

## Series BCP

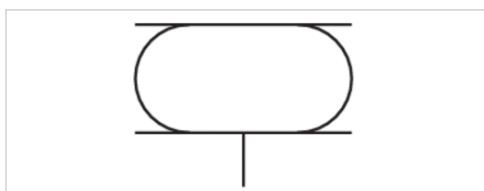


AVENTICS™ Series BCP



# 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

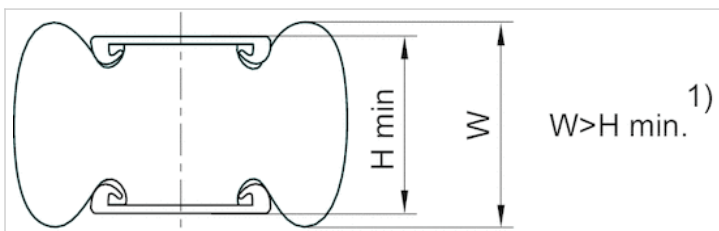
Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document (available 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

## Dimensions

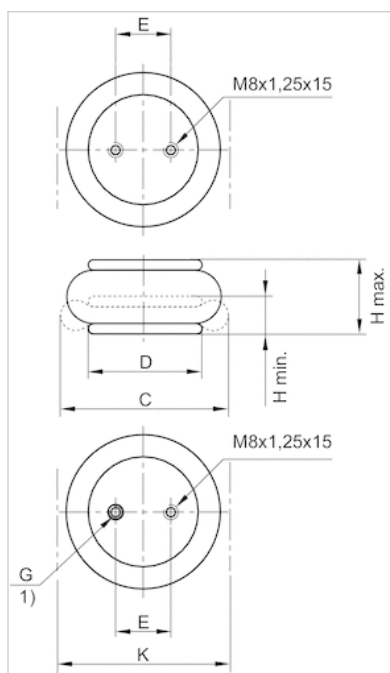
### Comment



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

Fig. 1



1) air connection in the mounting hole

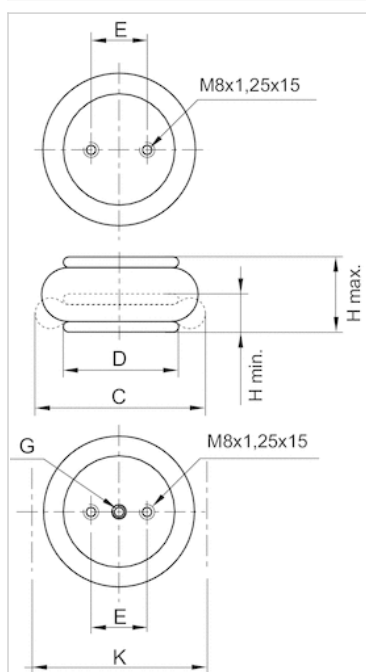
## Dimensions

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



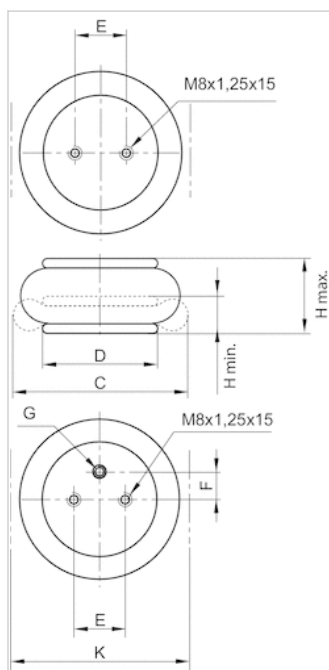
## Dimensions

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 ±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



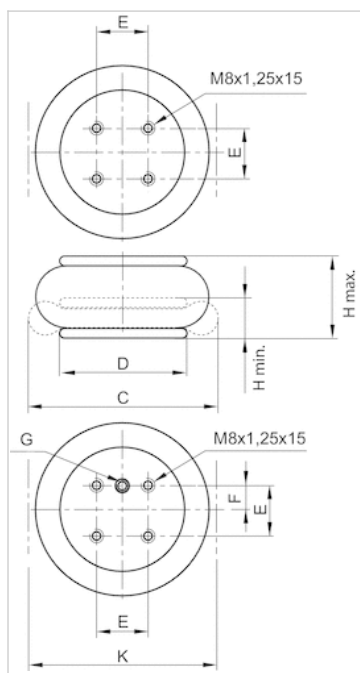
## Dimensions

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 ±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



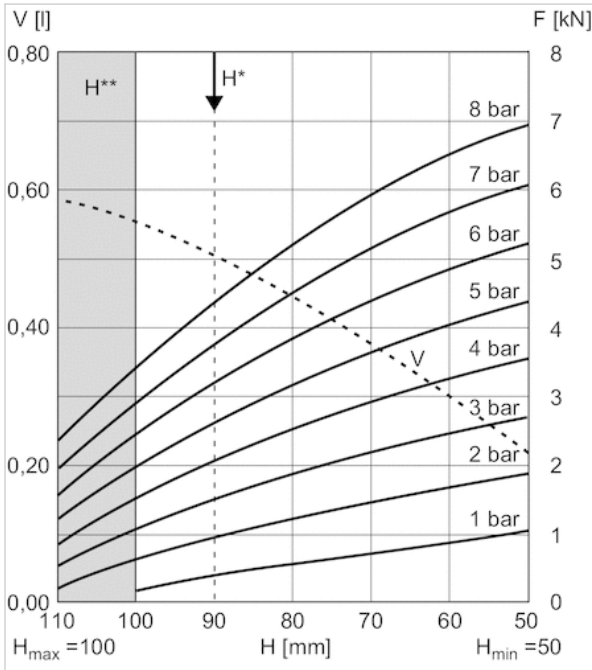
## Dimensions

Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
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

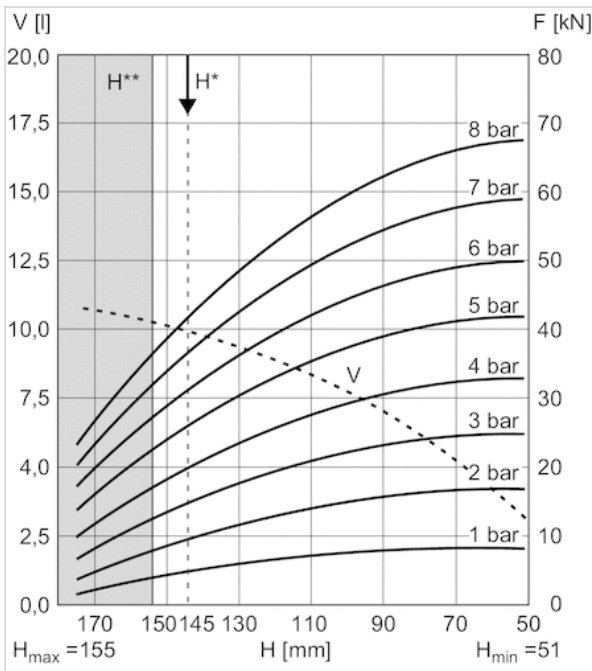
## Diagrams

### 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

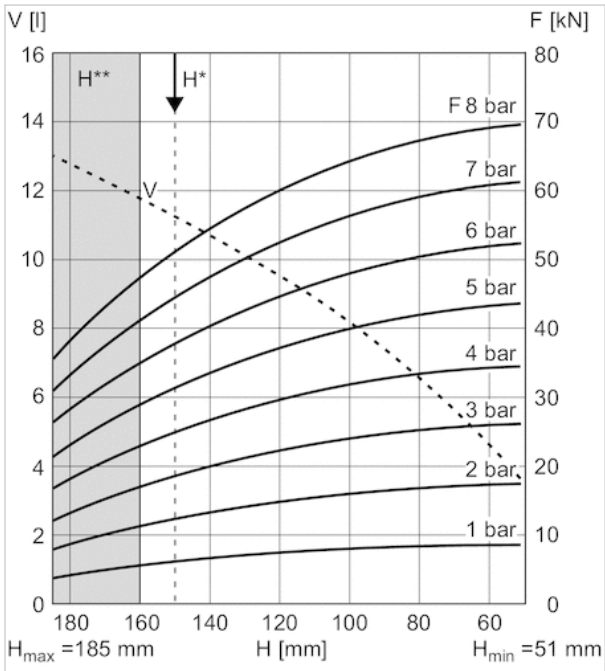
### Force-displacement diagram, 1938091000



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

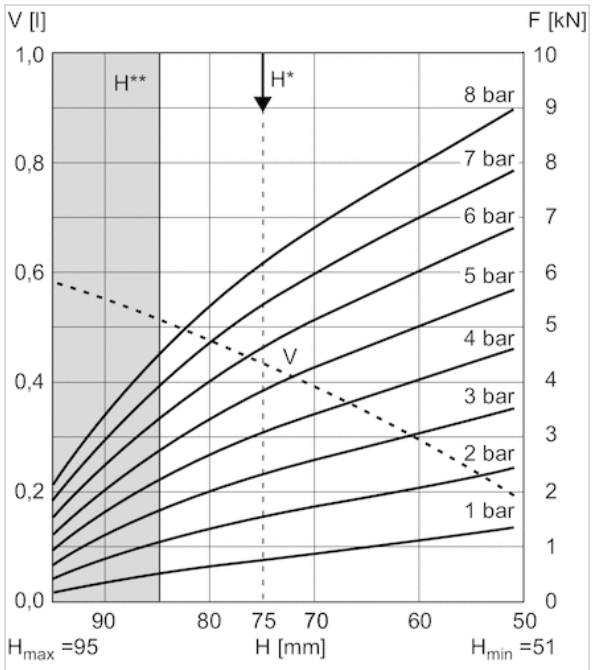


Force-displacement diagram, 2999636900



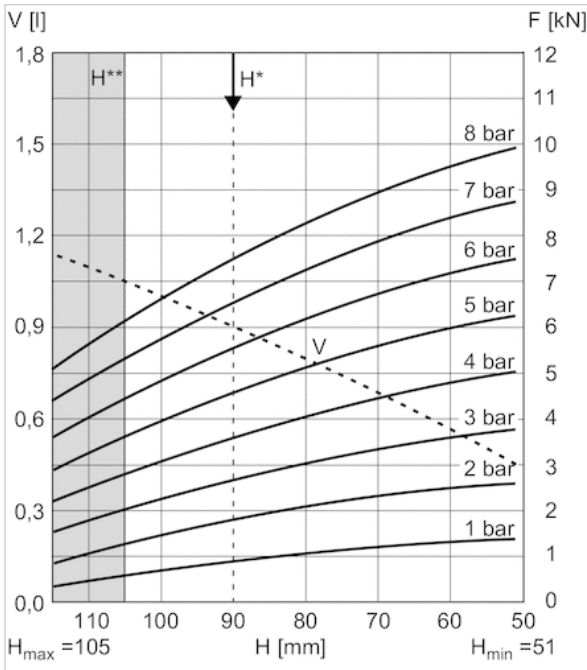
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010198



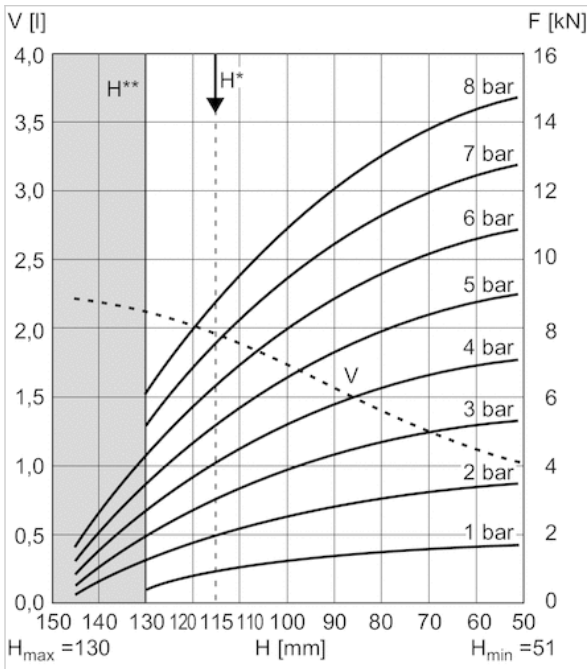
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 0822419002



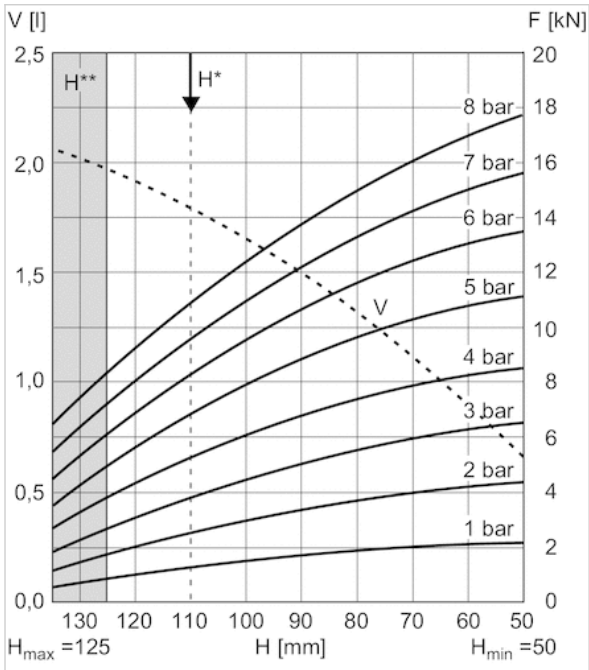
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010199



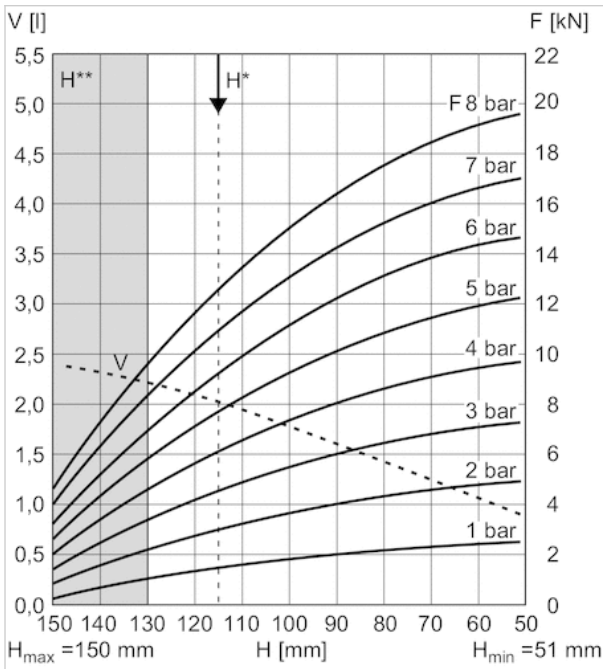
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 0822419003



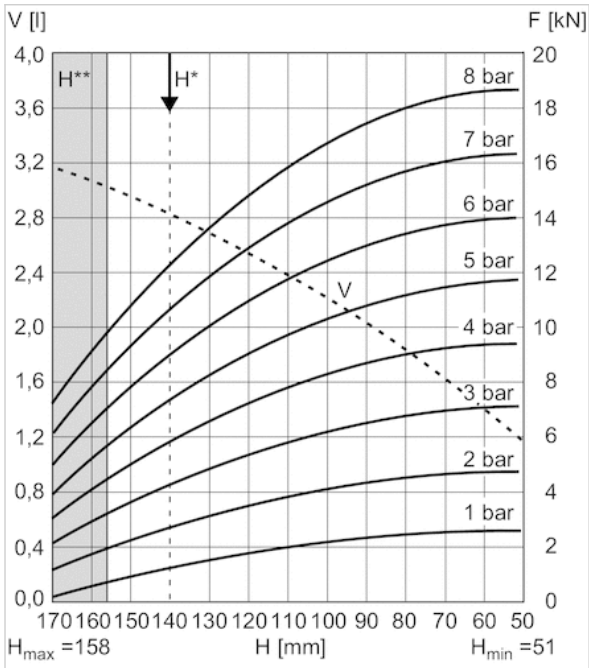
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 1923061000



