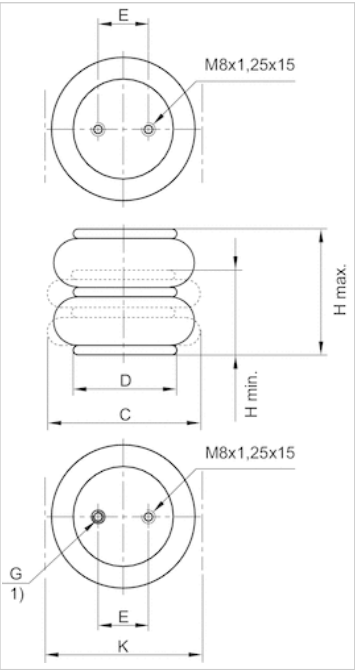
Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).

Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
Front cover	Steel, galvanized
End cover	Steel, galvanized

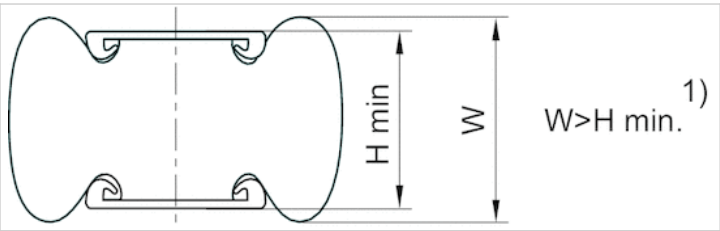
Fig. 1



1) air connection in the mounting hole

Dimensions

Comment



1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellows is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

1 kN = 1000 N

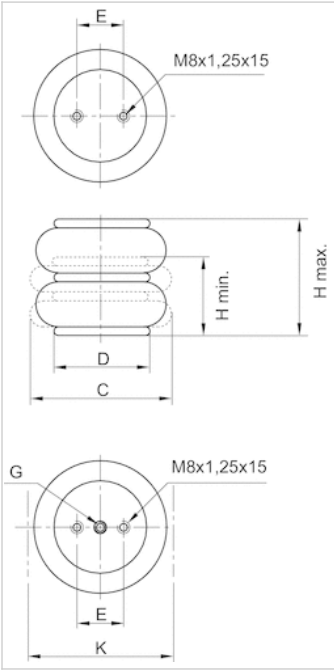
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
0822419040	G 1/8	70 mm	165 mm	145 mm	90 mm

E ±0,5 [mm]	K mm	Return force, min. N
20	160 mm	200 N

Dimensions

Fig. 2



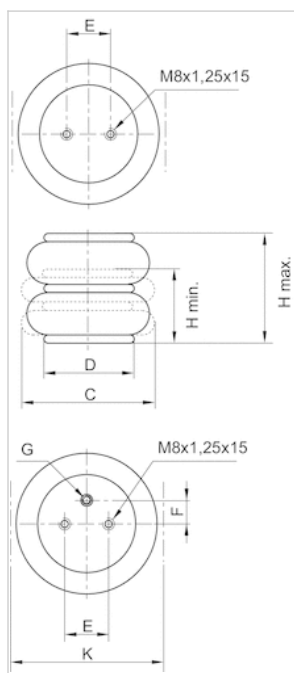
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
0822419041	G 1/4	72 mm	180 mm	165 mm	108 mm
2999640000	G 1/4	72 mm	195 mm	203 mm	141 mm
0822419042	G 3/4	75 mm	205 mm	215 mm	141 mm
1922161000	G 3/4	77 mm	230 mm	218 mm	141 mm

E ±0,5 [mm]	K mm	Return force, min. N
44.5	180 mm	200 N
70	215 mm	200 N
70	230 mm	200 N
70	235 mm	200 N

Dimensions

Fig. 3



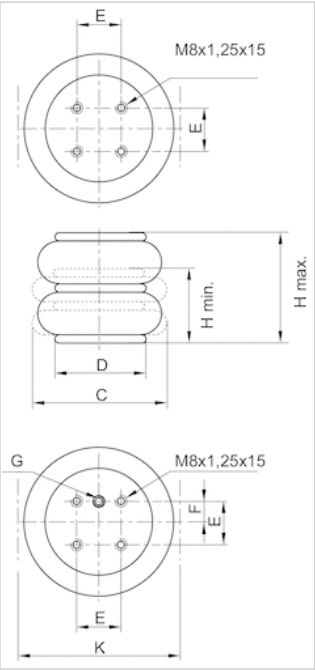
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
0822419043	G 3/4	75 mm	240 mm	250 mm	161 mm
R412010042	G 3/4	77 mm	260 mm	255 mm	161 mm
2999619400	G 3/4	77 mm	300 mm	260 mm	161 mm
1933181000	G 3/4	75 mm	265 mm	325 mm	228 mm
2999638300	G 3/4	77 mm	300 mm	340 mm	228 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
89	38.1	250 mm	200 N
89	38.1	265 mm	200 N
89	38.1	275 mm	250 N
157.5	73	340 mm	300 N
157.5	73	355 mm	300 N

Dimensions

Fig. 4

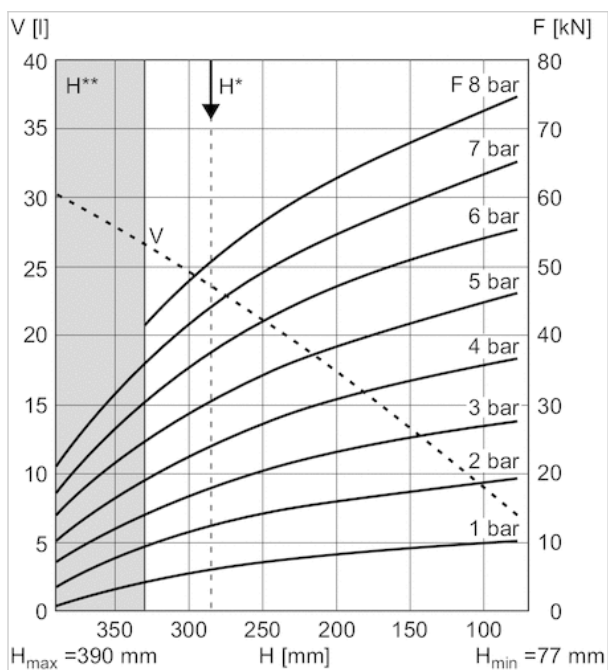


Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
1938191000	G 3/4	77 mm	270 mm	385 mm	287 mm
R412010200	G 3/4	77 mm	300 mm	400 mm	287 mm
2999610900	G 3/4	77 mm	330 mm	405 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
158.8	79.4	400 mm	400 N
158.8	79.4	415 mm	400 N
158.8	79.4	420 mm	400 N

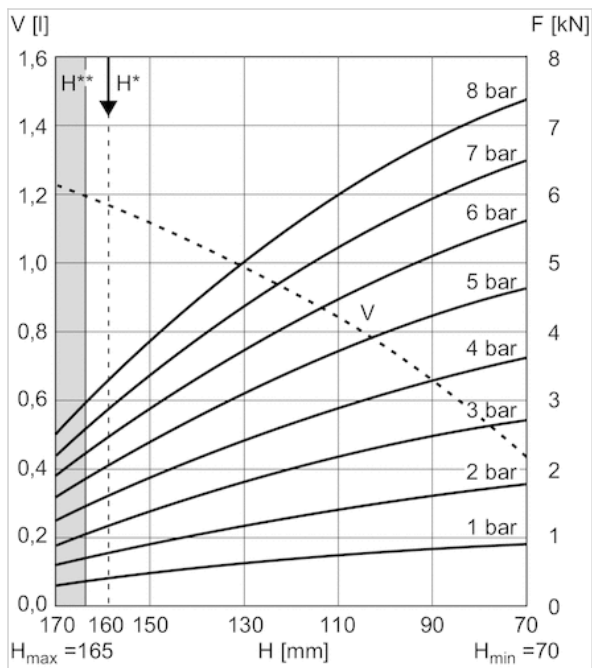
Force-displacement diagram 2999610900



V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

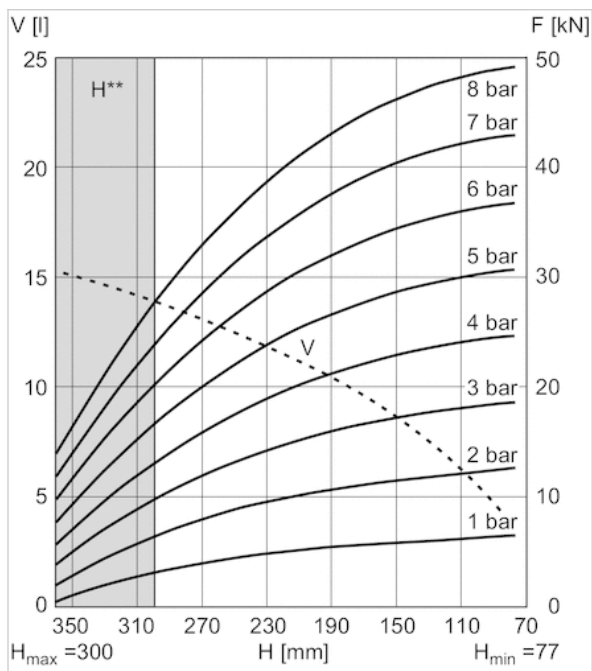
Diagrams

Force-displacement diagram 0822419040



V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

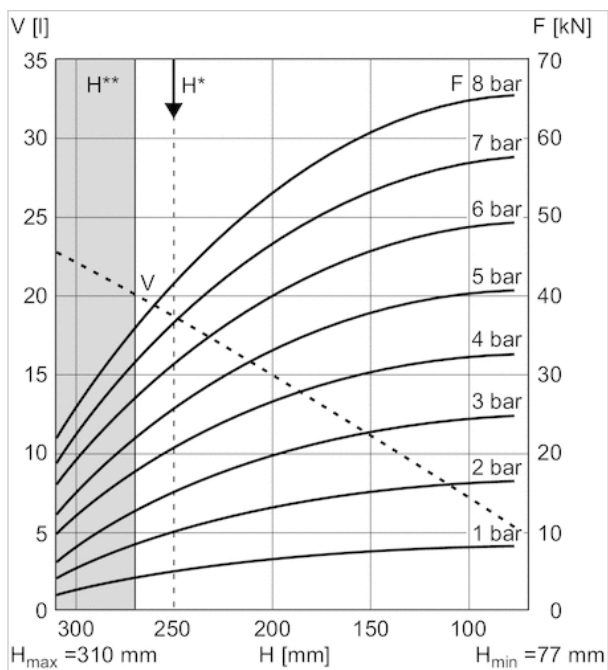
Force-displacement diagram 2999638300



V = volume H = height H** = use permitted only upon approval by AVENTICS

1 kN = 1000 N

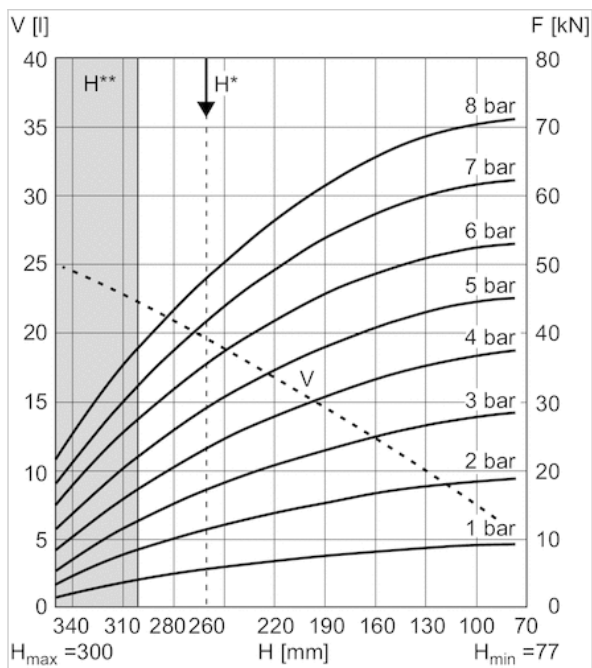
Force-displacement diagram 1938191000



V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS

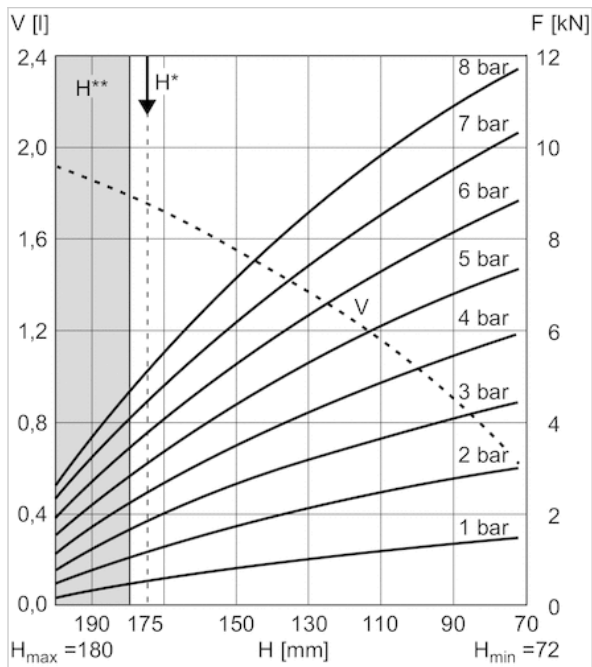
1 kN = 1000 N

Force-displacement diagram R412010200



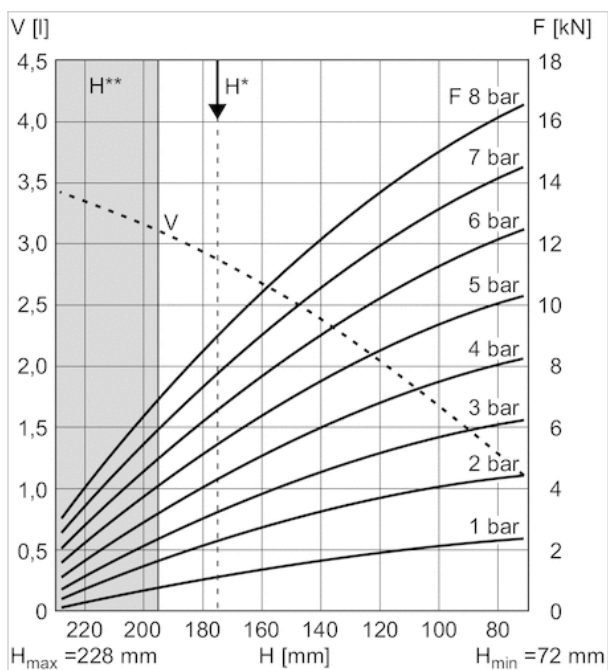
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram 0822419041



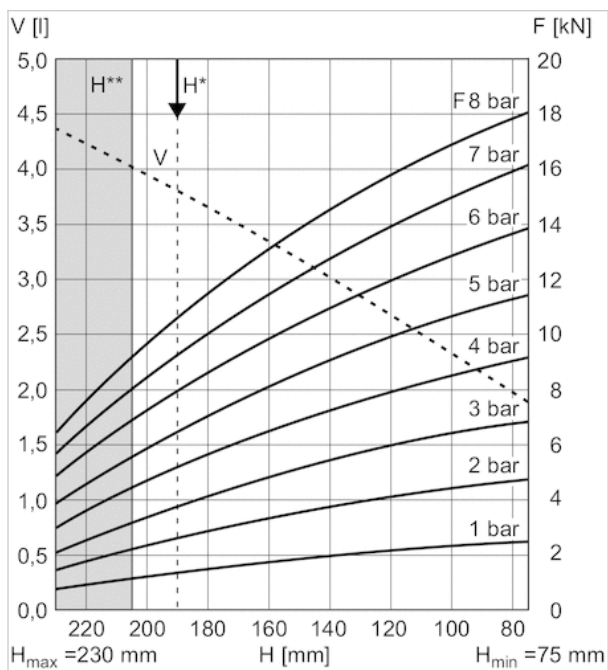
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram 2999640000



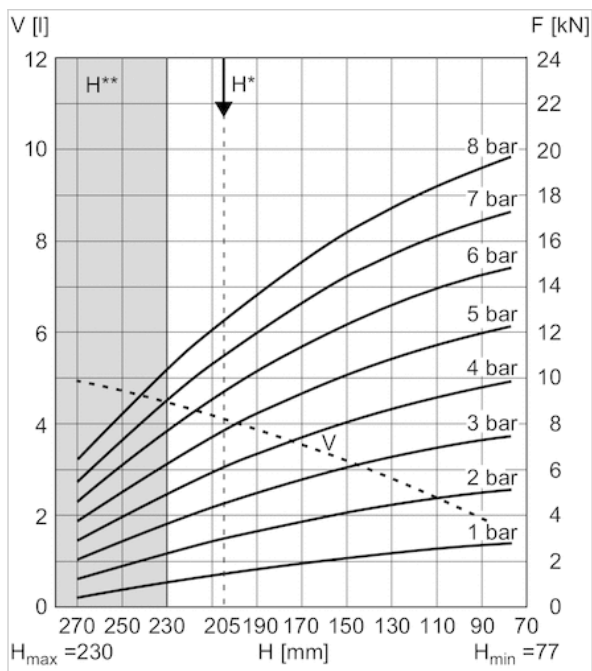
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 0822419042



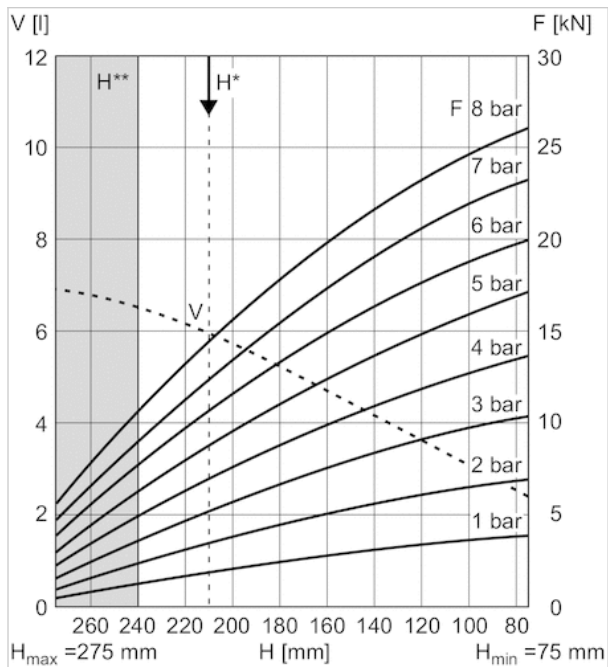
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 1922161000



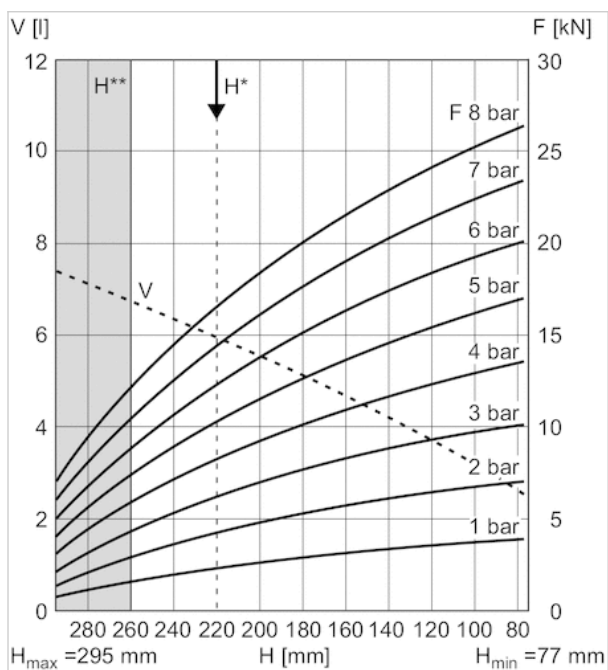
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 0822419043



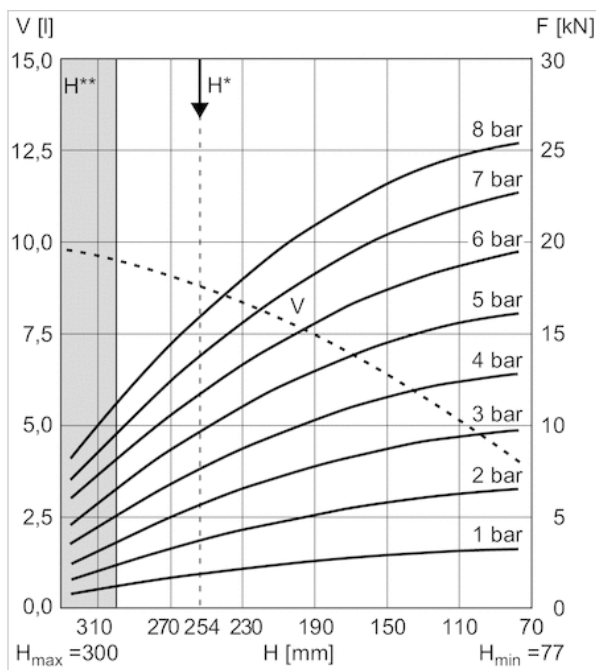
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010042