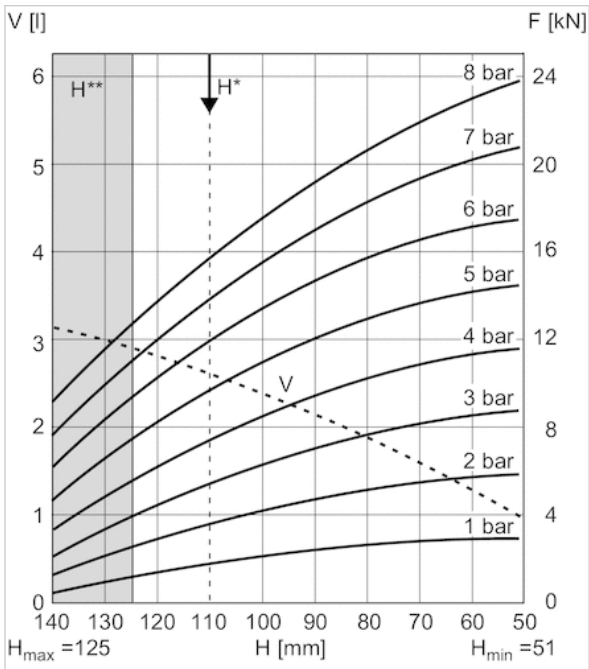
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010197



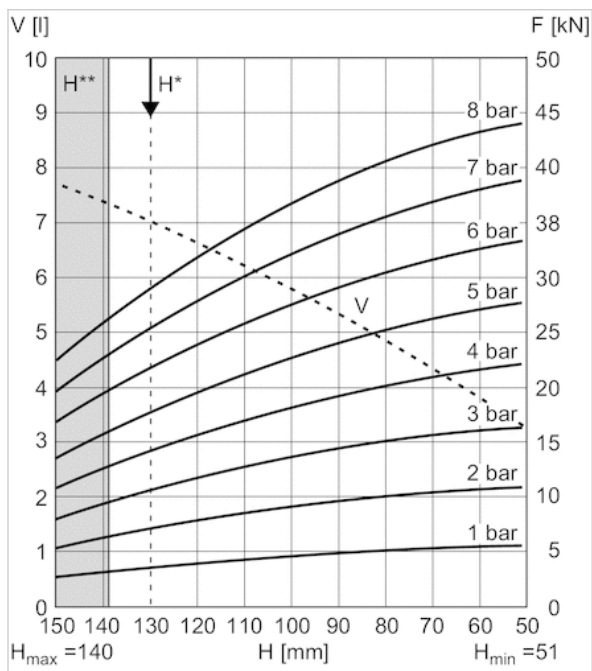
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

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

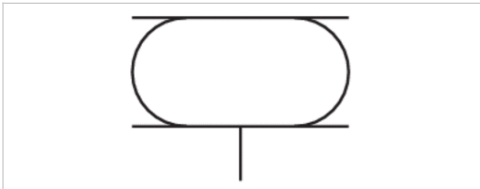
H\* = recommended operating height for vibration isolation

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

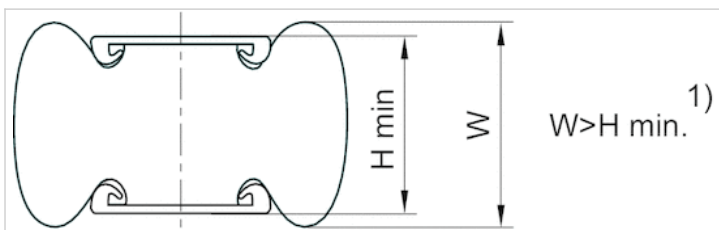
Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document (available 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

## Dimensions

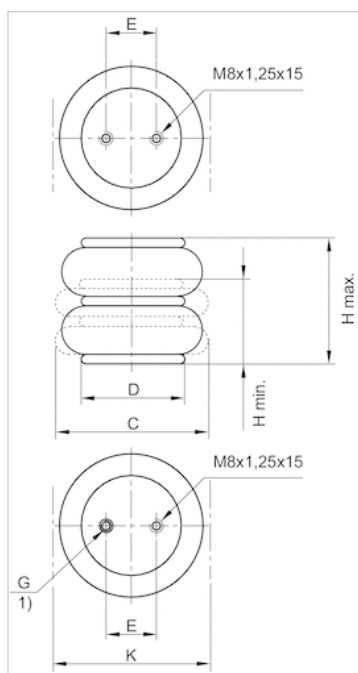
### Comment



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

Fig. 1



1) air connection in the mounting hole

## Dimensions

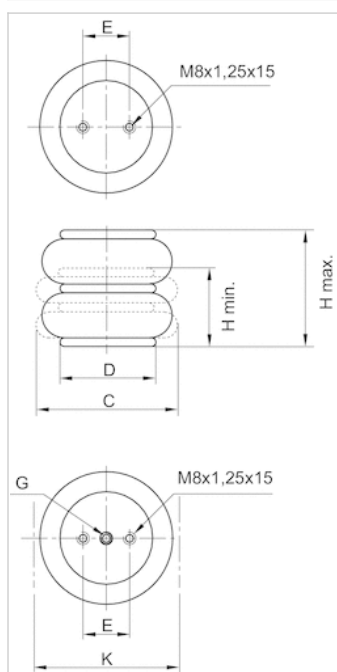
Part No.	Compressed air connection G	H min. mm	H max. mm	C mm	D mm
0822419040	G 1/8	70 mm	165 mm	145 mm	90 mm

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



## Dimensions

Fig. 2



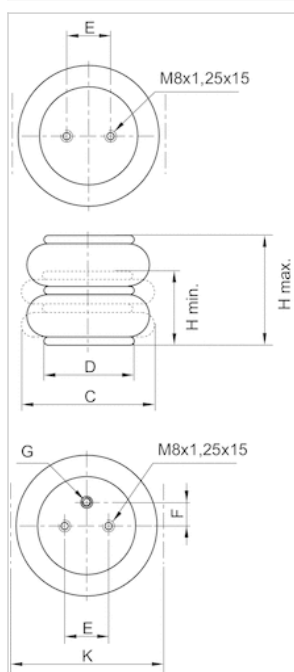
## Dimensions

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



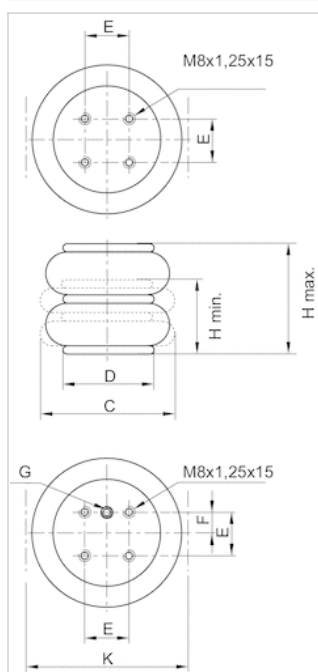
## Dimensions

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



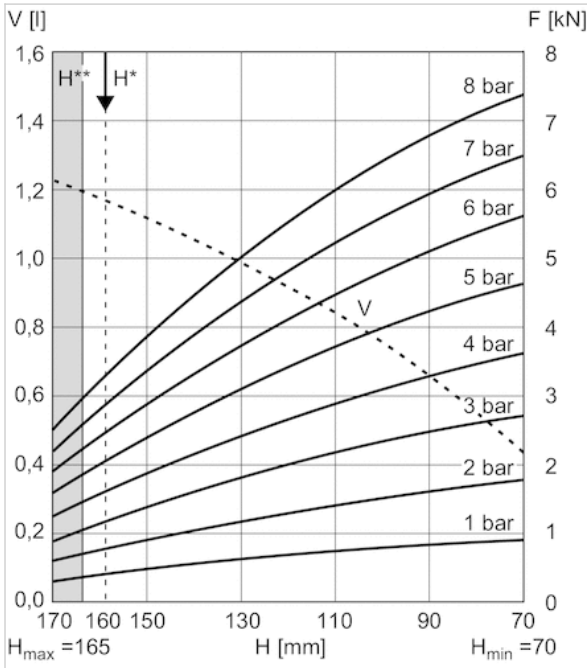
## Dimensions

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

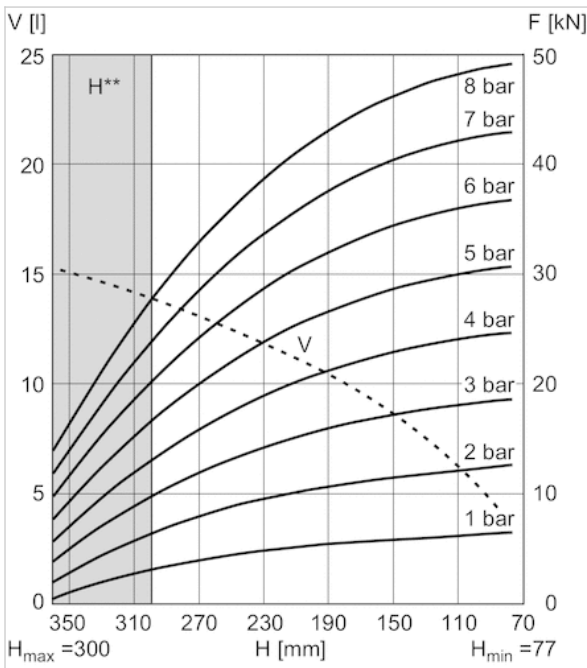
## Diagrams

### Force-displacement diagram, 0822419040



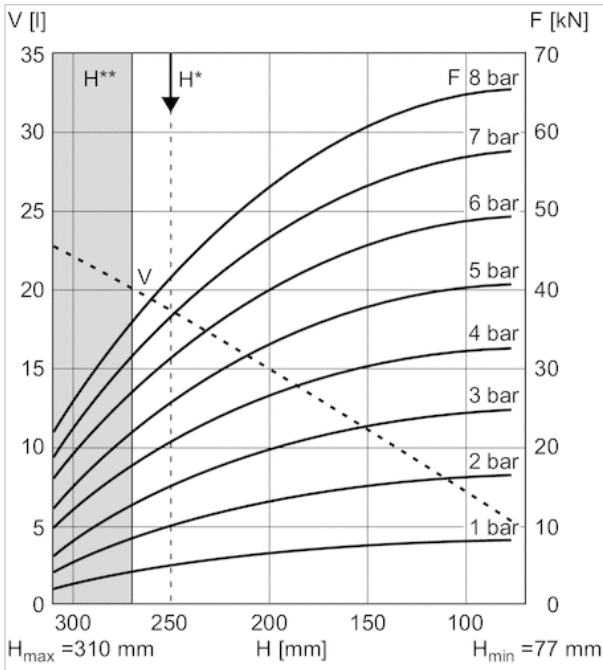
V = volume  
 H = height  
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 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

### Force-displacement diagram, 2999638300



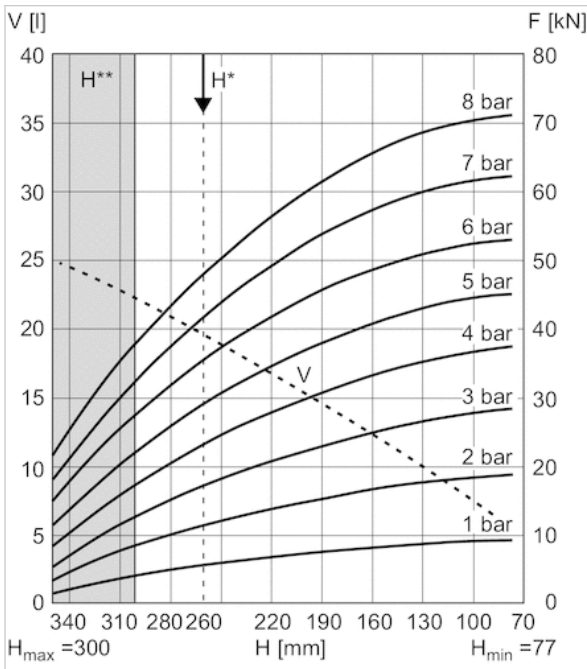
V = volume  
 H = height  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 1938191000



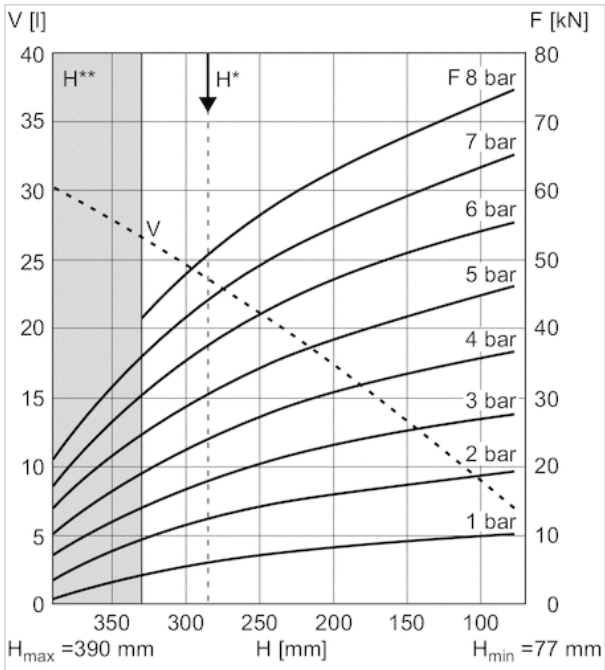
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010200



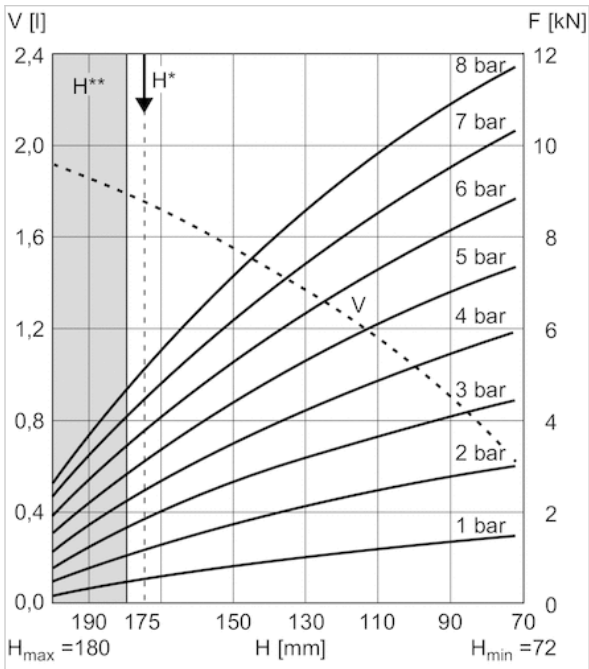
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 2999610900



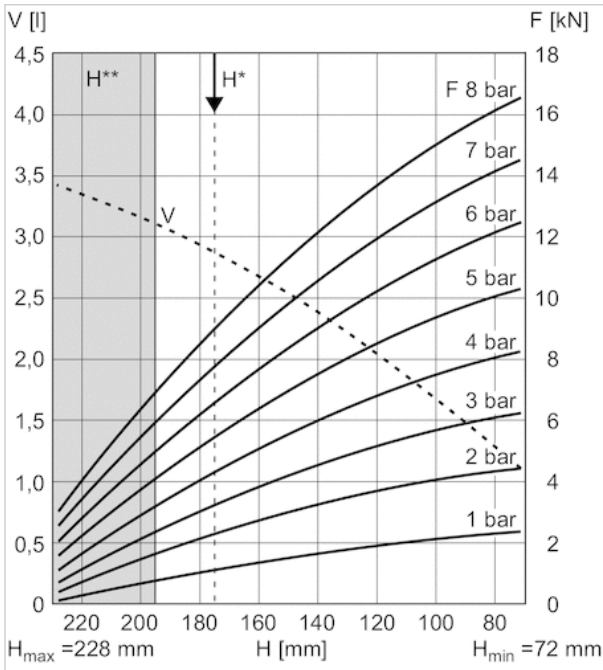
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 0822419041