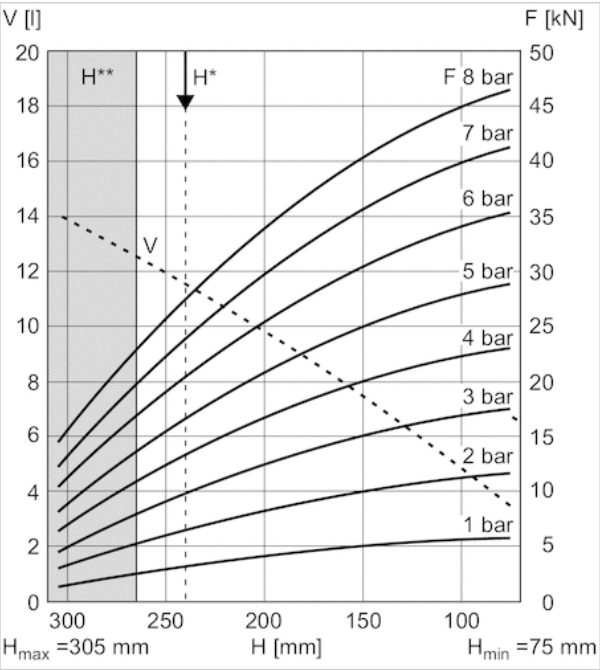
V = volume
 H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram 2999619400



V = volume
 H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

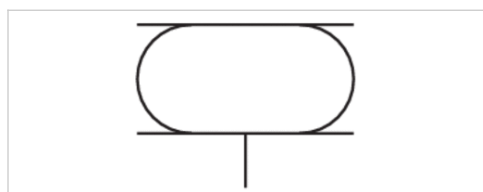
Force-displacement diagram 1933181000



V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Series BCP

- standard version
- triple
- Stroke 275-285 mm



Version	Bellow actuator with cover
Functional principle	Single-acting, retracted without pressure
Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Permissible angle of tilt max.	20 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
2999612800	228 mm	G 3/4	285 mm
1938281000	287 mm	G 3/4	275 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.
2999612800	345 mm	17100 ... 34500 N	5,9 kg	Fig. 1
1938281000	410 mm	28700 ... 52600 N	8 kg	Fig. 2

Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.

Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS

Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).

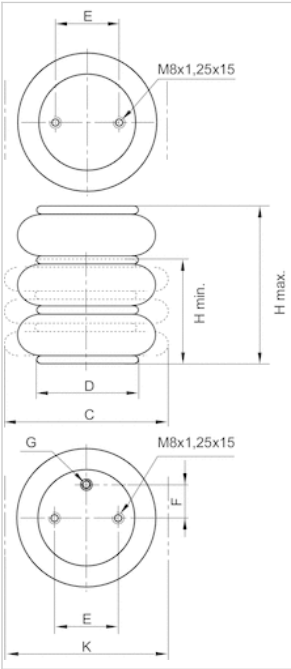
Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
Front cover	Steel, galvanized
End cover	Steel, galvanized

Dimensions

Fig. 1



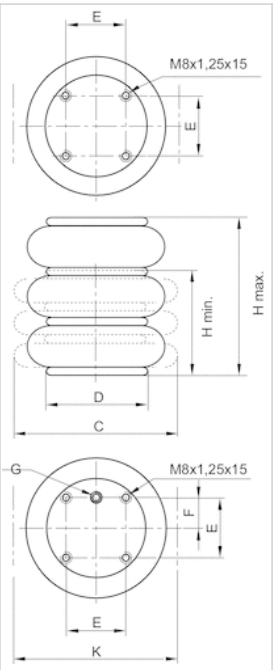
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
2999612800	G 3/4	110 mm	395 mm	325 mm	228 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
157.5	73	345 mm	400 N

Dimensions

Fig. 2

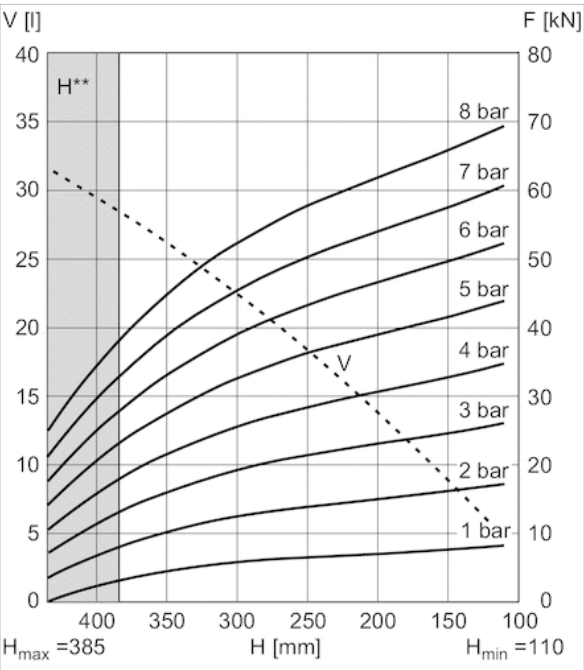


Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
1938281000	G 3/4	110 mm	385 mm	384 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
158.8	79.4	410 mm	500 N

Force-displacement diagram 1938281000

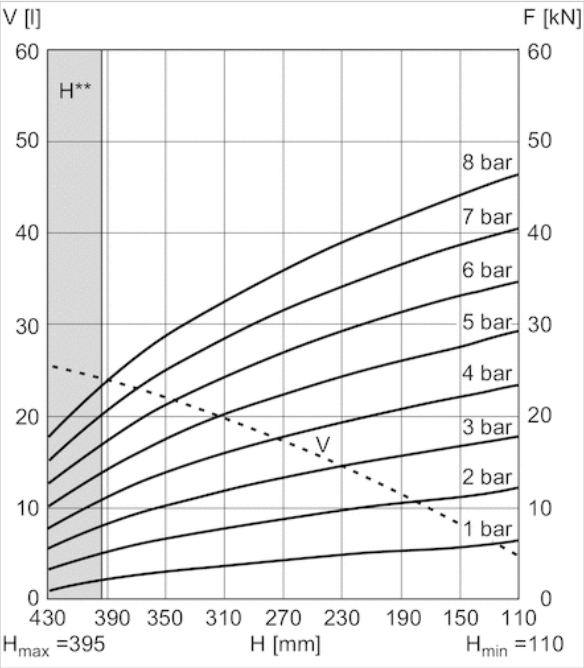


V = volumeH = heightH**= use permitted only upon approval by AVENTICS

1 kN = 1000 N

Diagrams

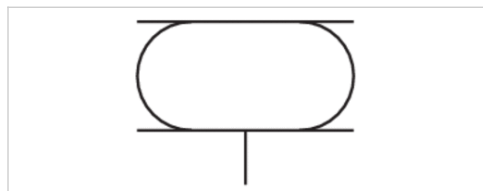
Force-displacement diagram 2999612800



V = volume
 H = height
 H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Series BCP

- Heat-resistant version
- single
- Stroke 31-107 mm



Version	Bellow actuator with cover
Functional principle	Single-acting, retracted without pressure
Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-20 ... 130 °C
Medium	Compressed air
Permissible angle of tilt max.	20 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
R412010207	108 mm	G 1/4	31 mm
R412004943	108 mm	G 1/4	54 mm
R412010208	114 mm	G 1/4	76 mm
R412007812	141 mm	G 3/4	75 mm
R412010209	141 mm	G 3/4	107 mm
R412010210	161 mm	G 3/4	74 mm
R412010211	228 mm	G 3/4	89 mm
R412010212	287 mm	G 3/4	104 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R412010207	165 mm	3500 ... 6900 N	1,4 kg	Fig. 1	-
R412004943	180 mm	4500 ... 7500 N	1,2 kg	Fig. 1	-
R412010208	225 mm	4300 ... 10900 N	1,4 kg	Fig. 1	-
R412007812	230 mm	6100 ... 13600 N	2 kg	Fig. 1	-
R412010209	250 mm	7000 ... 14000 N	1,9 kg	Fig. 1	1)
R412010210	265 mm	9300 ... 17300 N	2,3 kg	Fig. 2	-
R412010211	340 mm	19400 ... 33300 N	3,9 kg	Fig. 2	-
R412010212	400 mm	26100 ... 50000 N	5,9 kg	Fig. 3	-

1) Once the minimum height $H_{min.}$ is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

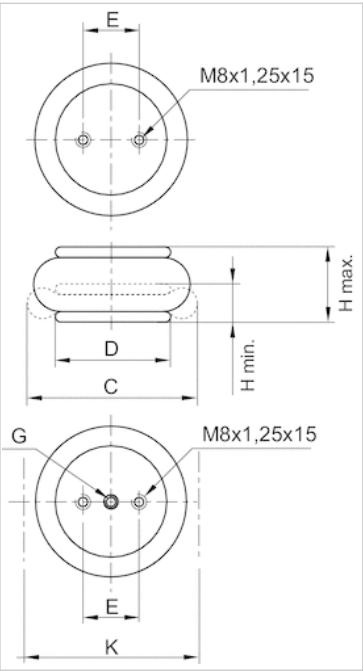
Technical information

Compliance with the minimum height $H_{min.}$ as well as the maximum height $H_{max.}$ must be ensured with end stops.
 Use at operating height $\geq H_{max.}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the “Technical information” document (available in the MediaCentre).
 Reduced service life at a temperature greater than 115 °C

Technical information

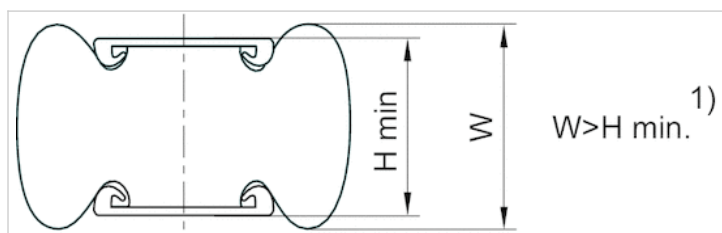
Material	
Bellow	Epichlorohydrin rubber
Front cover	Steel, galvanized
End cover	Steel, galvanized

Fig. 1



Dimensions

Comment



1) Once the minimum height H_{min} is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellows is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

1 kN = 1000 N

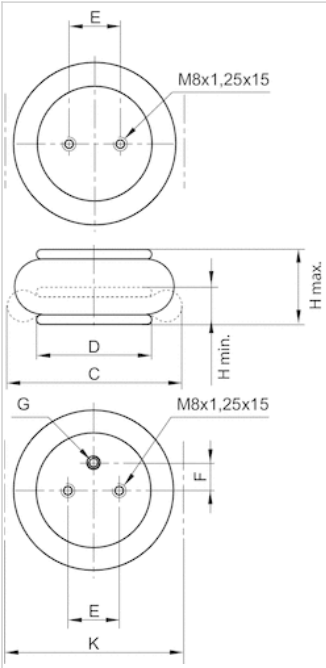
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010207	G 1/4	54 mm	85 mm	150 mm	108 mm
R412004943	G 1/4	51 mm	105 mm	165 mm	108 mm
R412010208	G 1/4	54 mm	130 mm	210 mm	114 mm
R412007812	G 3/4	50 mm	125 mm	215 mm	141 mm
R412010209	G 3/4	54 mm	158 mm	235 mm	141 mm

E ±0,5 [mm]	K mm	Return force, min. N
44.5	165 mm	250 N
44.5	180 mm	200 N
44.5	225 mm	45 N
44.5	230 mm	200 N
70	250 mm	200 N

Dimensions

Fig. 2



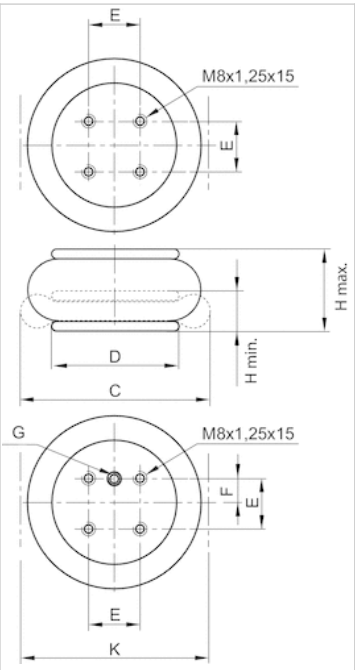
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010210	G 3/4	54 mm	125 mm	250 mm	161 mm
R412010211	G 3/4	54 mm	140 mm	325 mm	228 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
89	38.1	265 mm	200 N
157.5	73	340 mm	300 N

Dimensions

Fig. 3

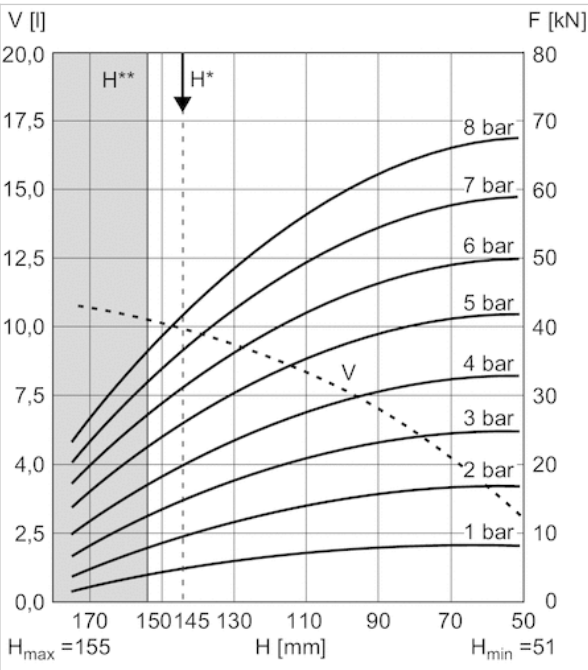


Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010212	G 3/4	54 mm	155 mm	385 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
158.8	79.4	400 mm	300 N

Force-displacement diagram R412010212

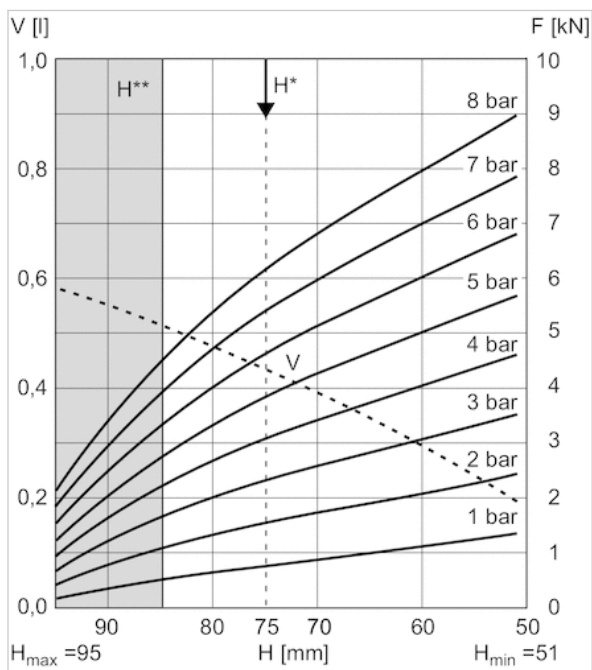


V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

1 kN = 1000 N

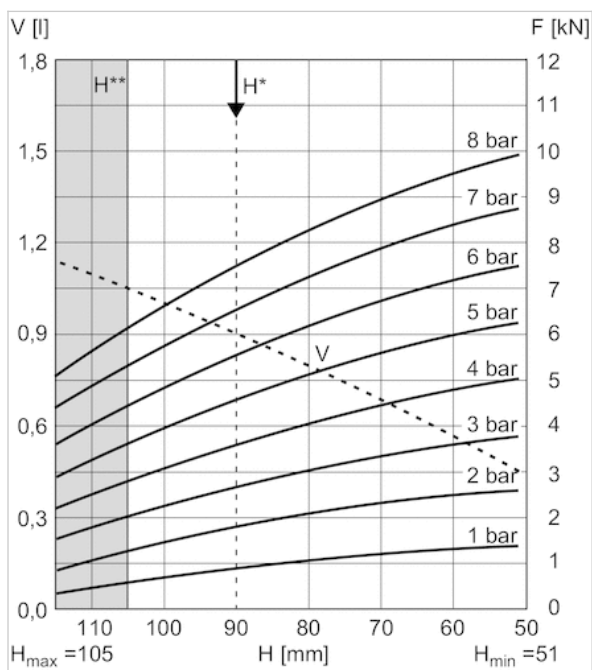
Diagrams

Force-displacement diagram R412010207



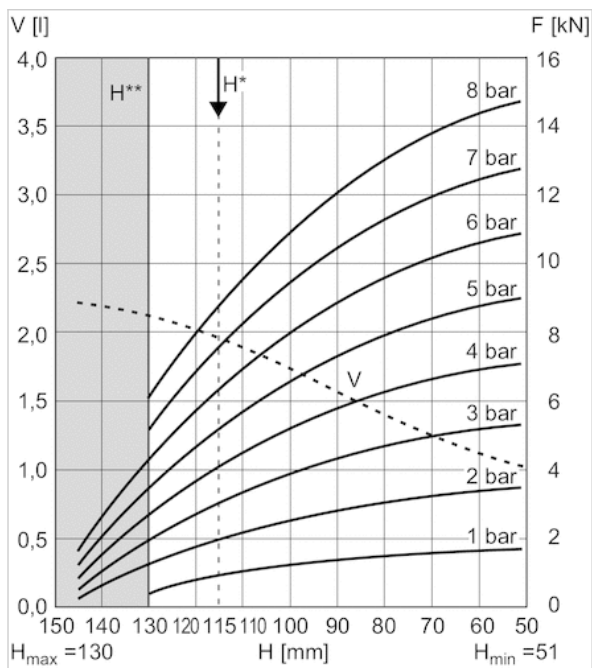
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412004943



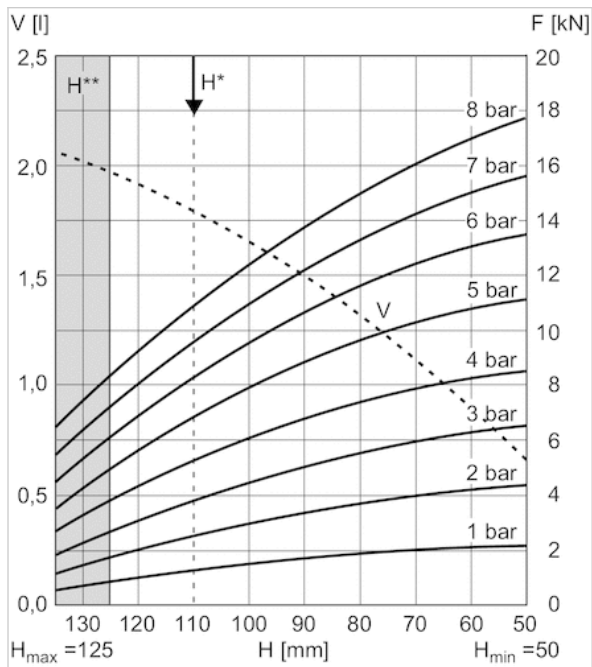
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010208



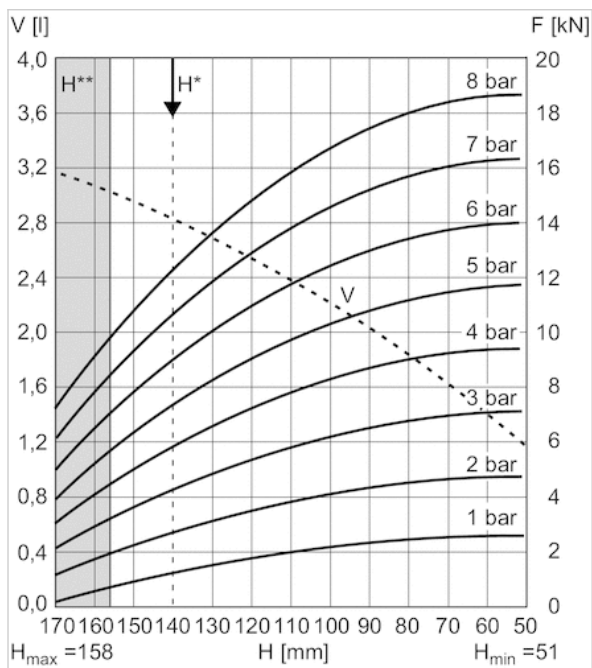
V = volume
H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412007812



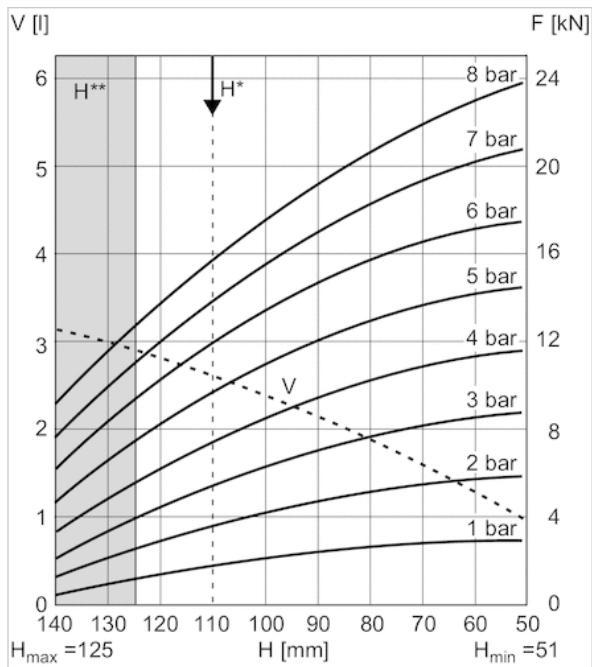
V = volume
H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010209