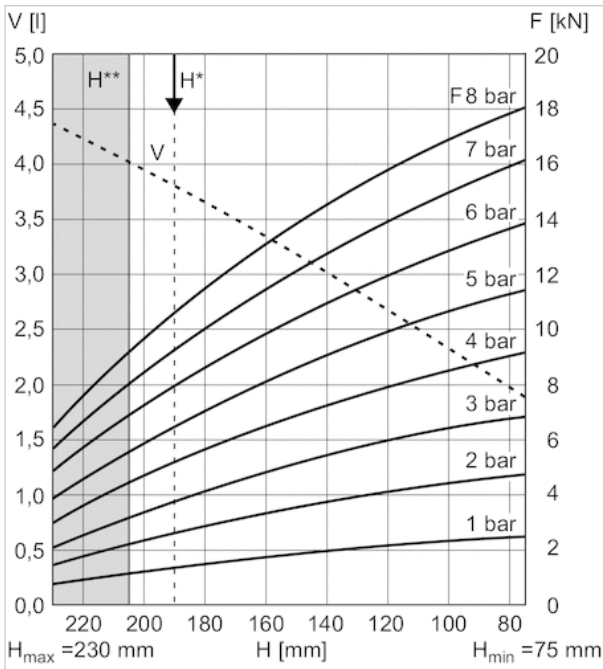
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 2999640000



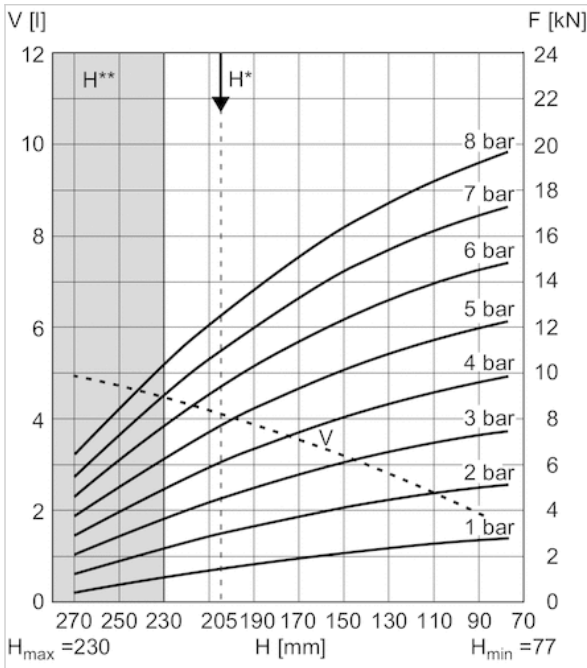
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, 0822419042



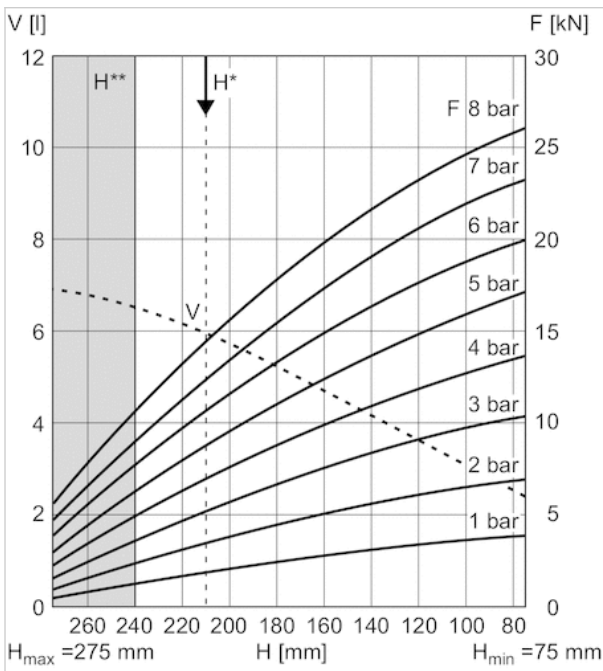
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

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

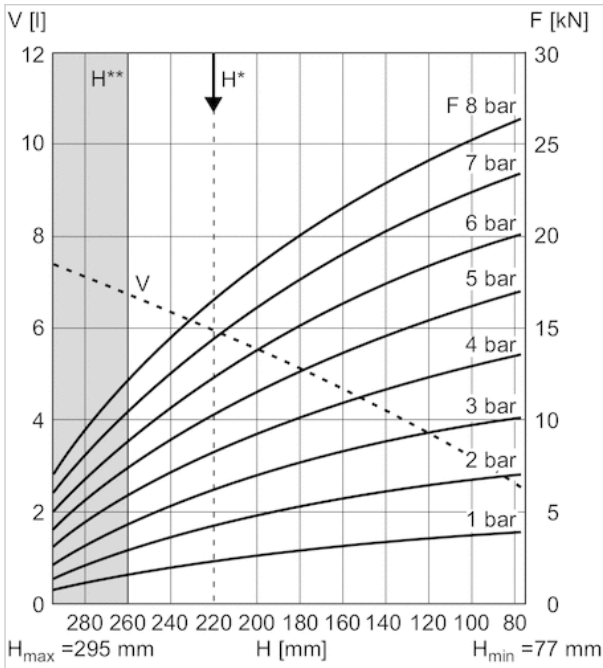
Force-displacement diagram, 0822419043



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

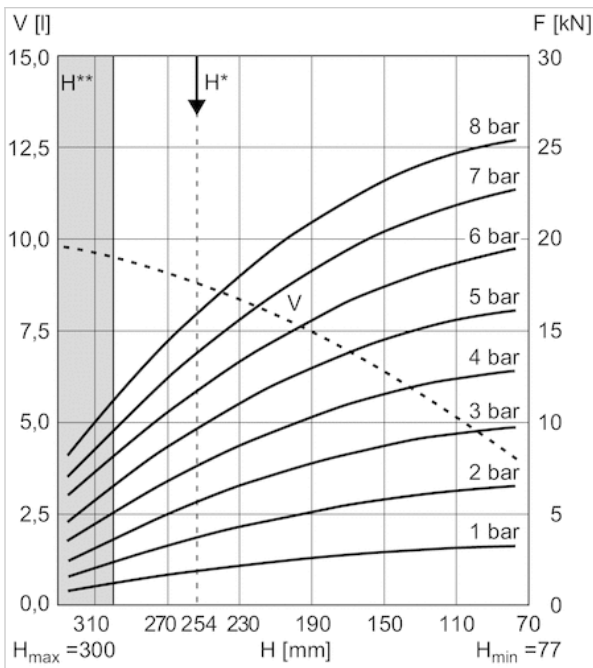


Force-displacement diagram, R412010042



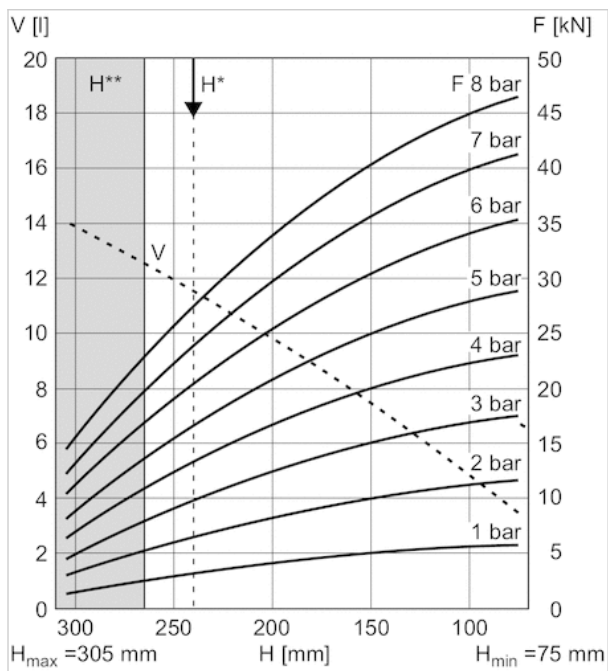
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

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

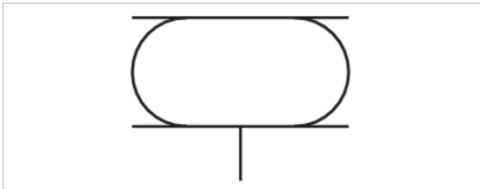
H\* = recommended operating height for vibration isolation

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

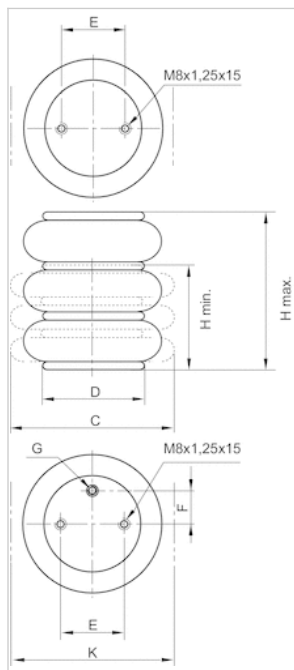
Compliance with the minimum height  $H_{min}$  as well as the maximum height  $H_{max}$  must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document (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



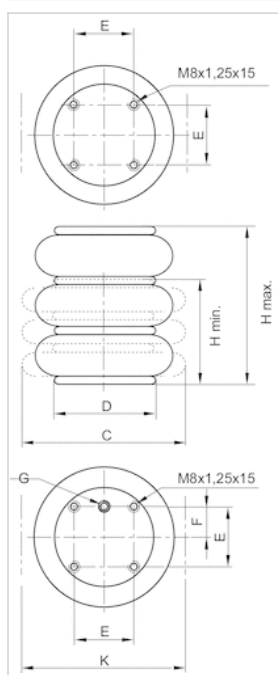
## Dimensions

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



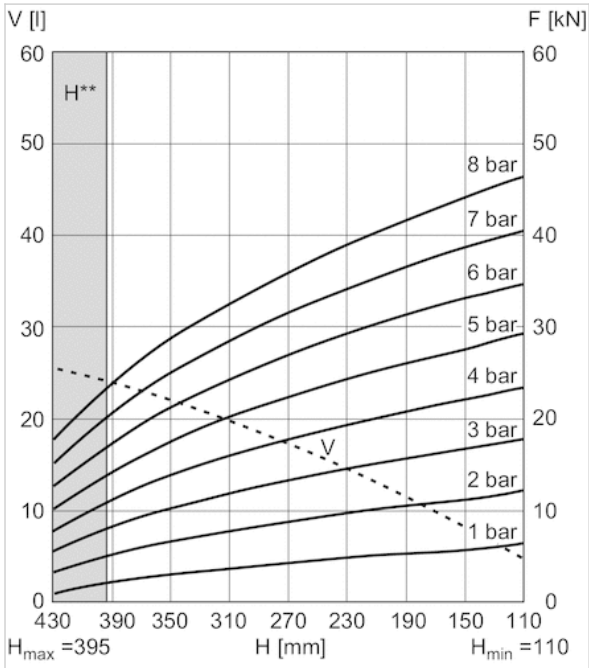
## Dimensions

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

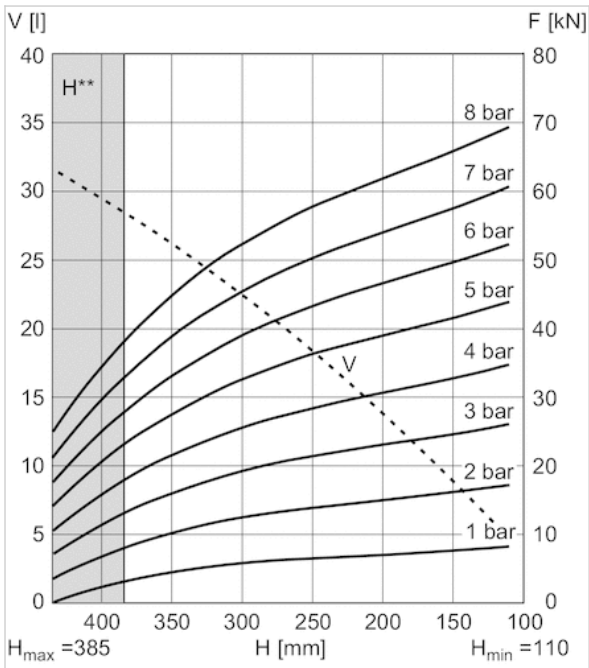
## Diagrams

### Force-displacement diagram, 2999612800



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

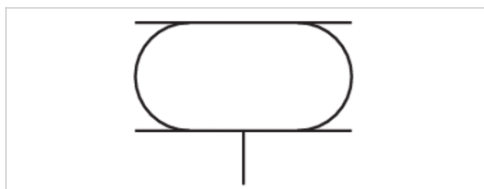
### Force-displacement diagram, 1938281000



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

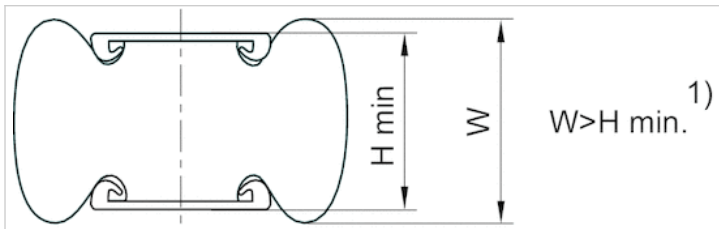
Compliance with the minimum height  $H_{min}$  as well as the maximum height  $H_{max}$  must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document (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

## Dimensions

### Comment

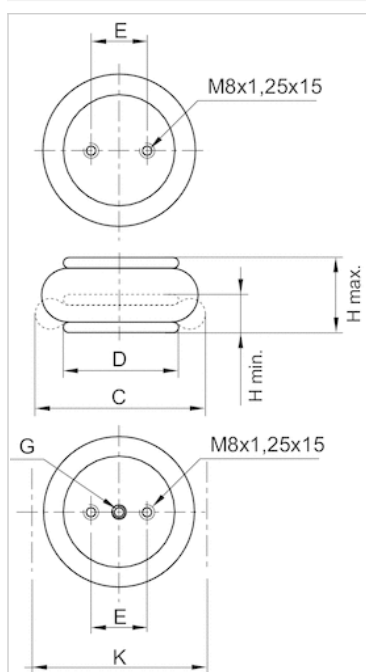


1) Once the minimum height  $H_{min}$  is reached, the bead height  $W$  can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellow is 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



Fig. 1



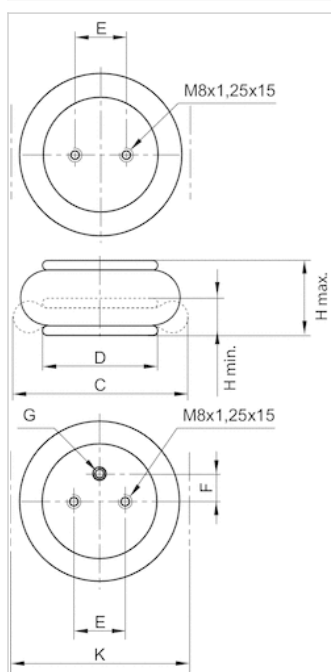
## Dimensions

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



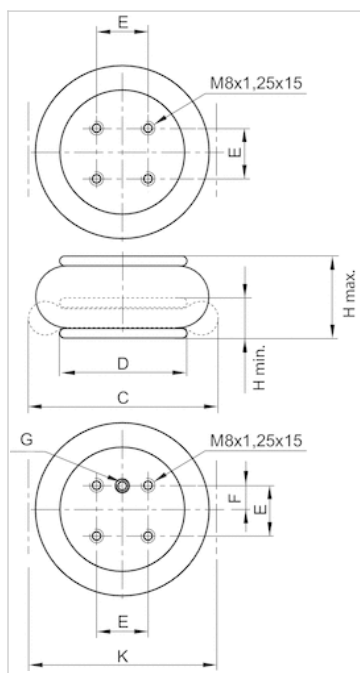
## Dimensions

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



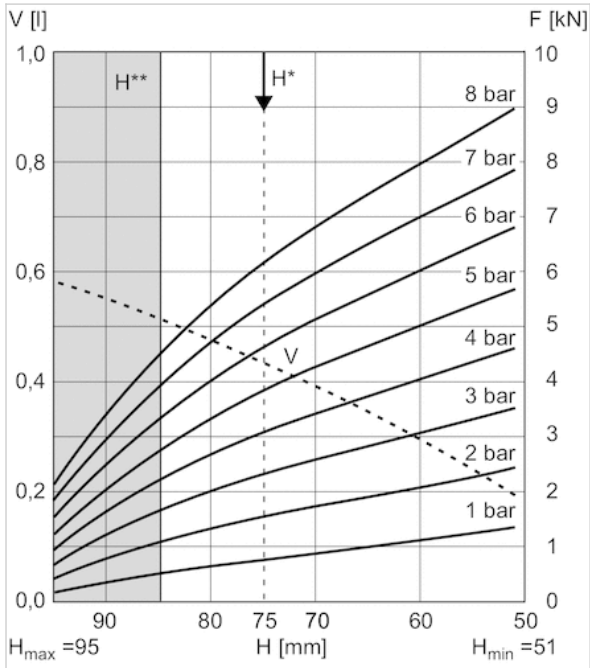
## Dimensions

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 $\pm 0,5$ [mm]	F $\pm 0,5$ [mm]	K mm	Return force, min. N
158.8	79.4	400 mm	300 N

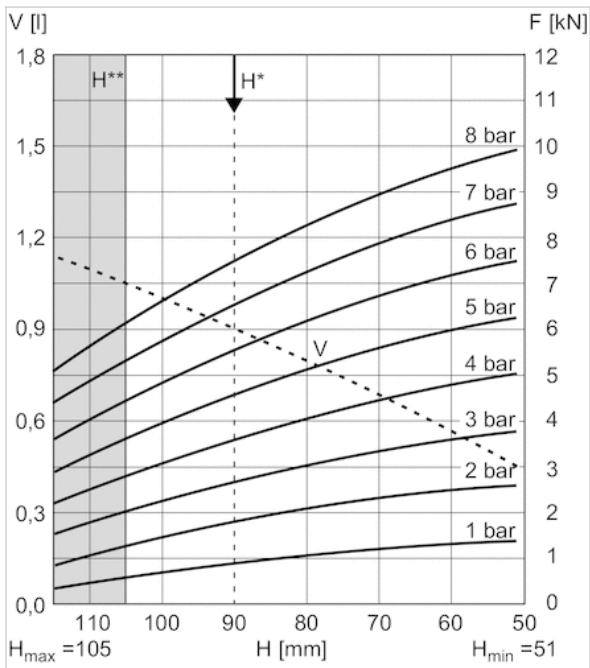
## Diagrams

### Force-displacement diagram, R412010207



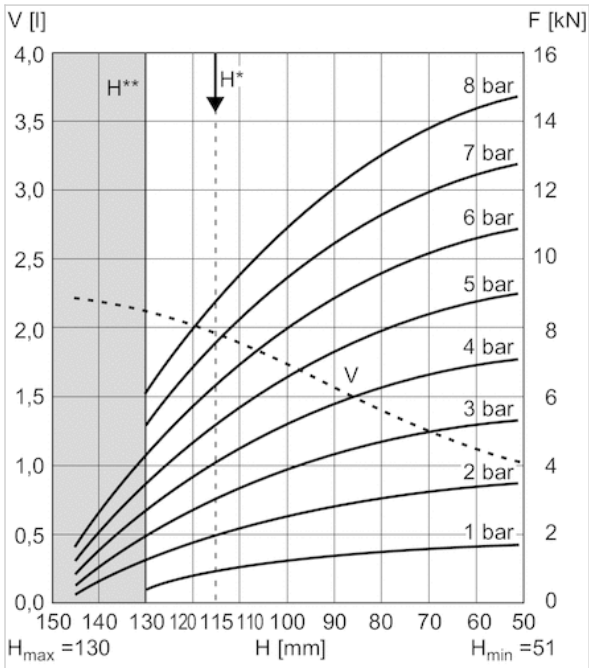
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

### Force-displacement diagram, R412004943



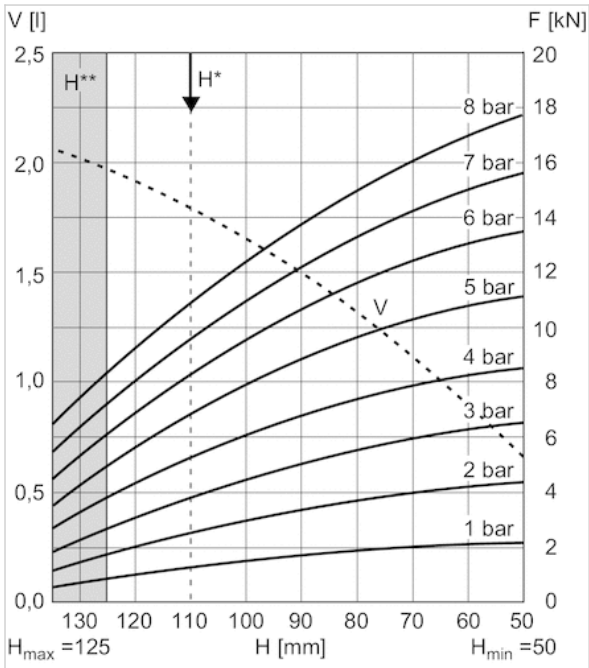
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010208



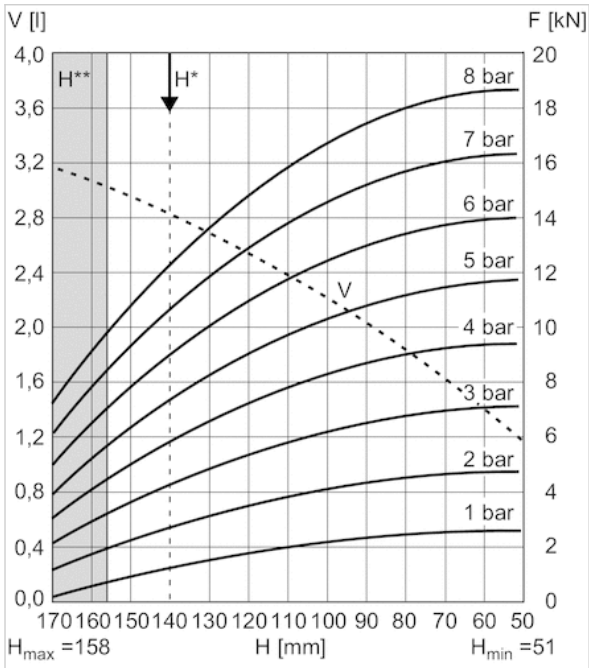
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412007812



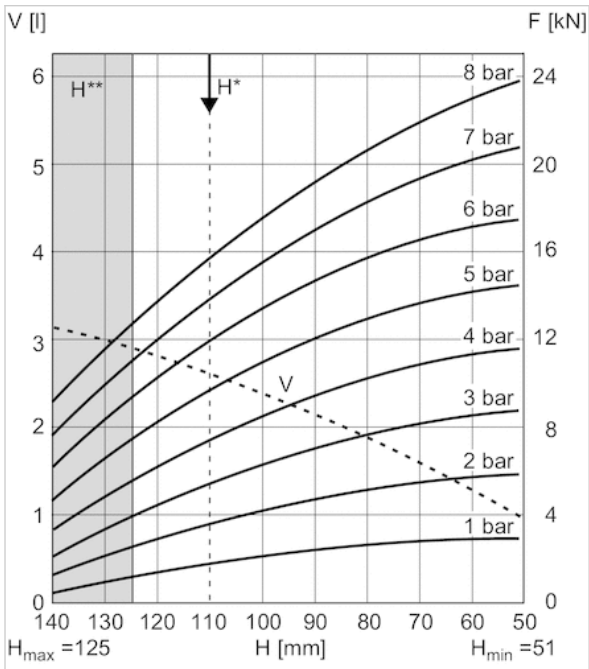
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010209



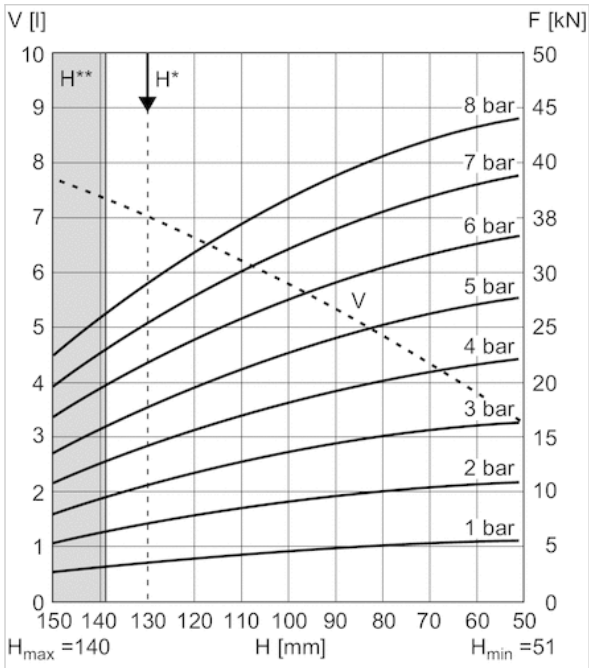
$V$  = volume  
 $H$  = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R412010210



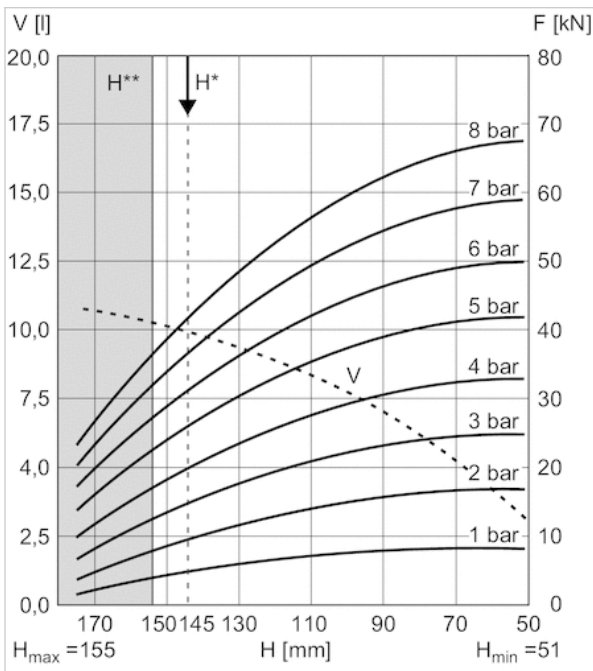
$V$  = volume  
 $H$  = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

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

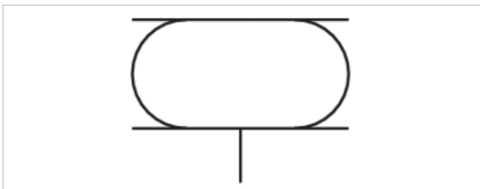
Force-displacement diagram, R412010212



$V$  = 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  $\geq$  Hmax: 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



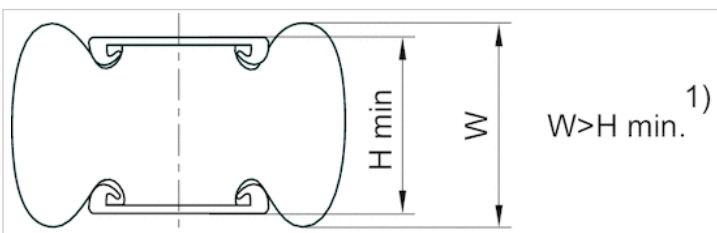
## Technical information

### Material

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

## Dimensions

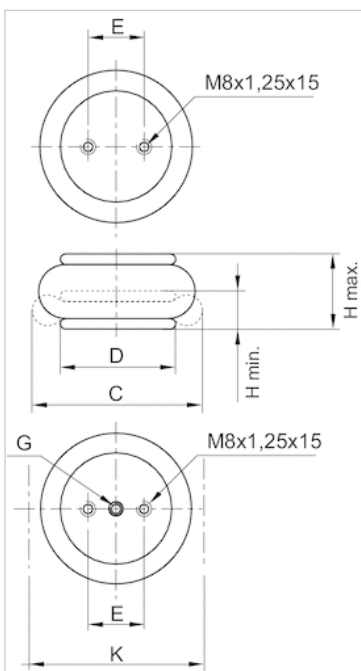
### Comment



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



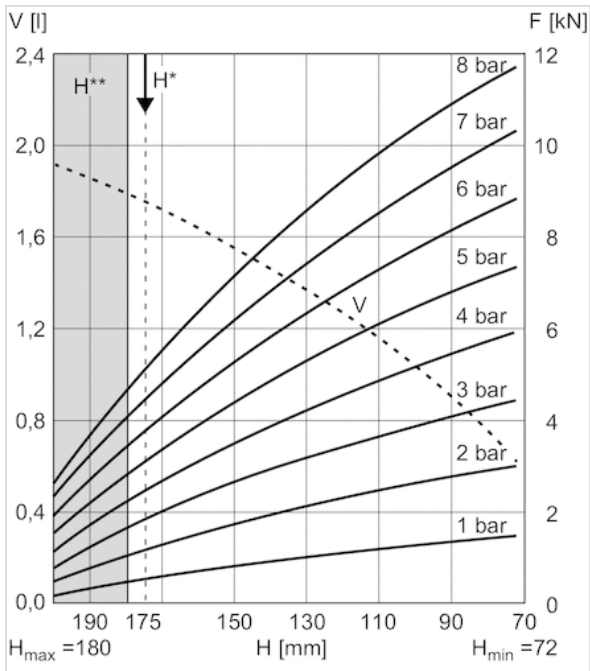
## Dimensions

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 ±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

## Diagrams

Force-displacement diagram, R412010213



V = volume

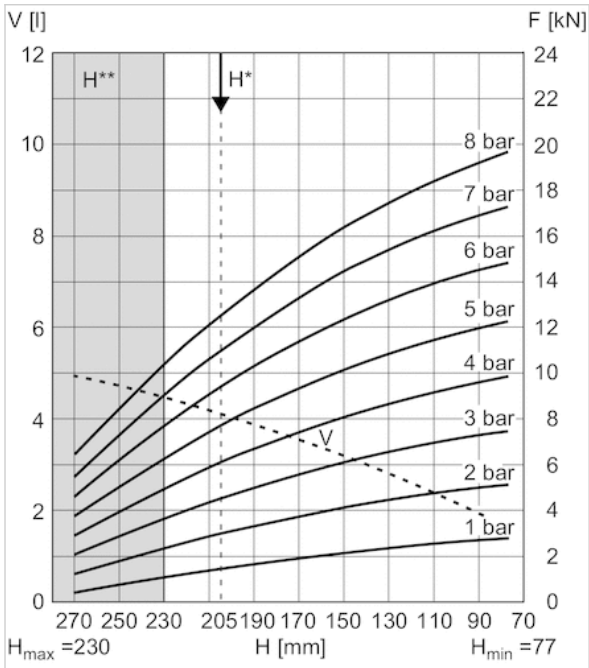
H = height

H\* = recommended operating height for vibration isolation

H\*\* = use permitted only upon approval by AVENTICS

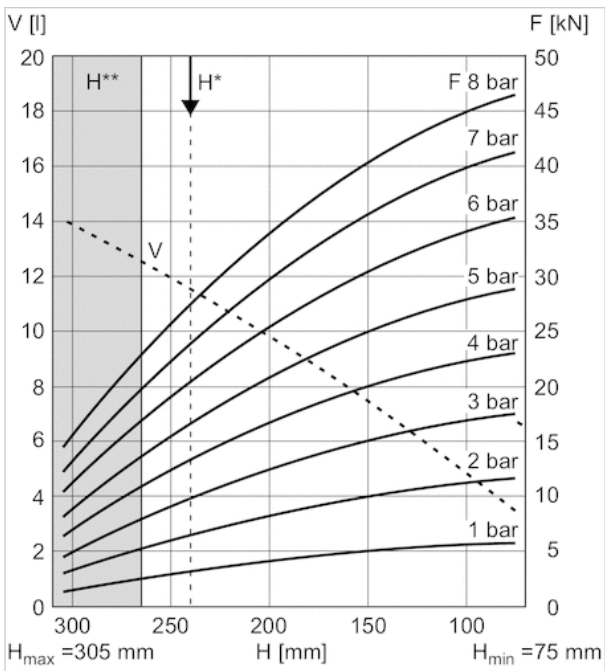
1 kN = 1000 N

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

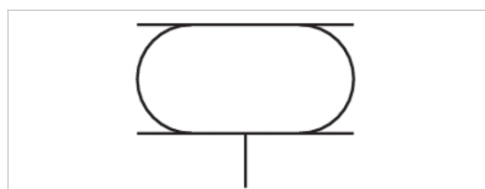
Force-displacement diagram, R412010476



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

## 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).

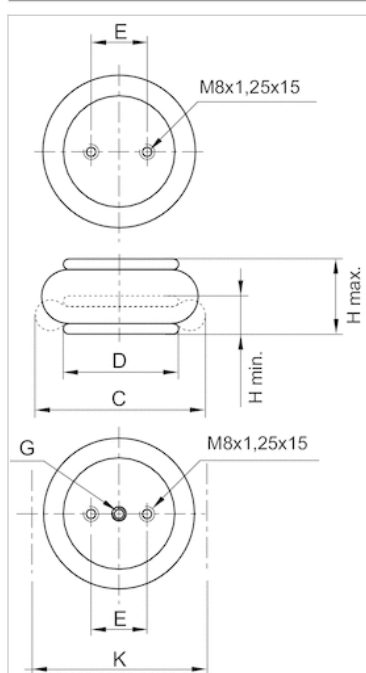
Reduced service life at a temperature greater than 50 °C