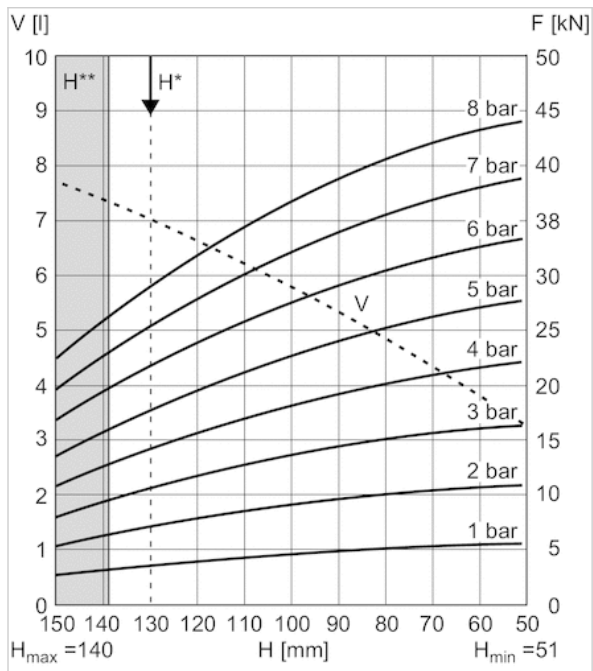
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram R412010210



V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

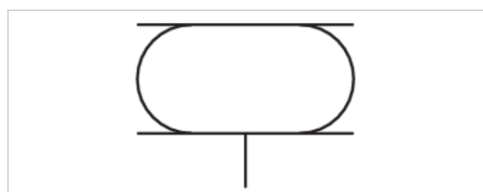
Force-displacement diagram R412010211



V = volume
 H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Series BCP

- Heat-resistant version
- double
- Stroke 108-190 mm



Version	Bellow actuator with cover
Functional principle	Single-acting, retracted without pressure
Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-20 ... 130 °C
Medium	Compressed air
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
R412010213	108 mm	G 1/4	108 mm
R412010214	141 mm	G 3/4	153 mm
R412010476	228 mm	G 3/4	190 mm

Part No.	Min. radial installation space	Force min./max.	Weight	
R412010213	180 mm	3500 ... 8700 N	1,5 kg	-
R412010214	235 mm	7700 ... 14800 N	2,3 kg	1)
R412010476	340 mm	17000 ... 35400 N	4,8 kg	-

1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.

Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS

Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).

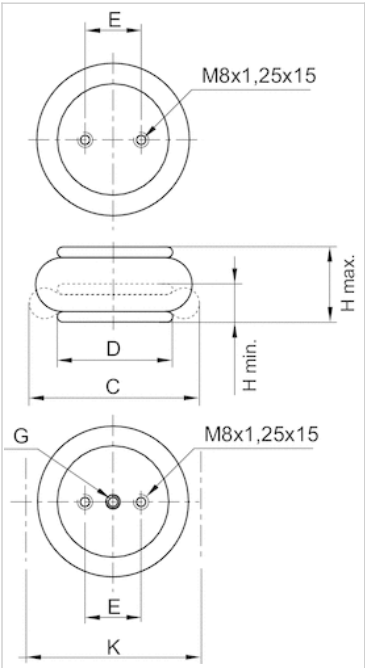
Reduced service life at a temperature greater than 115 °C

Technical information

Material

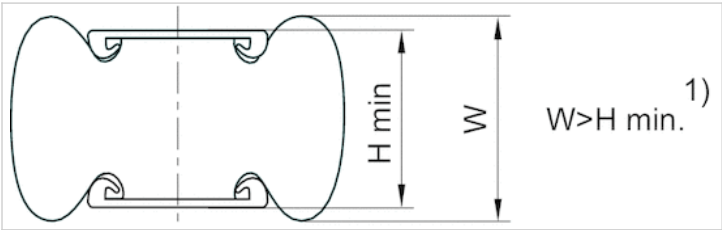
Bellow	Epichlorohydrin rubber
Front cover	Steel, galvanized
End cover	Steel, galvanized

Dimensions



Dimensions

Comment



1) Once the minimum height H_{min} is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is also compressed by the mounting surfaces. These products require more space upward, which can, in rare cases, present a hindrance. In any case, the specifications of the data sheets apply when using mounting surfaces in the size of the bellows actuator cover.

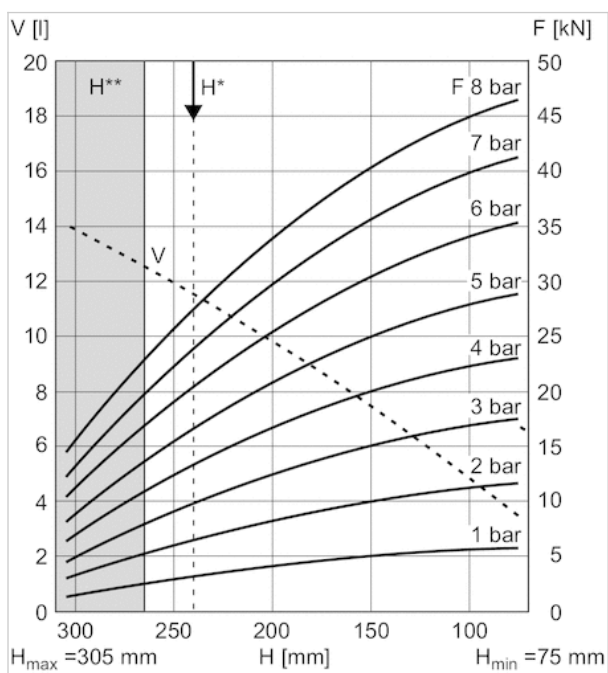
1 kN = 1000 N

Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010213	G 1/4	78 mm	180 mm	165 mm	108 mm
R412010214	G 3/4	83 mm	230 mm	218 mm	141 mm
R412010476	G 3/4	75 mm	305 mm	325 mm	228 mm

E $\pm 0,5$ [mm]	K mm	Return force, min. N
44,5	180 mm	200 N
70	235 mm	200 N
157,5	340 mm	300 N

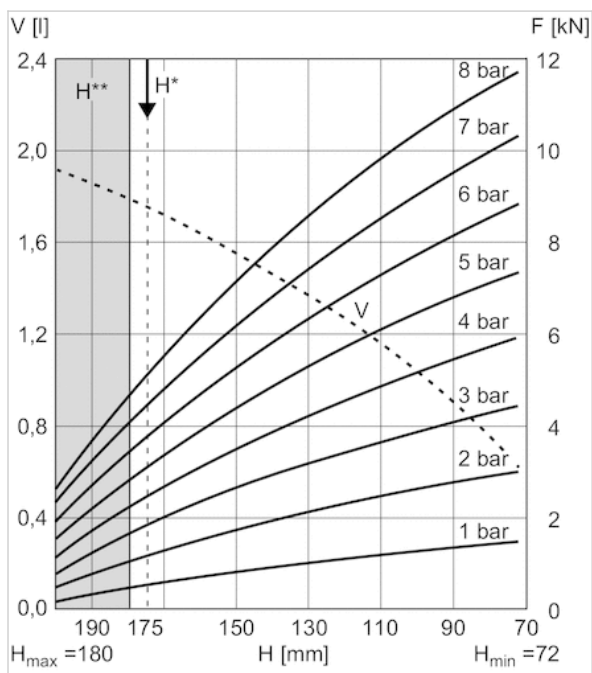
Force-displacement diagram R412010476



V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

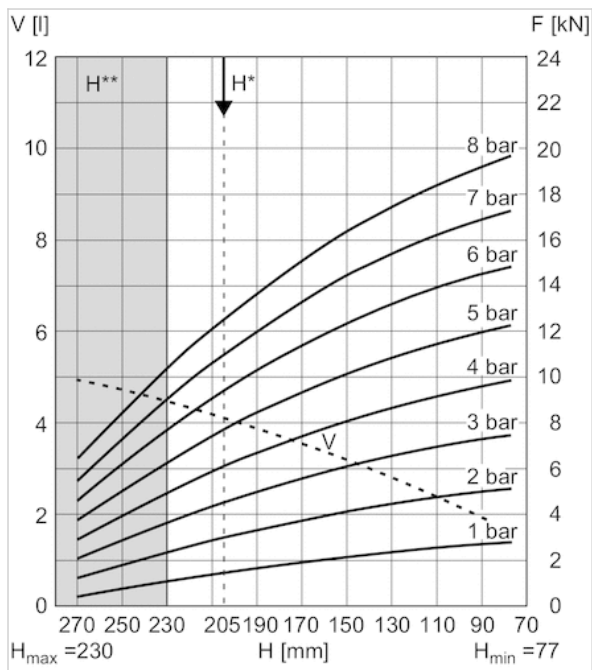
Diagrams

Force-displacement diagram R412010213



V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram R412010214



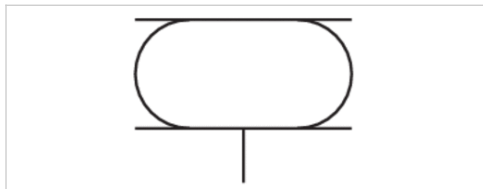
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Series BCP

- Corrosion-resistant version
- single
- Stroke 34-107 mm



Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Permissible angle of tilt max.	20 °
Weight	See table below



Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
R412010215	108 mm	G 1/4	34 mm
R412010216	114 mm	G 1/4	79 mm
R412010217	141 mm	G 3/4	107 mm
R412010218	161 mm	G 3/4	74 mm
R412010219	228 mm	G 3/4	89 mm
R412010220	287 mm	G 3/4	104 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.
R412010215	165 mm	3500 ... 6900 N	1,2 kg	Fig. 2
R412010216	225 mm	4300 ... 10900 N	1,4 kg	Fig. 2
R412010217	250 mm	7000 ... 14000 N	1,9 kg	Fig. 2
R412010218	265 mm	9300 ... 17300 N	2,3 kg	Fig. 3
R412010219	340 mm	19400 ... 33300 N	3,9 kg	Fig. 3
R412010220	400 mm	26100 ... 50000 N	5,9 kg	Fig. 4

Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.

Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS

Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).