## Technical information

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

## Dimensions

Fig. 2



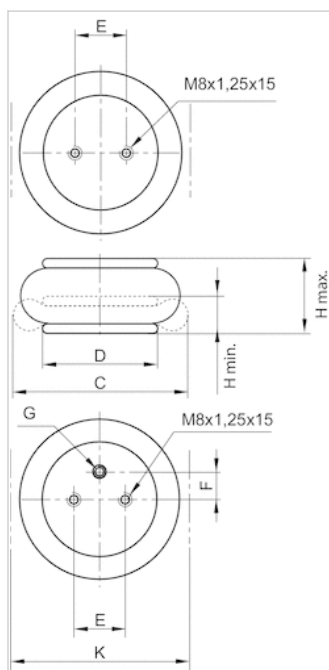
## Dimensions

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



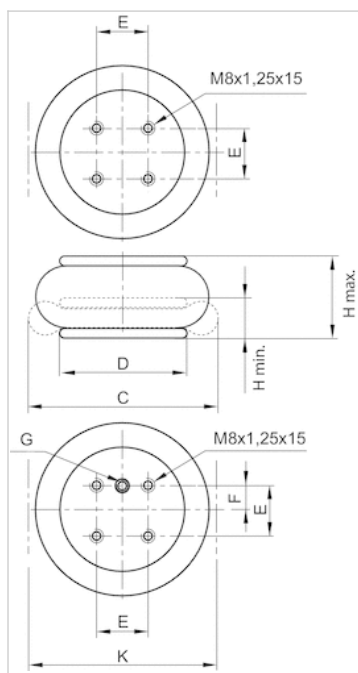
## Dimensions

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



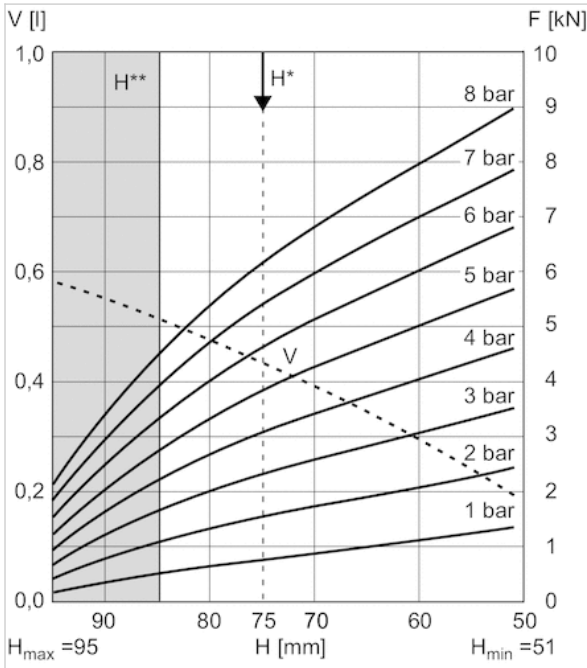
## Dimensions

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

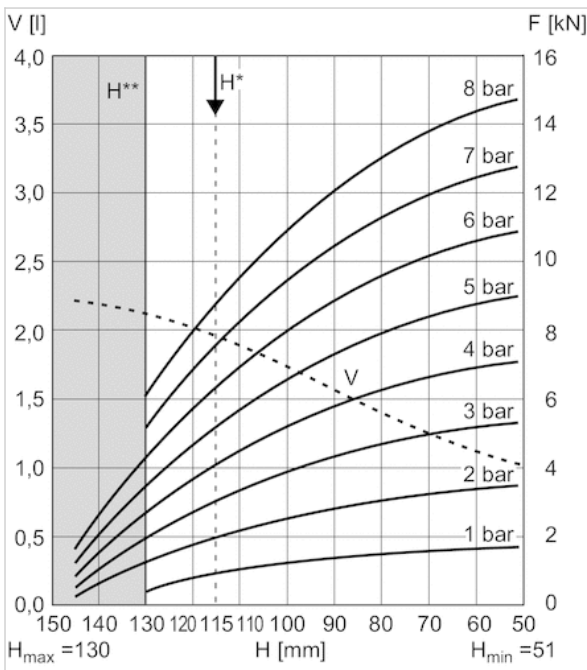
## Diagrams

### Force-displacement diagram, R412010215



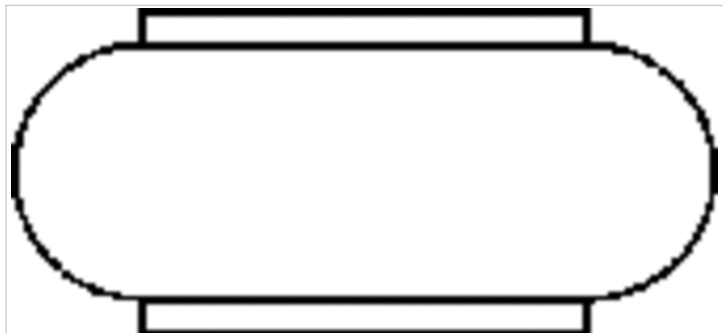
$V$  = volume  
 $H$  = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS

### Force-displacement diagram, R412010216



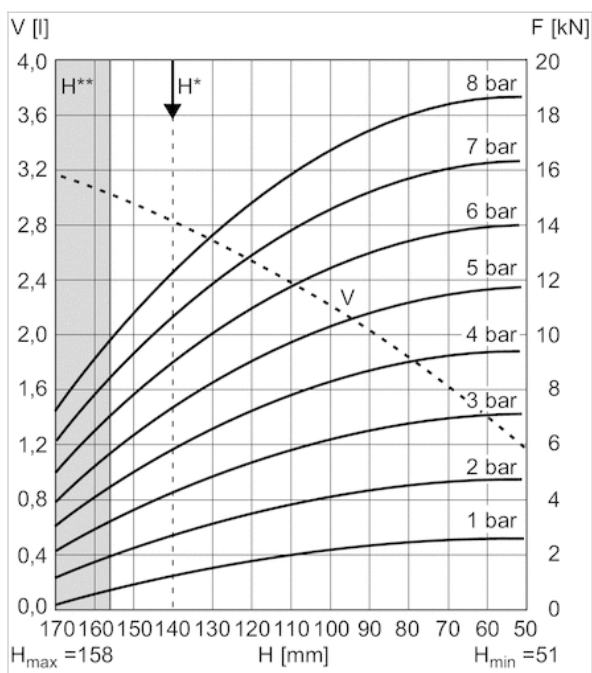
$V$  = volume  
 $H$  = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS





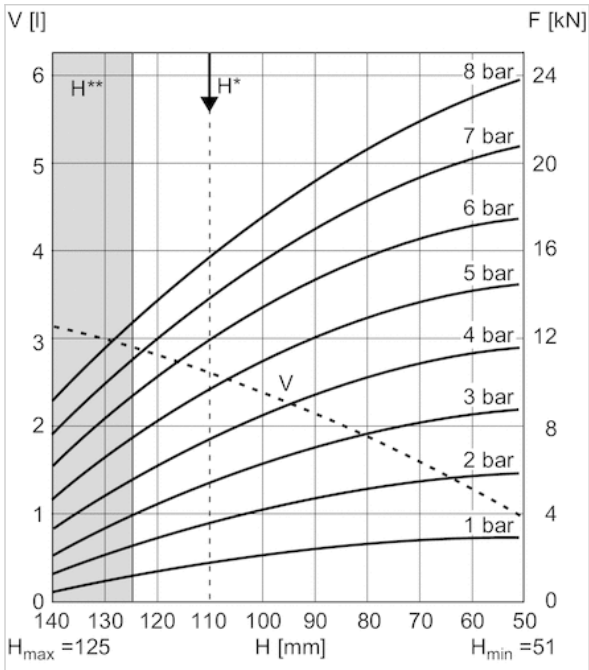
max. permissible parallel movement between the covers: 10 mm

Force-displacement diagram, R412010217



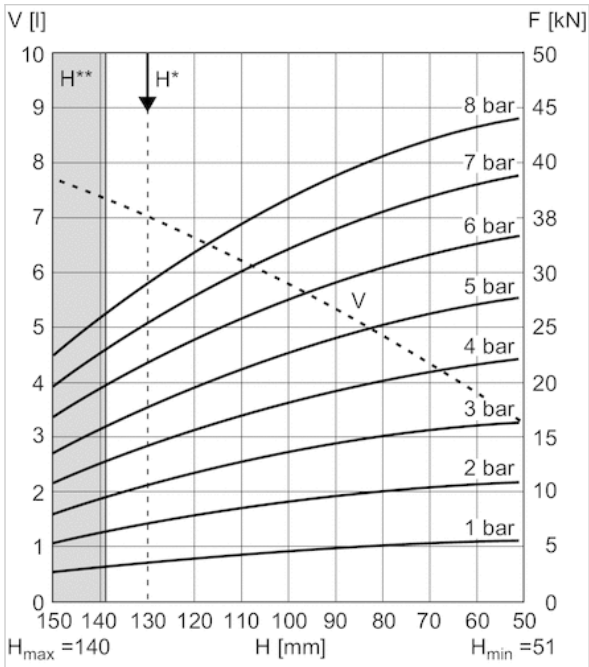
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R412010218



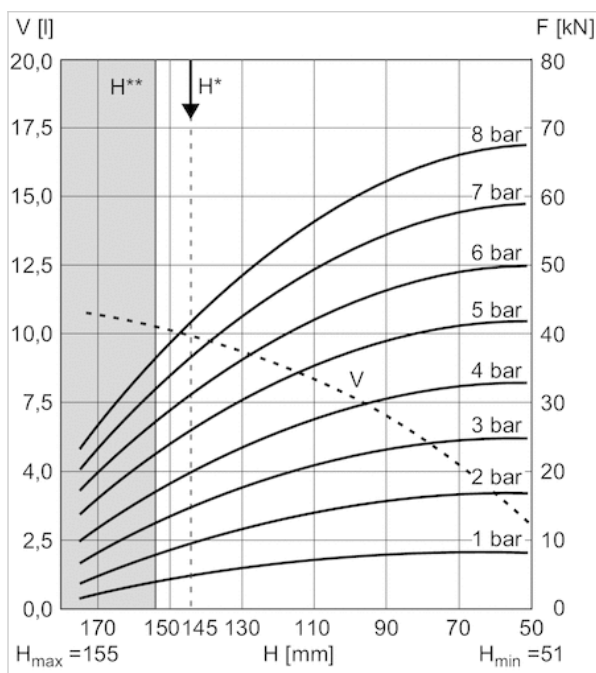
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R412010219



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

Force-displacement diagram, R412010220



V = volume

H = height

H\* = recommended operating height for vibration isolation

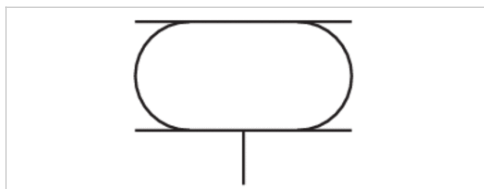
H\*\* = use permitted only upon approval by AVENTICS

## 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).

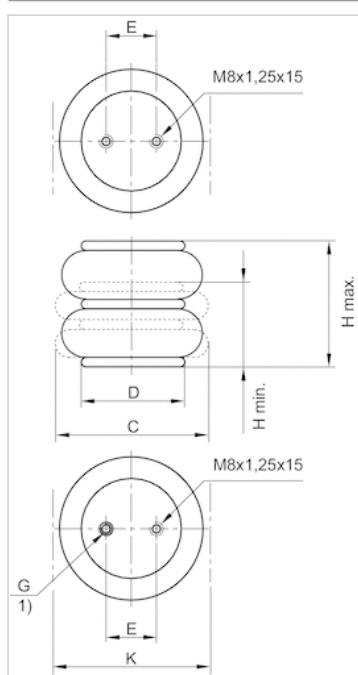
Reduced service life at a temperature greater than 50 °C

## Technical information

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

## Dimensions

Fig. 1



1) air connection in the mounting hole

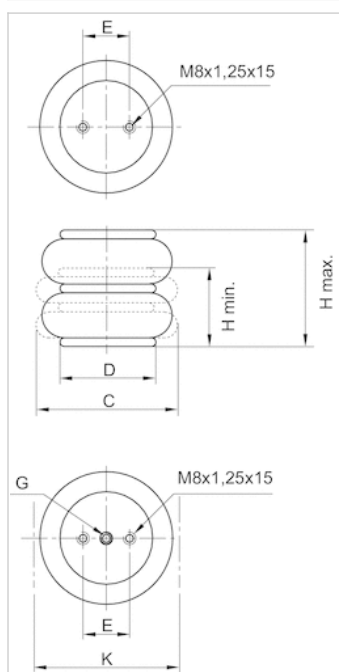
## Dimensions

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. 2



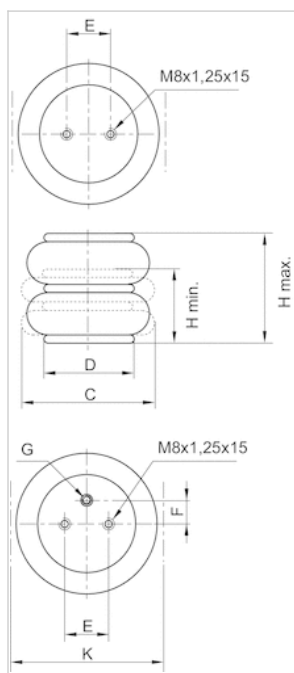
## Dimensions

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. 3



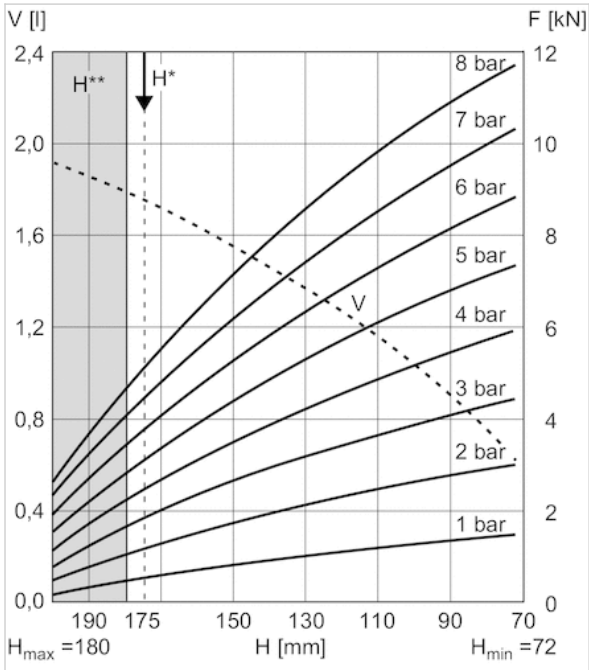
## Dimensions

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

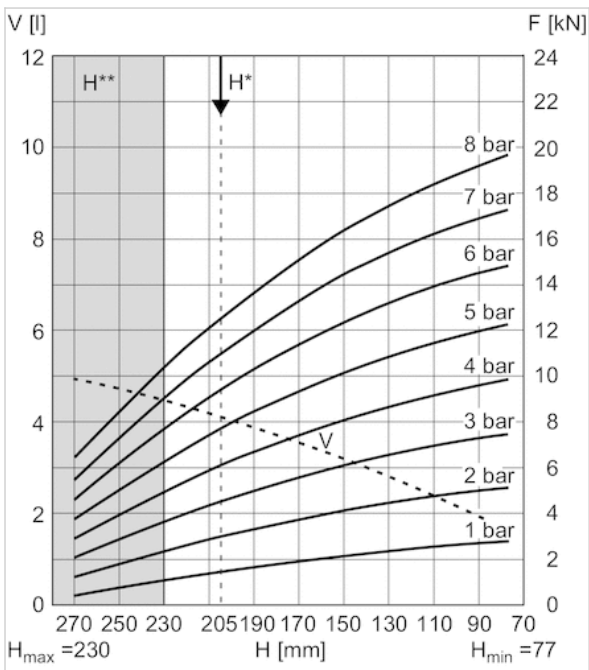
## Diagrams

### Force-displacement diagram, R412010221



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

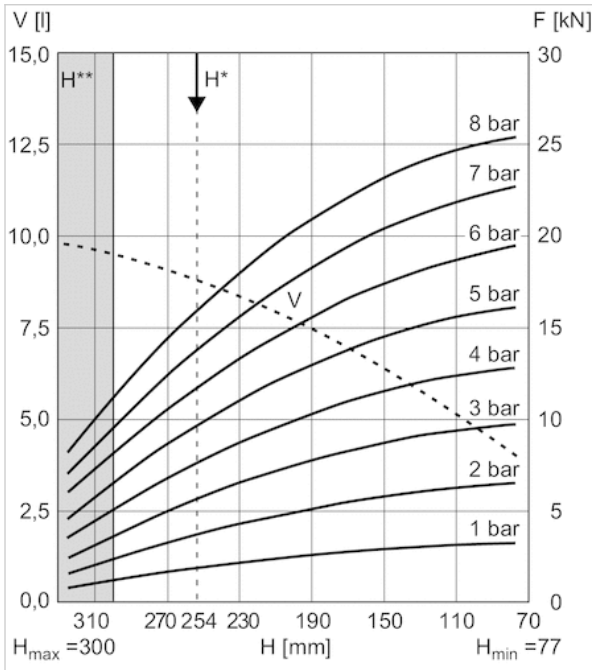
### Force-displacement diagram, R412010222



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

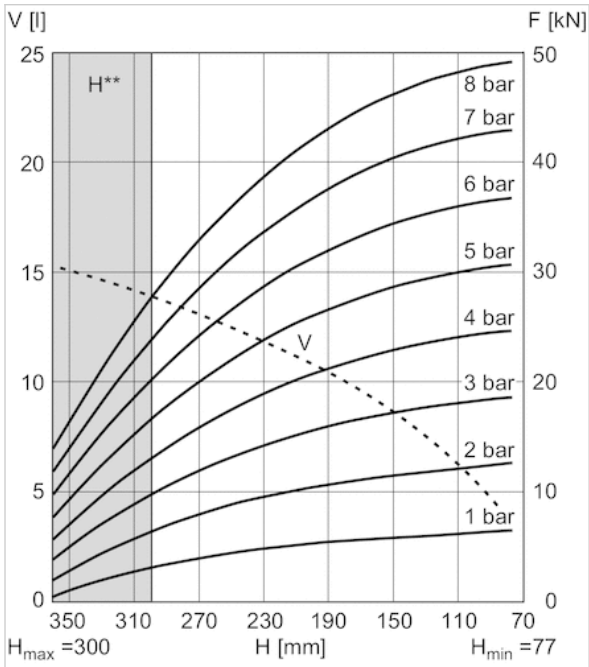


Force-displacement diagram, R412010223



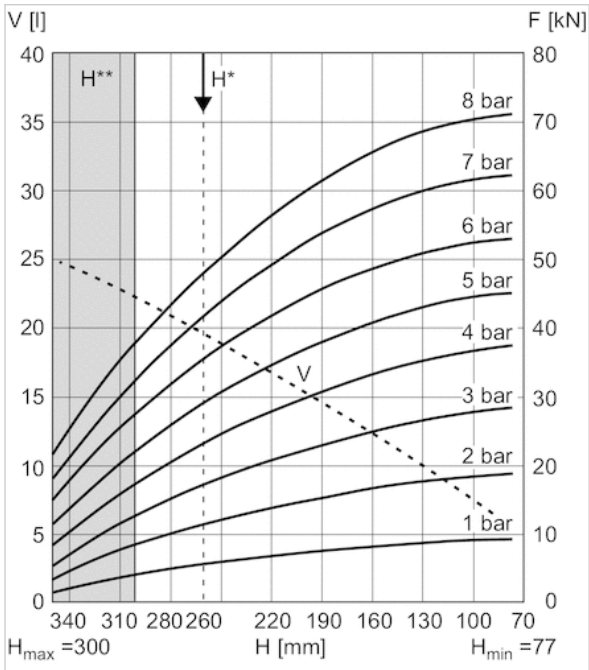
$V$  = volume  
 $H$  = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS

Force-displacement diagram, R412010224



$V$  = volume  
 $H$  = height  
 $H^{**}$  = use permitted only upon approval by AVENTICS

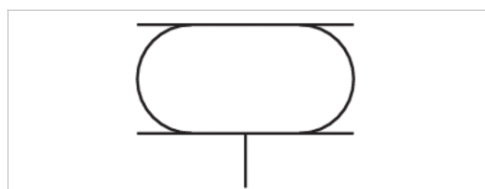
Force-displacement diagram, R412010225



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

# Series BCP - inch

- standard version
- single
- Stroke 34.04-736.6 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		
R432039283	90 mm	1/8 NPT		50.8 mm
R432039285	108 mm	1/4 NPT		34.04 mm
R432039286	108 mm	1/4 NPT		54.1 mm
R432039288	114 mm	1/4 NPT		78.99 mm
R432039289	141 mm	3/4 NPT		74.93 mm
R432039130	141 mm	3/4 NPT		78.99 mm
R432039282	141 mm	3/4 NPT		106.93 mm
R432039291	161 mm	3/4 NPT		73.91 mm
R432039293	228 mm	3/4 NPT		88.9 mm
R432039297	287 mm	3/4 NPT		103.89 mm
R432039300	287 mm	3/4 NPT		736.6 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R432039283	160 mm	2500 ... 5500 N	1.2 kg	Fig. 1	-
R432039285	165 mm	3500 ... 6900 N	1.2 kg	Fig. 2	-
R432039286	180 mm	4500 ... 7500 N	1.2 kg	Fig. 2	-
R432039288	225 mm	4300 ... 10900 N	1.4 kg	Fig. 2	-
R432039289	230 mm	6100 ... 13600 N	2 kg	Fig. 2	-
R432039130	245 mm	6900 ... 14700 N	1.9 kg	Fig. 3	1)
R432039282	250 mm	7000 ... 14000 N	1.9 kg	Fig. 3	1)
R432039291	265 mm	9300 ... 17300 N	2.3 kg	Fig. 3	-

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R432039293	340 mm	19400 ... 33300 N	3.9 kg	Fig. 3	-
R432039297	400 mm	26100 ... 50000 N	5.9 kg	Fig. 4	-
R432039300	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

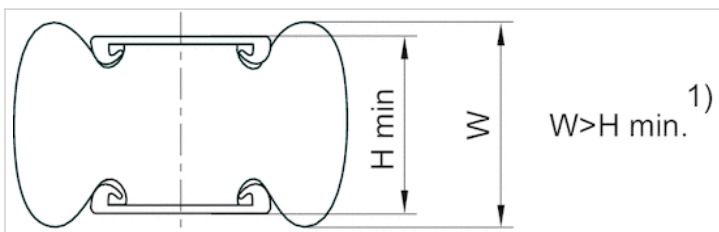
Compliance with the minimum height  $H_{min}$  as well as the maximum height  $H_{max}$  must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document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

## Technical information

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

## Dimensions

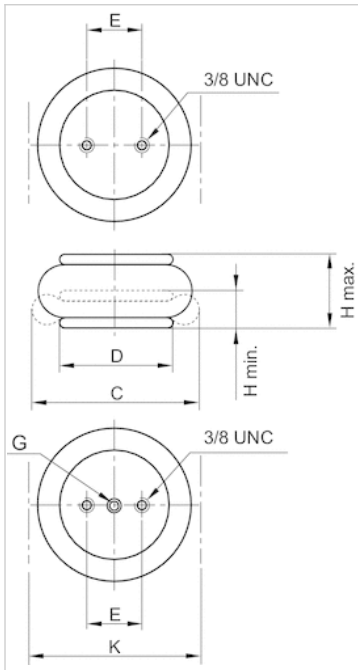
### Comment



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

Fig. 1



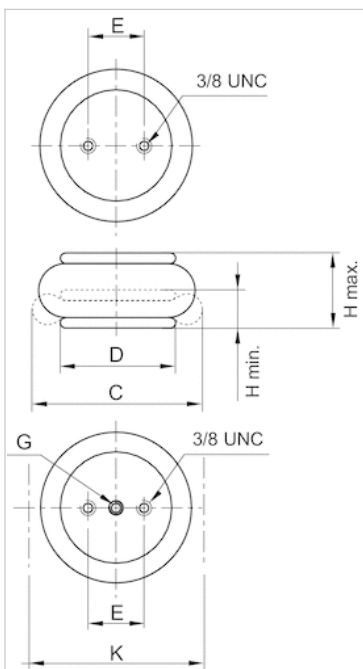
### Dimensions

Part No.	Compressed air connection G	H min	H max	C	D	E ±0,5
R432039283	1/8 NPT	50 mm	100 mm	145 mm	90 mm	0.79

K	Return force, min.
160 mm	120 N

### Dimensions

Fig. 2



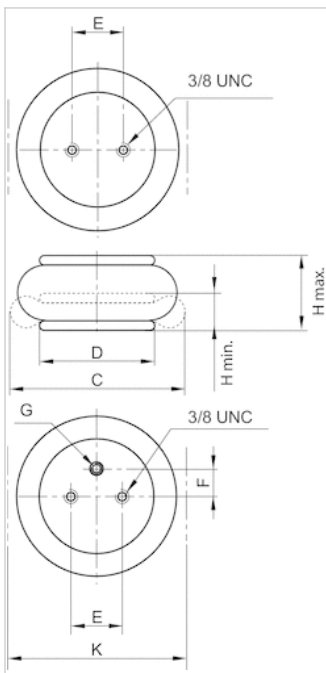
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039285	1/4 NPT	51 mm	85 mm	150 mm	108 mm	1.75
R432039286	1/4 NPT	51 mm	105 mm	165 mm	108 mm	1.75
R432039288	1/4 NPT	51 mm	130 mm	210 mm	114 mm	1.75
R432039289	3/4 NPT	50 mm	125 mm	215 mm	141 mm	2.76

K	Return force, min.
165 mm	250 N
180 mm	200 N
225 mm	45 N
230 mm	200 N

## Dimensions

Fig. 3



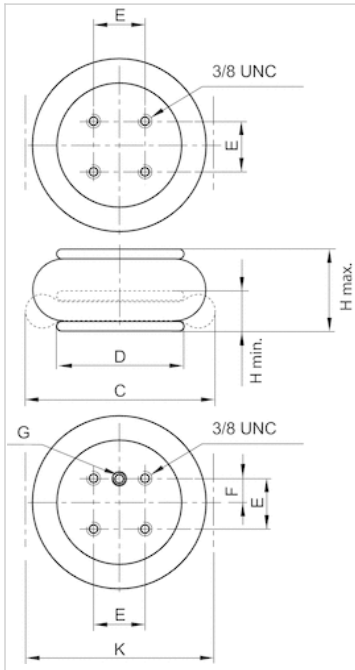
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5	F ±0,5
R432039130	3/4 NPT	51 mm	130 mm	231 mm	141 mm	2.76	0
R432039282	3/4 NPT	51 mm	158 mm	235 mm	141 mm	2.76	0
R432039291	3/4 NPT	51 mm	125 mm	250 mm	161 mm	3.5	1.5
R432039293	3/4 NPT	51 mm	140 mm	325 mm	228 mm	6.2	2.87

K	Return force, min.
245 mm	200 N
250 mm	200 N
265 mm	200 N
340 mm	300 N

## Dimensions

Fig. 4



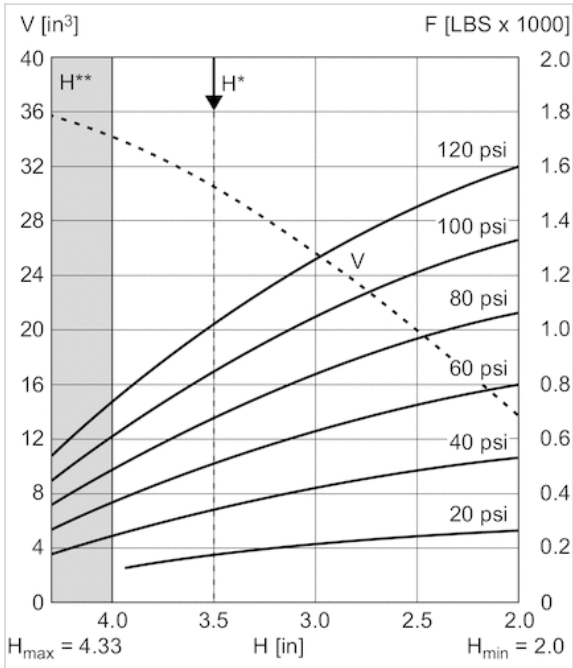
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5	F ±0,5
R432039297	3/4 NPT	51 mm	155 mm	385 mm	287 mm	6.25	3.13
R432039300	3/4 NPT	51 mm	160 mm	405 mm	287 mm	6.25	3.13