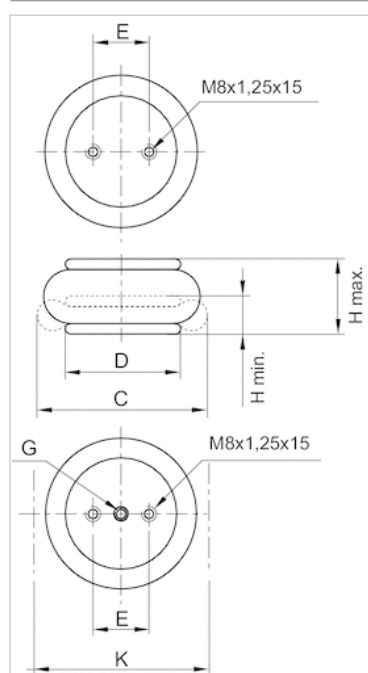
Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
Front cover	Stainless steel
End cover	Stainless steel

Dimensions

Fig. 2



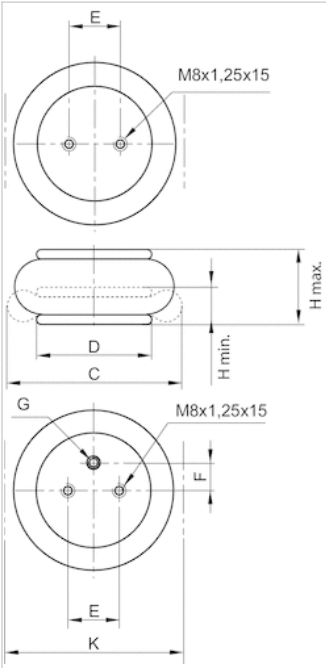
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010215	G 1/4	51 mm	85 mm	150 mm	108 mm
R412010216	G 1/4	51 mm	-	210 mm	114 mm
R412010217	G 3/4	51 mm	-	235 mm	141 mm

E ±0,5 [mm]	K mm	Return force, min. N
44.5	165 mm	250 N
44.5	225 mm	45 N
70	250 mm	200 N

Dimensions

Fig. 3



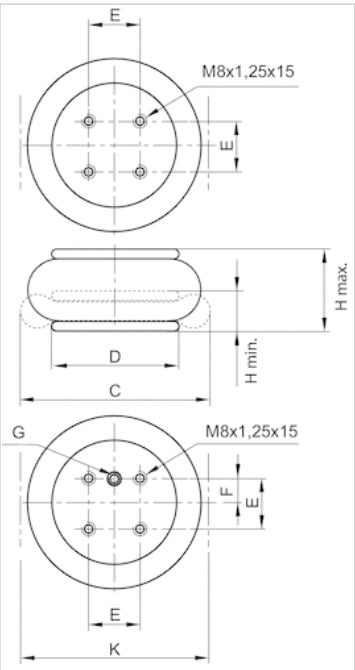
Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010218	G 3/4	51 mm	125 mm	250 mm	161 mm
R412010219	G 3/4	51 mm	-	325 mm	228 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
89	38.1	265 mm	200 N
157.5	73	340 mm	300 N

Dimensions

Fig. 4

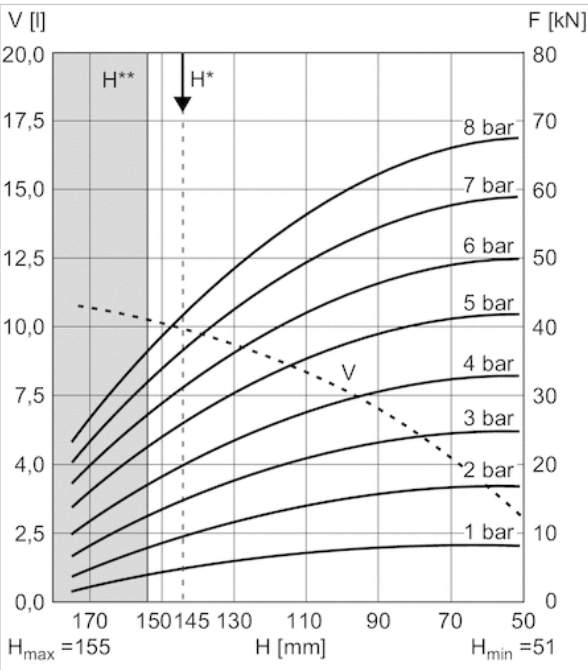


Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
R412010220	G 3/4	51 mm	155 mm	385 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K mm	Return force, min. N
158.8	79.4	400 mm	300 N

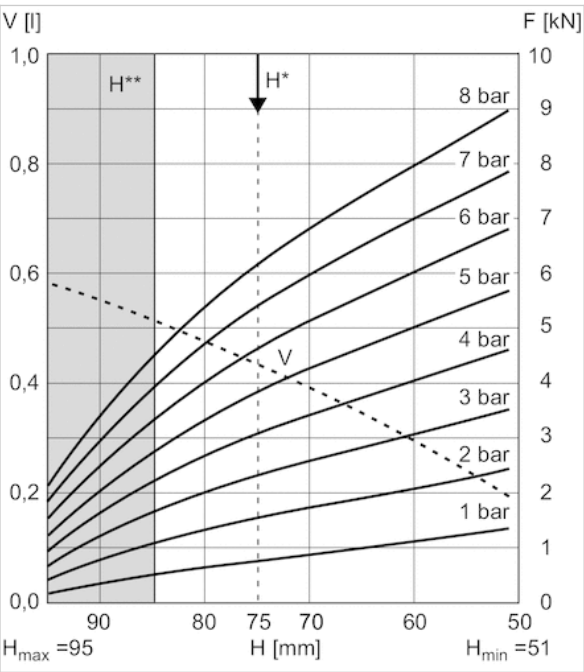
Force-displacement diagram R412010220



V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

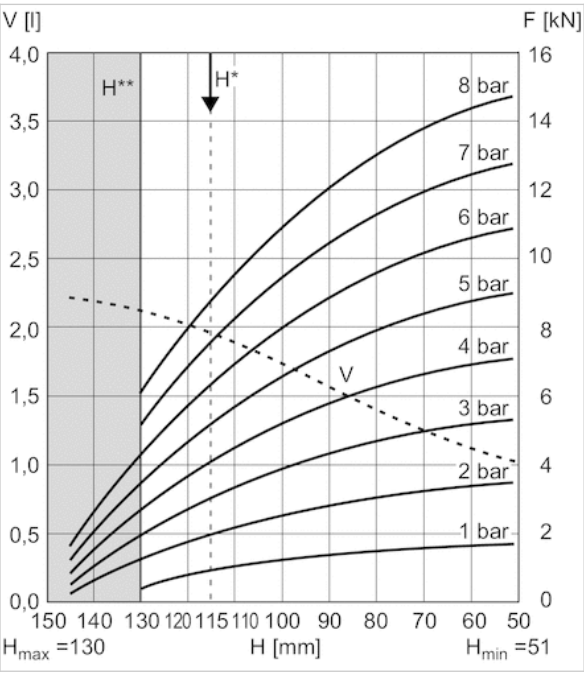
Diagrams

Force-displacement diagram R412010215



V = volumeH = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS

Force-displacement diagram R412010216

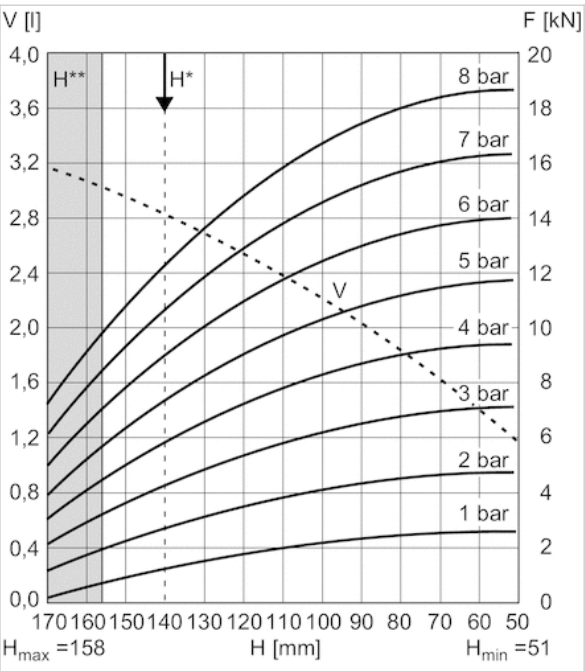


V = volumeH = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS



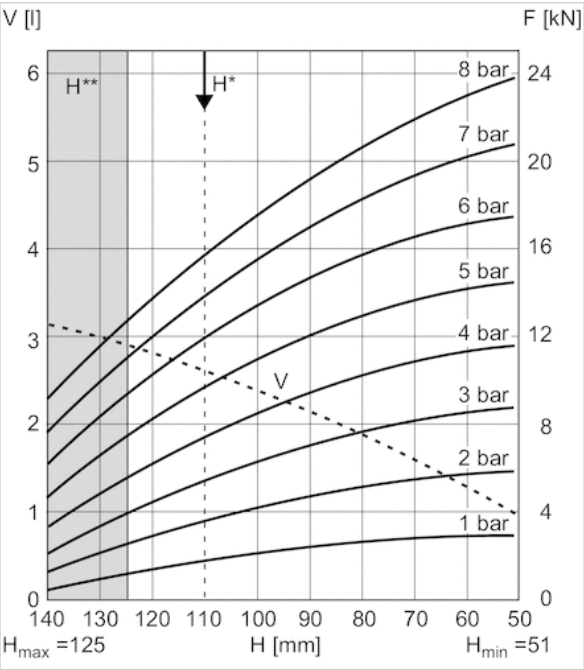
max. permissible parallel movement between the covers: 10 mm

Force-displacement diagram R412010217



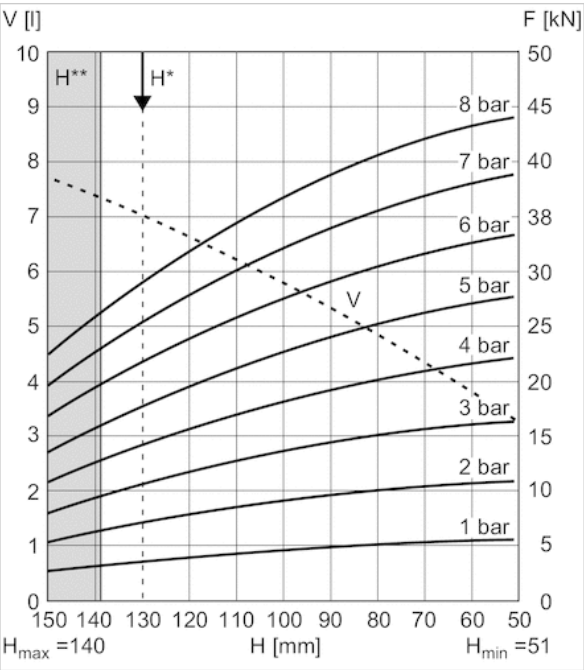
V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS

Force-displacement diagram R412010218



V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS

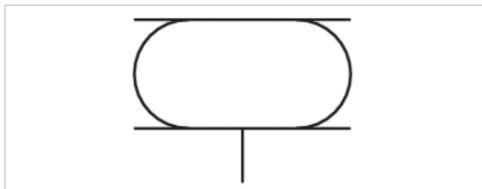
Force-displacement diagram R412010219



V = volume
H = height
H* = recommended operating height for vibration isolation
H** = use permitted only upon approval by AVENTICS

Series BCP

- Corrosion-resistant version
- double
- Stroke 108-223 mm



Working pressure min./max.	0 ... 8 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Permissible angle of tilt max.	25 °
Weight	See table below

Technical data

Part No.	Cover diameter	Compressed air connection	Max. effective stroke
		G	
R412010221	108 mm	G 1/4	108 mm
R412010222	141 mm	G 3/4	153 mm
R412010223	161 mm	G 3/4	223 mm
R412010224	228 mm	G 3/4	223 mm
R412010225	287 mm	G 3/4	223 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.
R412010221	180 mm	3500 ... 8700 N	1,5 kg	Fig. 1
R412010222	235 mm	7700 ... 14800 N	2,3 kg	Fig. 1
R412010223	275 mm	8200 ... 19500 N	3,5 kg	Fig. 2
R412010224	355 mm	20500 ... 36800 N	5,1 kg	Fig. 2
R412010225	415 mm	27800 ... 52600 N	7,3 kg	Fig. 3

Technical information

Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.

Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS

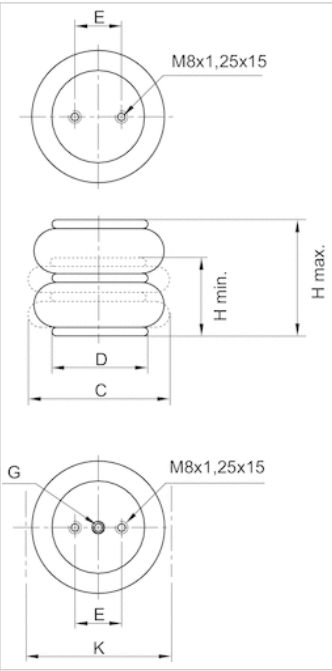
Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).

Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
Front cover	Stainless steel
End cover	Stainless steel

Fig. 2



Dimensions

double bellow actuator

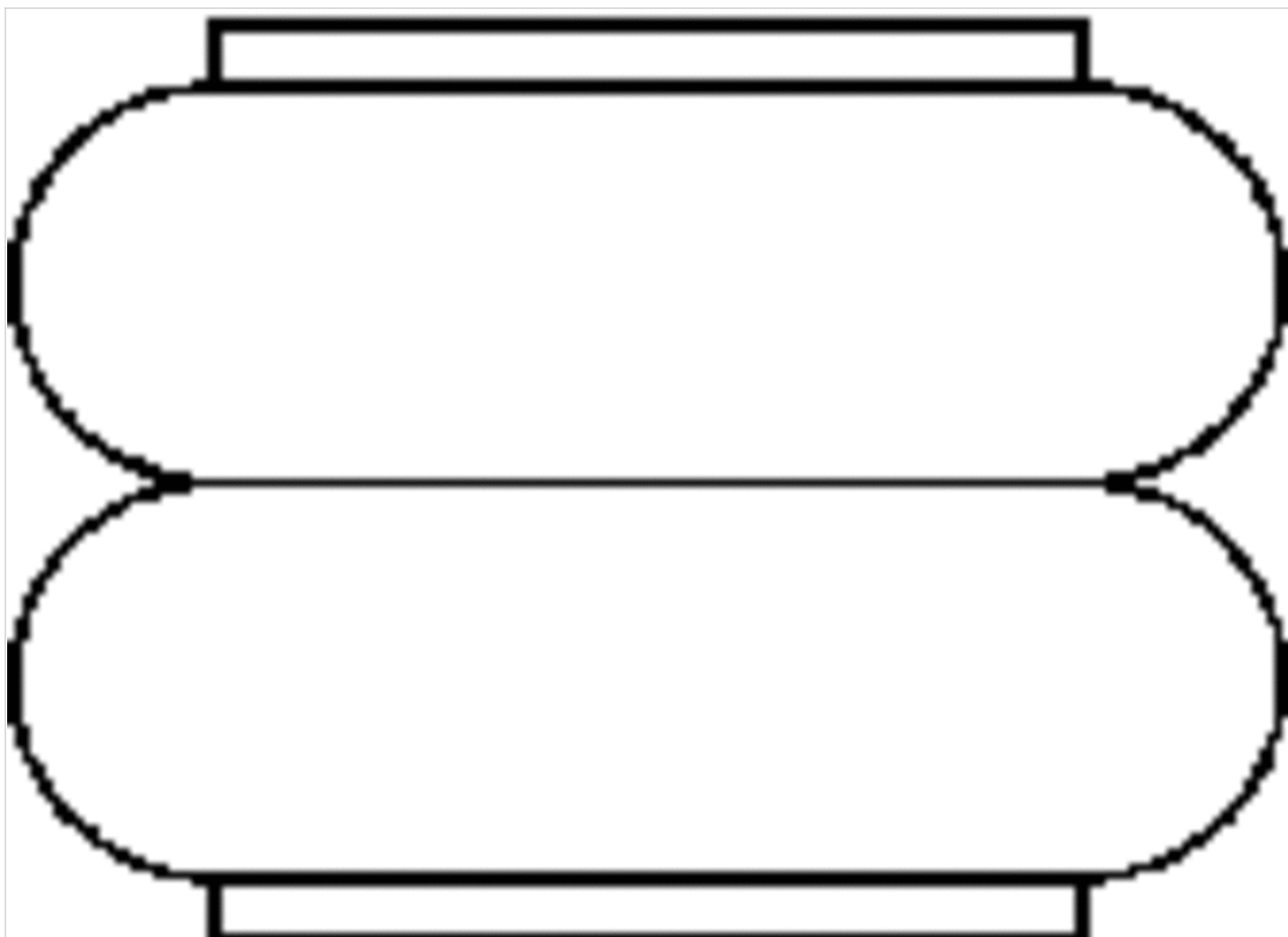
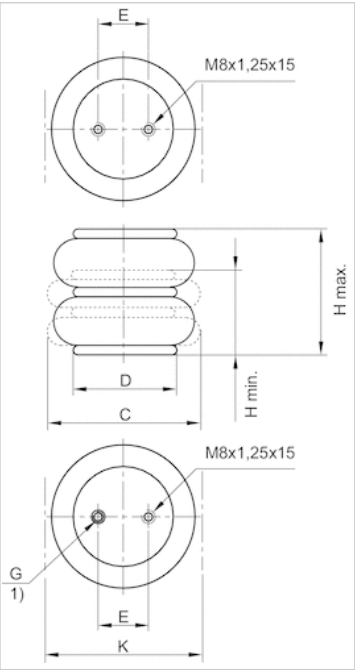


Fig. 1



1) air connection in the mounting hole

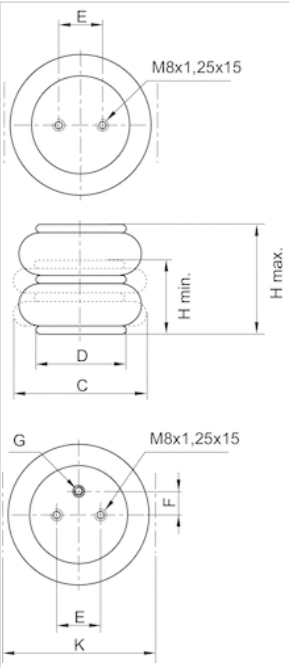
Dimensions

Part No.	Compressed air connection G	H min. mm	C mm	D mm	E ±0,5 [mm]
R412010221	G 1/4	72 mm	165 mm	108 mm	44.5
R412010222	G 3/4	77 mm	218 mm	141 mm	70

K mm	Return force, min. N
180 mm	200 N
235 mm	200 N

Dimensions

Fig. 3



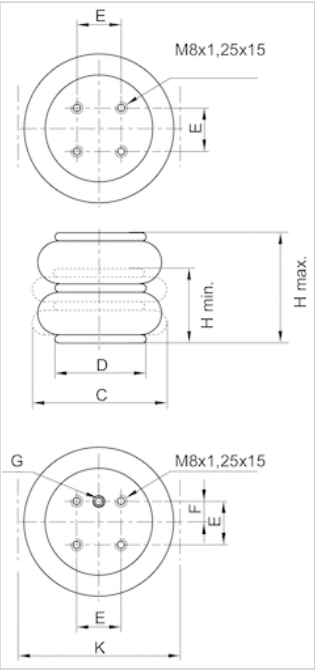
Dimensions

Part No.	Compressed air connection G	H min. mm	C mm	D mm	E ±0,5 [mm]
R412010223	G 3/4	77 mm	260 mm	161 mm	89
R412010224	G 3/4	77 mm	340 mm	228 mm	157.5

F ±0,5 [mm]	K mm	Return force, min. N
38.1	275 mm	250 N
73	355 mm	300 N

Dimensions

Fig. 4

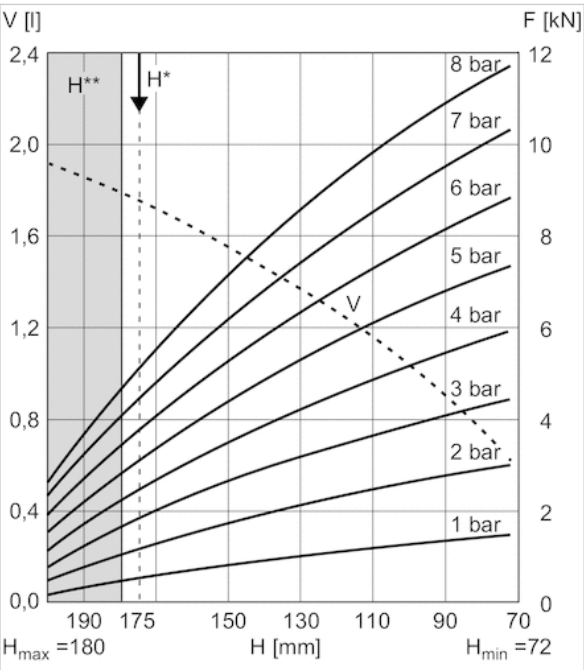


Dimensions

Part No.	Compressed air connection G	H min. mm	C mm	D mm	E ±0,5 [mm]
R412010225	G 3/4	77 mm	400 mm	287 mm	158.8