K	Return force, min.
400 mm	300 N
420 mm	300 N

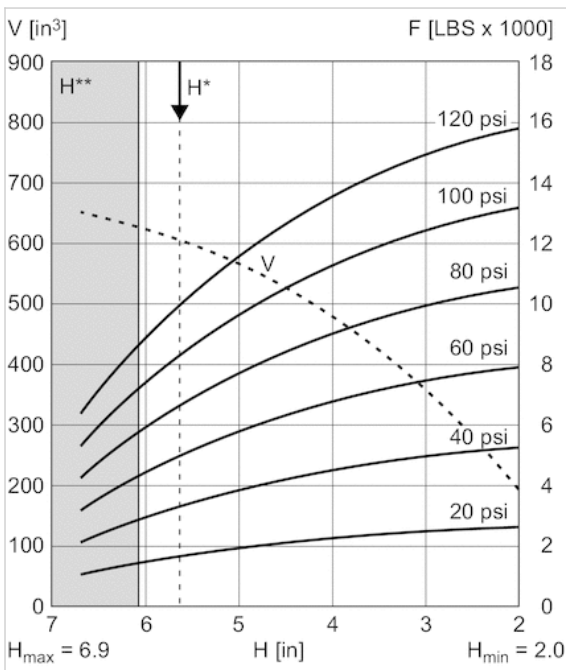
# Diagrams

## Force-displacement diagram, R432039283



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

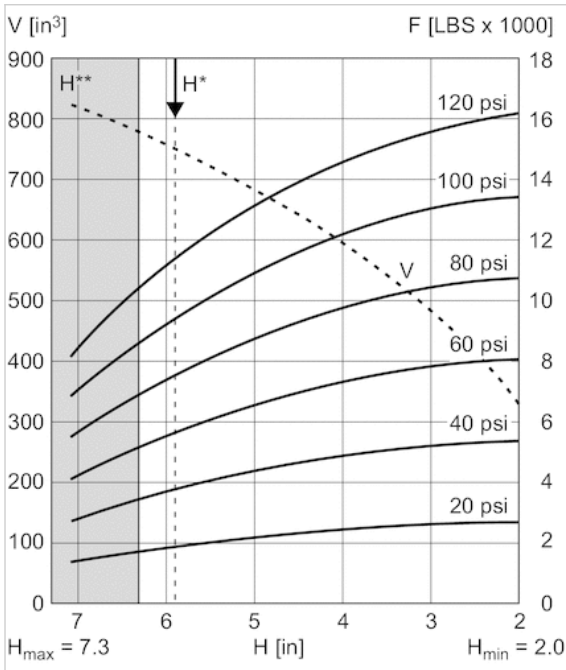
## Force-displacement diagram, R432039297



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

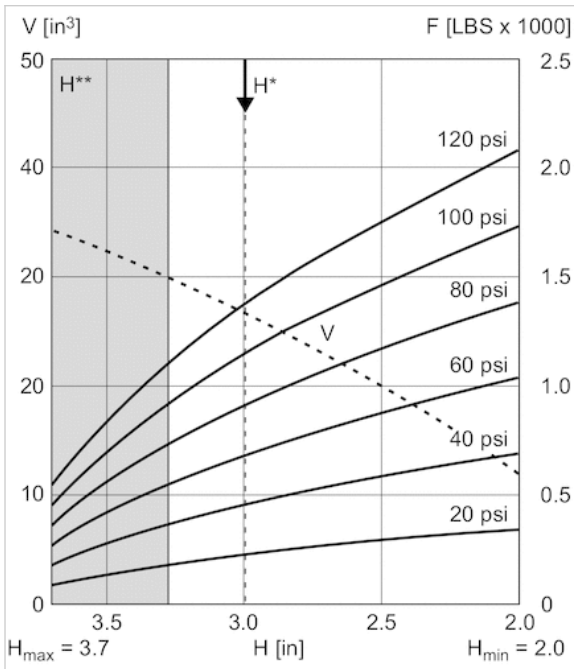


Force-displacement diagram, R432039300



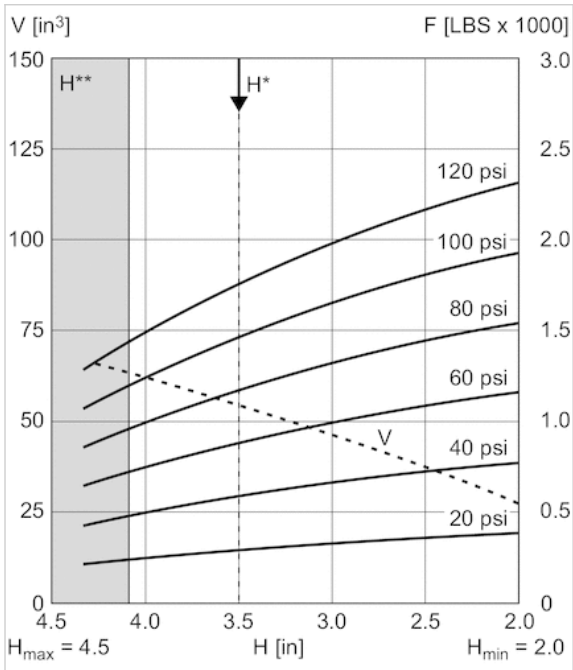
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R432039285



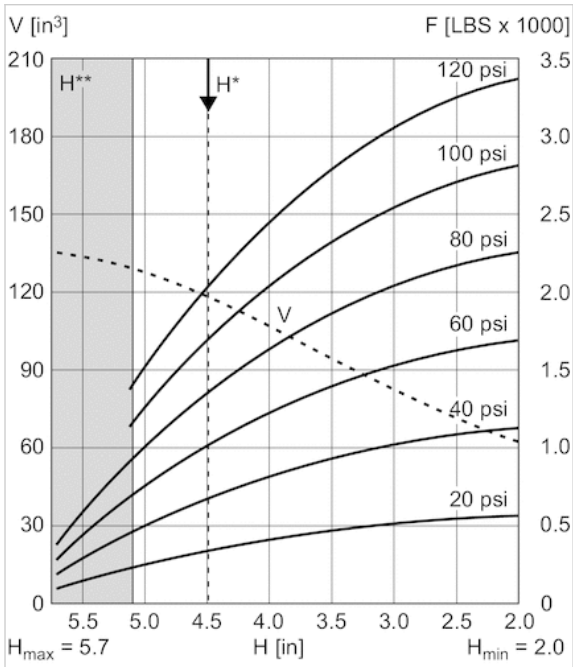
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039286



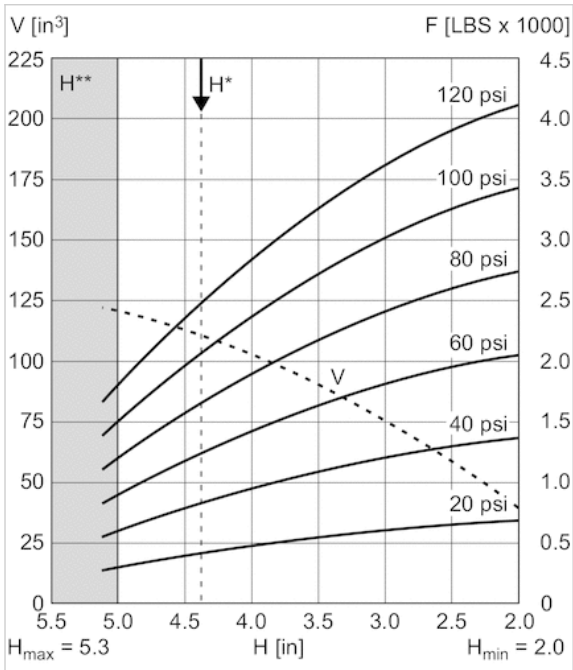
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039288



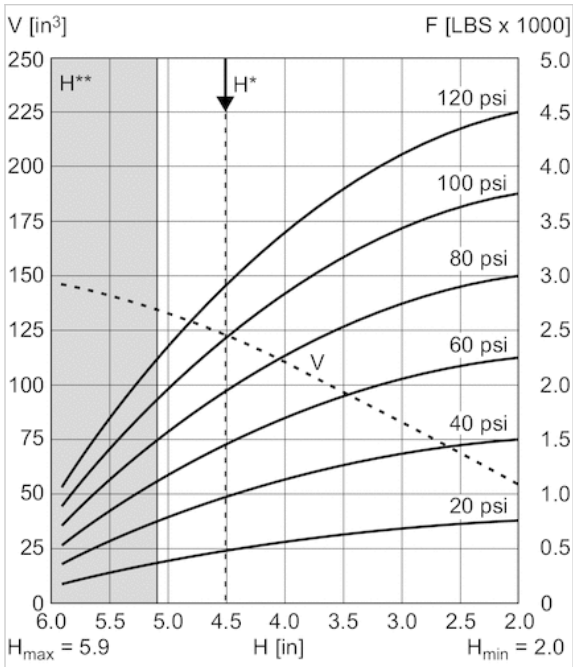
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039289



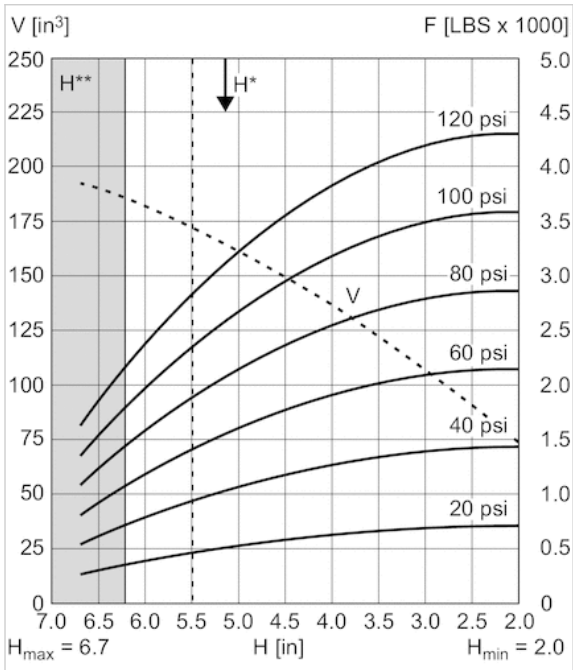
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039130



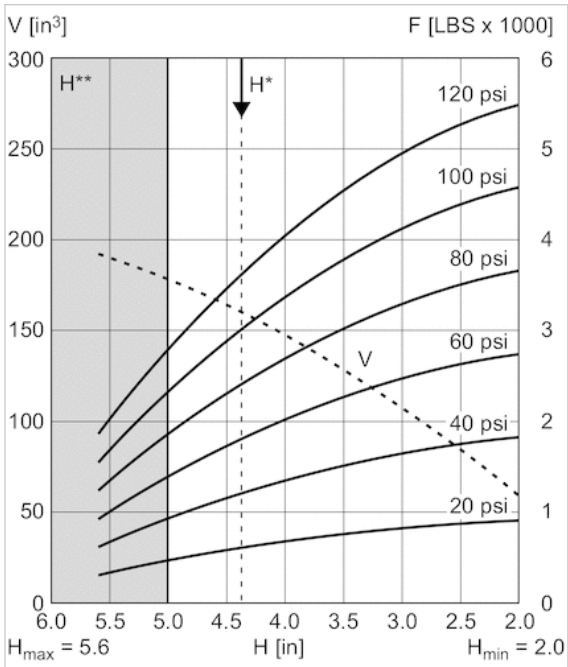
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS  
 1 kN = 1000 N

Force-displacement diagram, R432039282



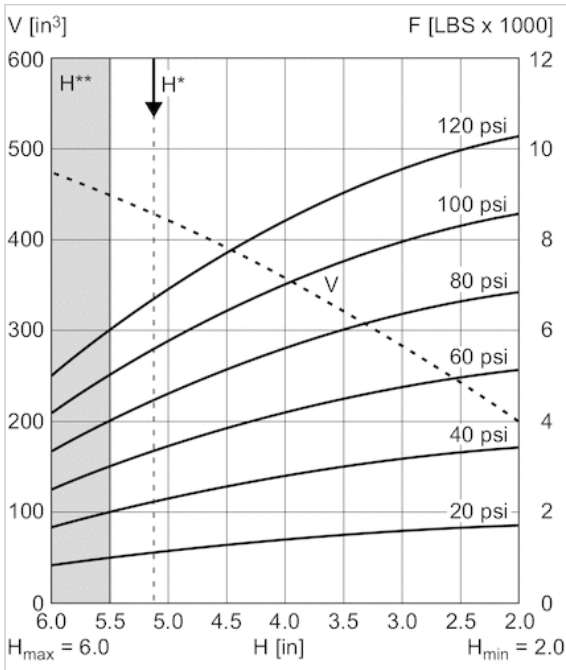
V = volume  
 H = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039291



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

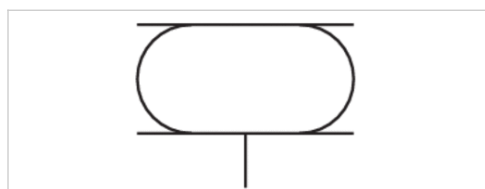
Force-displacement diagram, R432039293



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

# Series BCP - inch

- standard version
- double
- Stroke 95-252.98 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		
R432039284	90 mm	1/8 NPT		95 mm
R432039287	108 mm	1/4 NPT		107.95 mm
R432039134	141 mm	1/4 NPT		122.94 mm
R432039146	141 mm	3/4 NPT		152.91 mm
R432039290	141 mm	3/4 NPT		152.91 mm
R432039136	161 mm	3/4 NPT		165.1 mm
R432039292	161 mm	3/4 NPT		223.01 mm
R432039788	228 mm	3/4 NPT		189.99 mm
R432039295	228.09 mm	3/4 NPT		223.01 mm
R432039298	287 mm	3/4 NPT		193.04 mm
R432039299	287 mm	3/4 NPT		223.01 mm
R432039770	287 mm	3/4 NPT		252.98 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R432039284	160 mm	2100 ... 5600 N	1.3 kg	Fig. 1	-
R432039287	180 mm	3500 ... 8700 N	1.5 kg	Fig. 2	-
R432039134	215 mm	5000 ... 12600 N	2.1 kg	Fig. 2	-
R432039146	230 mm	7000 ... 13000 N	2.3 kg	Fig. 2	1)
R432039290	235 mm	7700 ... 14800 N	2.3 kg	Fig. 2	1)
R432039136	250 mm	7700 ... 20000 N	3 kg	Fig. 3	-
R432039292	275 mm	8200 ... 19500 N	3.5 kg	Fig. 3	1)

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R432039788	340 mm	17000 ... 35400 N	4.8 kg	Fig. 3	-
R432039295	355.6 mm	20500 ... 36800 N	5.08 kg	Fig. 3	1)
R432039298	400 mm	27400 ... 49600 N	6.9 kg	Fig. 4	-
R432039299	415 mm	27800 ... 52600 N	7.3 kg	Fig. 4	1)
R432039770	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

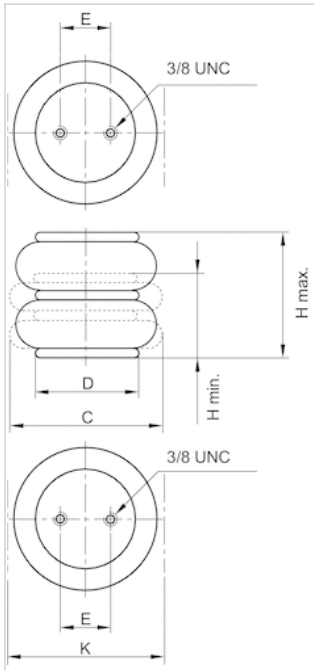
Reduced service life at a temperature greater than 50 °C

## Technical information

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

## Dimensions

Fig. 1



1) air connection in the mounting hole

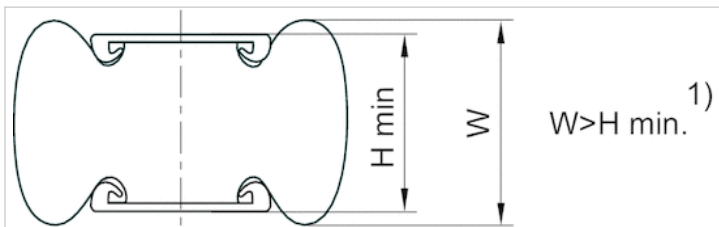
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039284	1/8 NPT	70 mm	165 mm	145 mm	90 mm	0,79

K	Return force, min.
160 mm	200 N

## Dimensions

### Comment

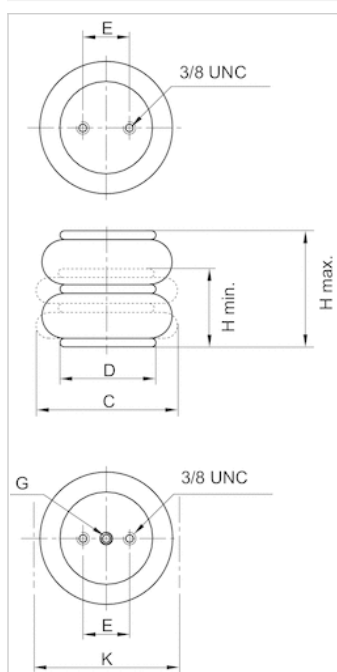


1) Once the minimum height H min. is reached, the bead height W can fall below the lower limit. If, for these products, level mounting surfaces greater than the cover diameter are selected, the return force and force output at the start of stroke increase. In the process, the rubber bellows is also compressed 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