F ±0,5 [mm]	K mm	Return force, min. N
79.4	415 mm	400 N

Force-displacement diagram 0822419041

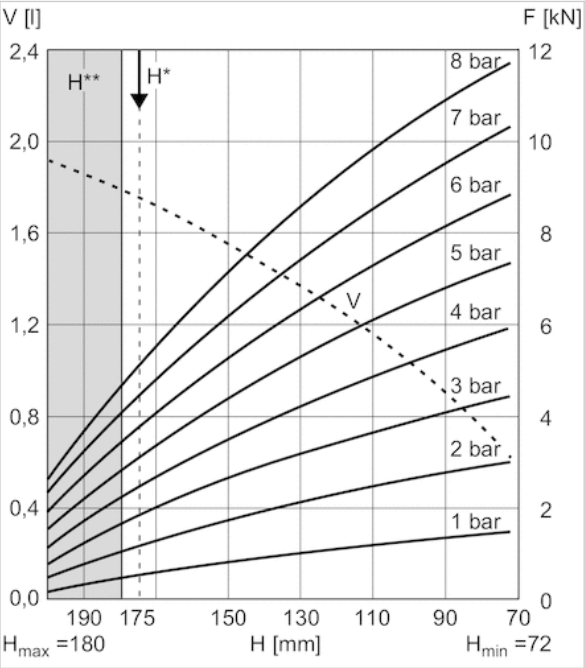


V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

1 kN = 1000 N

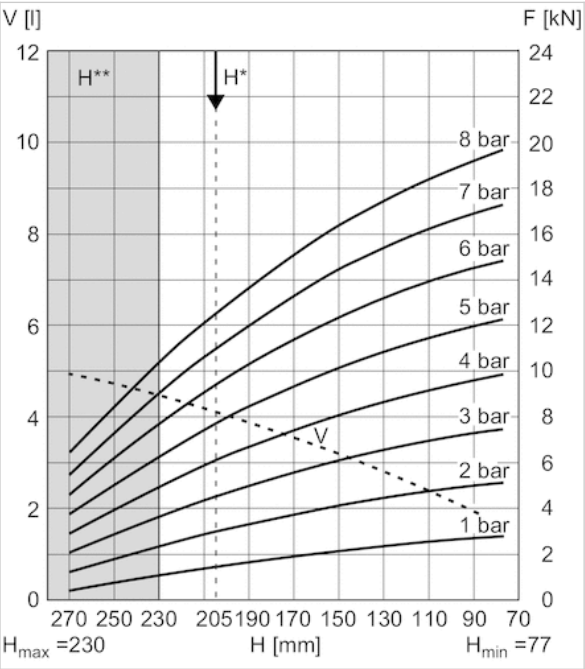
Diagrams

Force-displacement diagram R412010221



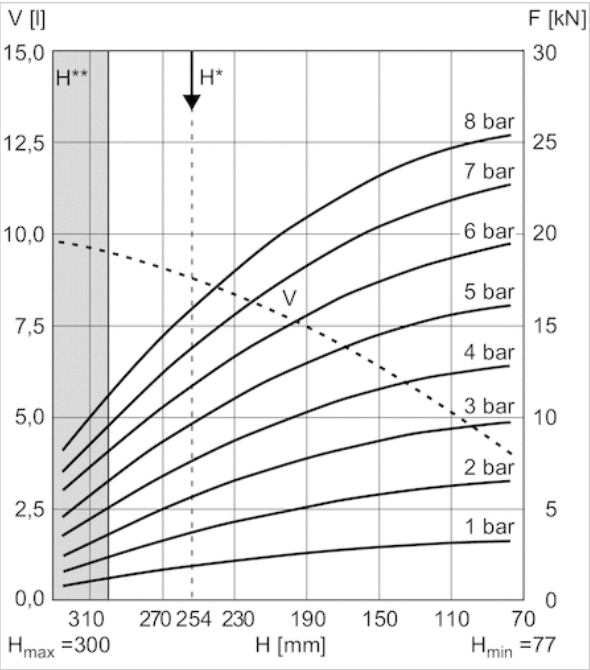
V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

Force-displacement diagram R412010222



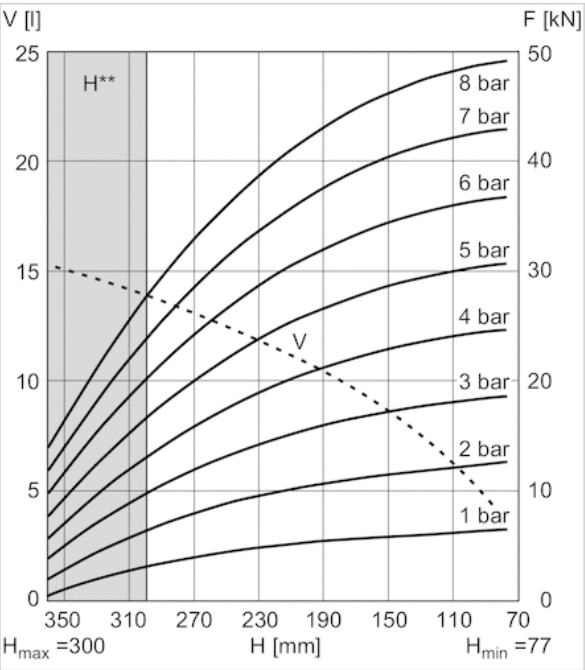
V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

Force-displacement diagram R412010223



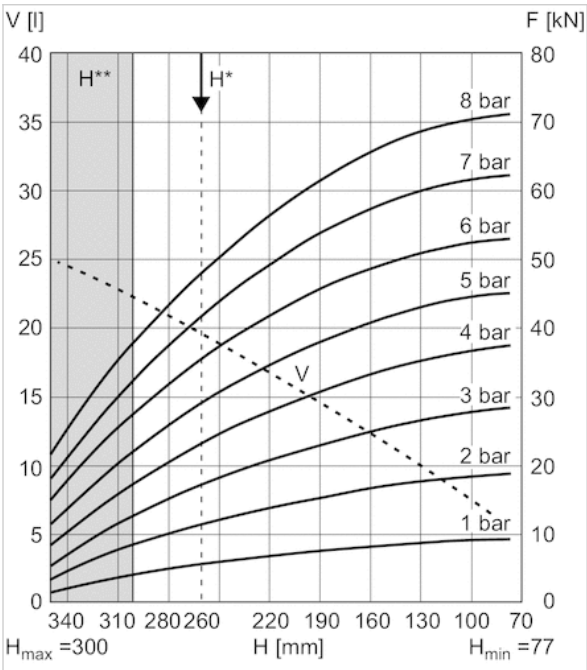
V = volumeH = heightH* = recommended operating height for vibration isolationH** = use permitted only upon approval by AVENTICS

Force-displacement diagram R412010224



V = volumeH = heightH**= use permitted only upon approval by AVENTICS

Force-displacement diagram R412010225



V = volume
 H = height
 H^* = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS

Filler neck

- Enables use of bellow actuators for vibration isolation
- G 1/8, G 1/4, 1/4 - 18 NPTF



Working pressure min./max.
Ambient temperature min./max.
Medium

0 ... 20 bar
-50 ... 130 °C
Compressed air

Technical data

Part No.	Port G	Fig.
R412007945	G 1/8	Fig. 1
3900040040	G 1/4	Fig. 2
R412010046	1/4 - 18 NPTF	Fig. 3

Technical information

Material	
Material	Brass

Dimensions

Fig. 1

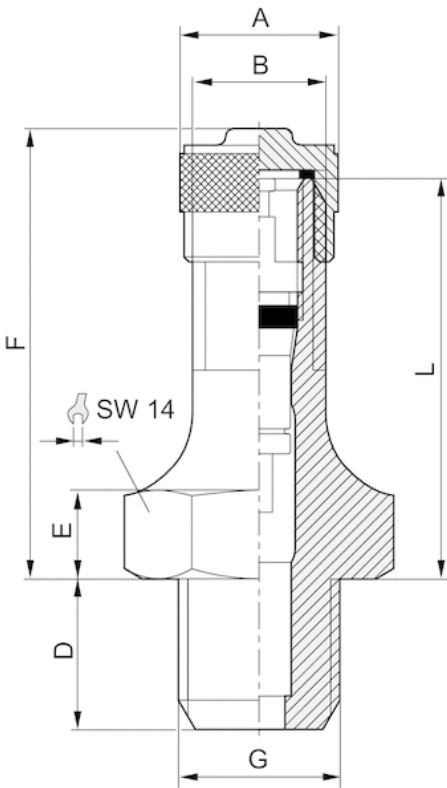


Fig. 3

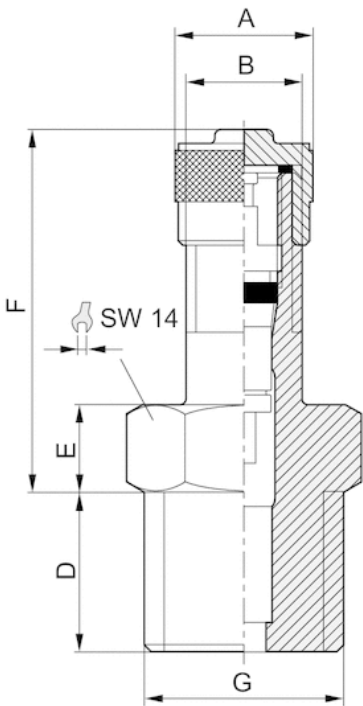
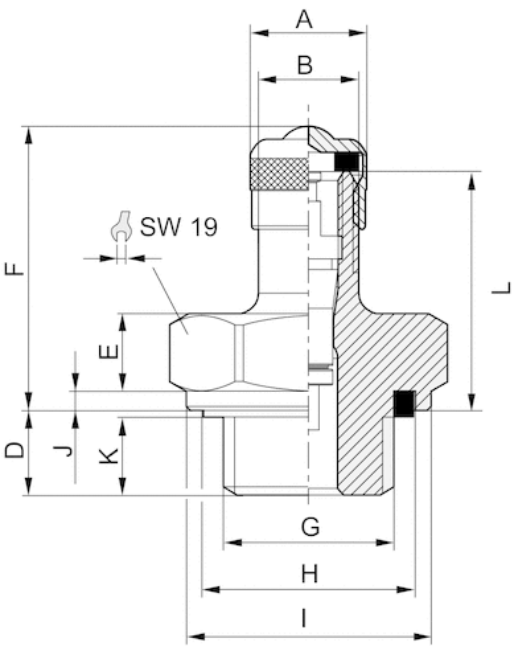


Fig. 2



Dimensions

Part No.	Port G	ØA	B 1)	D	E	F	H	I	J	K 2)	L	Fig.
R412007945	G 1/8	9.5	8	9	5	27	-	-	-	-	24	Fig. 1
3900040040	G 1/4	9	8	6.5	6	22	16.5	18.9	1.5	5.5	18.5	Fig. 2
R412010046	1/4 - 18 NPTF	9.5	8	11	6	25	-	-	-	-	-	Fig. 3

1) 8V1-1⇄ETRTO V0.07.3

2) Min.