Fig. 2



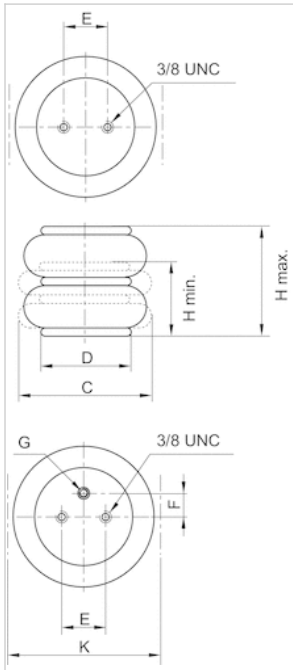
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039287	1/4 NPT	72 mm	180 mm	165 mm	108 mm	1.75
R432039134	1/4 NPT	72 mm	195 mm	203 mm	141 mm	2.76
R432039146	3/4 NPT	75 mm	205 mm	215 mm	141 mm	2.76
R432039290	3/4 NPT	77 mm	230 mm	218 mm	141 mm	2.76

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

## Dimensions

Fig. 3



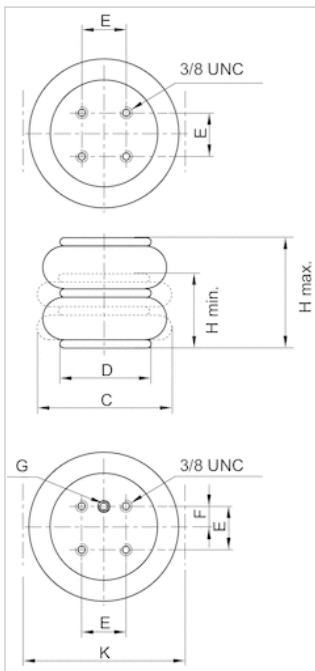
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D
R432039136	3/4 NPT	75 mm	240 mm	250 mm	161 mm
R432039292	3/4 NPT	77 mm	300 mm	260 mm	161 mm
R432039788	3/4 NPT	75 mm	265 mm	325 mm	228 mm
R432039295	3/4 NPT	76.96 mm	299.97 mm	340.1 mm	228.09 mm

E ±0,5	F ±0,5	K	Return force, min.
3.5	1.5	250 mm	200 N
3.5	1.5	275 mm	250 N
6.2	2.87	340 mm	300 N
6.2	2.87	355.6 mm	297.6 N

## Dimensions

Fig. 4



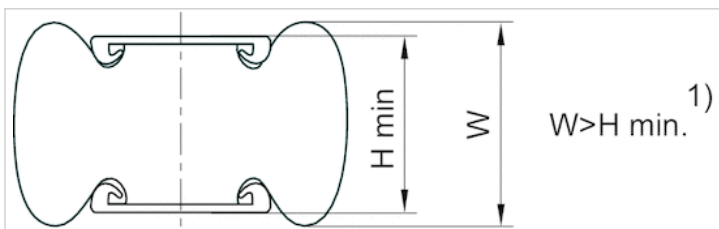
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5	F ±0,5
R432039298	3/4 NPT	77 mm	270 mm	385 mm	287 mm	6.25	3.13
R432039299	3/4 NPT	77 mm	300 mm	400 mm	287 mm	6.25	3.13
R432039770	3/4 NPT	77 mm	330 mm	405 mm	287 mm	6.25	3.13

K	Return force, min.
400 mm	400 N
415 mm	400 N
420 mm	400 N

## Dimensions

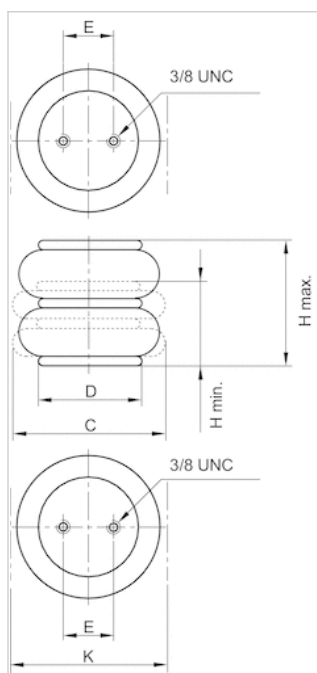
### Comment



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

Fig. 1



1) air connection in the mounting hole

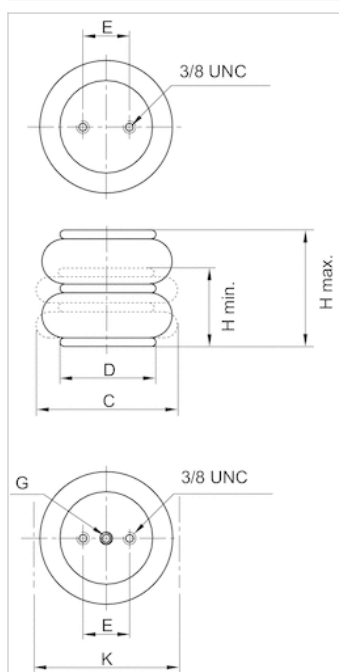
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039284	1/8 NPT	70 mm	165 mm	145 mm	90 mm	0,79

K	Return force, min.
160 mm	200 N

## Dimensions

Fig. 2



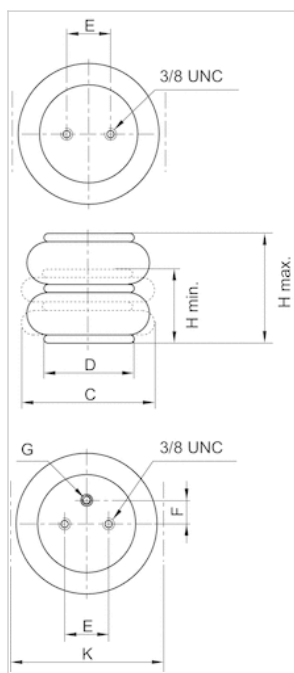
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039287	1/4 NPT	72 mm	180 mm	165 mm	108 mm	1.75
R432039134	1/4 NPT	72 mm	195 mm	203 mm	141 mm	2.76
R432039146	3/4 NPT	75 mm	205 mm	215 mm	141 mm	2.76
R432039290	3/4 NPT	77 mm	230 mm	218 mm	141 mm	2.76

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

## Dimensions

Fig. 3



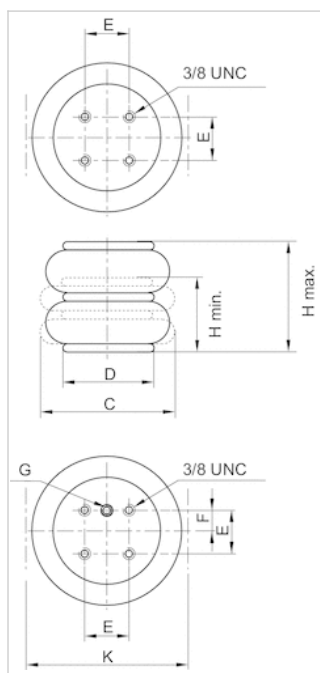
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D
R432039136	3/4 NPT	75 mm	240 mm	250 mm	161 mm
R432039292	3/4 NPT	77 mm	300 mm	260 mm	161 mm
R432039788	3/4 NPT	75 mm	265 mm	325 mm	228 mm
R432039295	3/4 NPT	76.96 mm	299.97 mm	340.1 mm	228.09 mm

E ±0,5	F ±0,5	K	Return force, min.
3.5	1.5	250 mm	200 N
3.5	1.5	275 mm	250 N
6.2	2.87	340 mm	300 N
6.2	2.87	355.6 mm	297.6 N

## Dimensions

Fig. 4



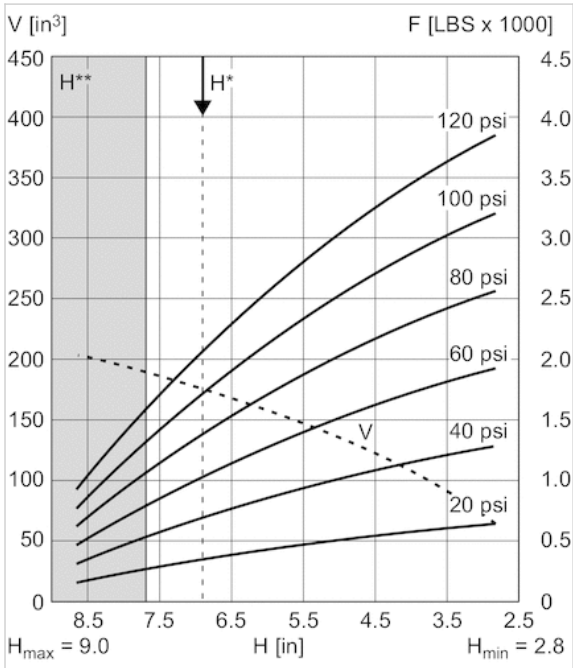
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5	F ±0,5
R432039298	3/4 NPT	77 mm	270 mm	385 mm	287 mm	6.25	3.13
R432039299	3/4 NPT	77 mm	300 mm	400 mm	287 mm	6.25	3.13
R432039770	3/4 NPT	77 mm	330 mm	405 mm	287 mm	6.25	3.13

K	Return force, min.
400 mm	400 N
415 mm	400 N
420 mm	400 N

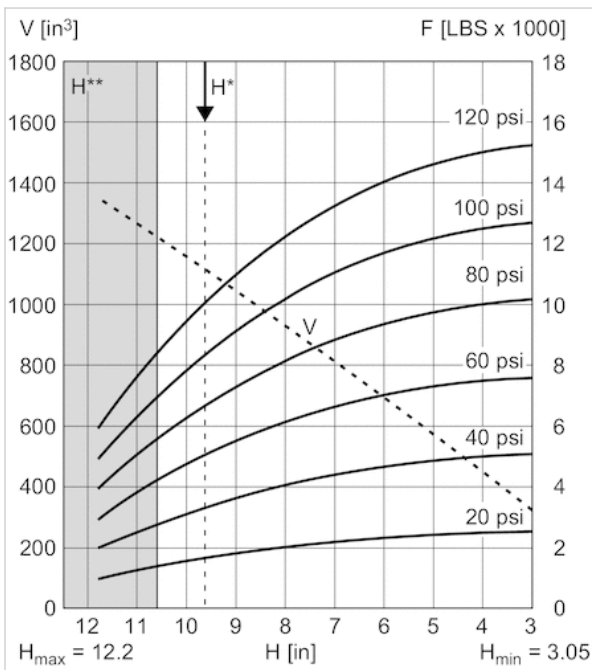
## Diagrams

### Force-displacement diagram, R432039134



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

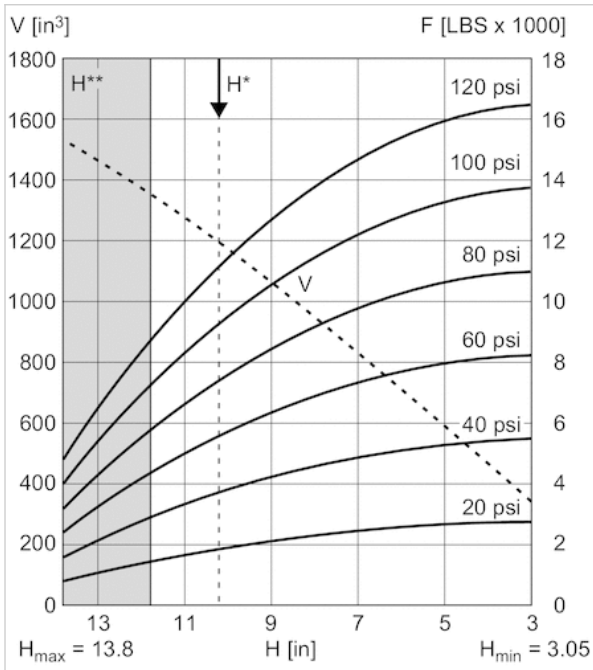
### Force-displacement diagram, R432039298



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

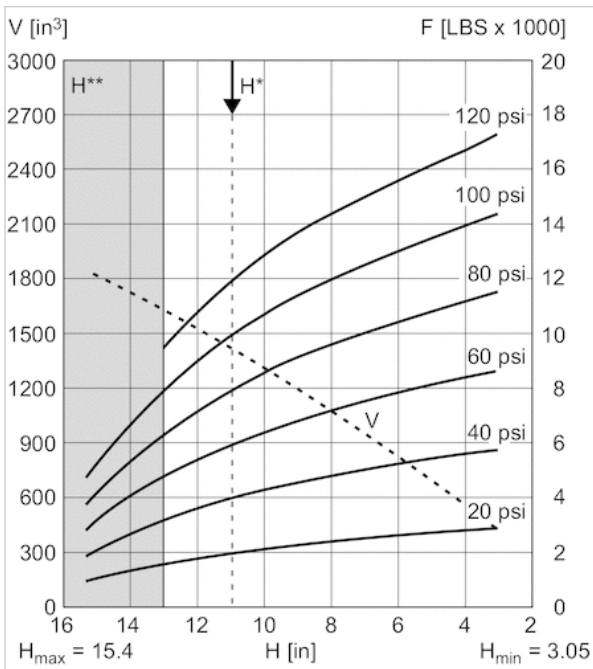


Force-displacement diagram, R432039299



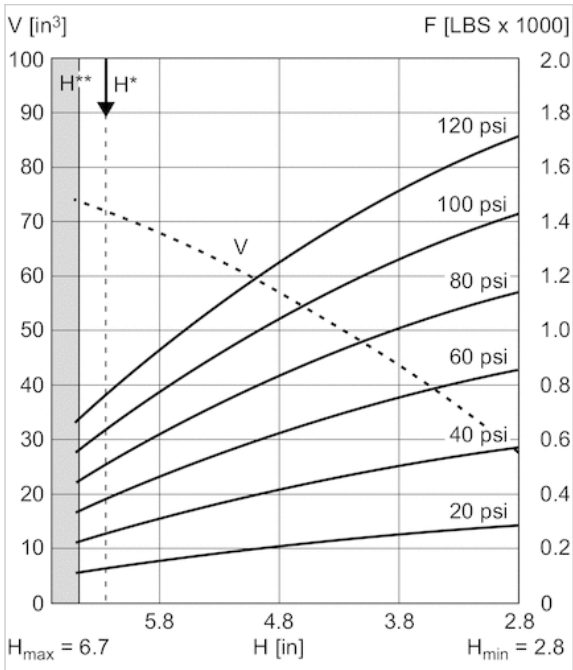
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039770



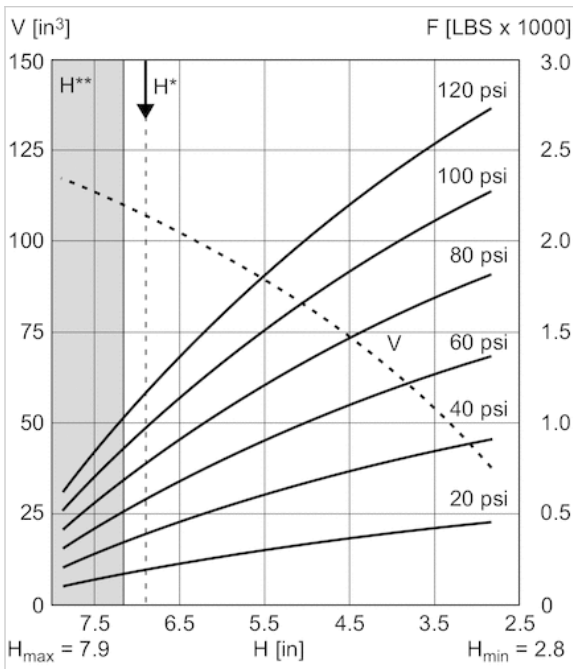
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039284



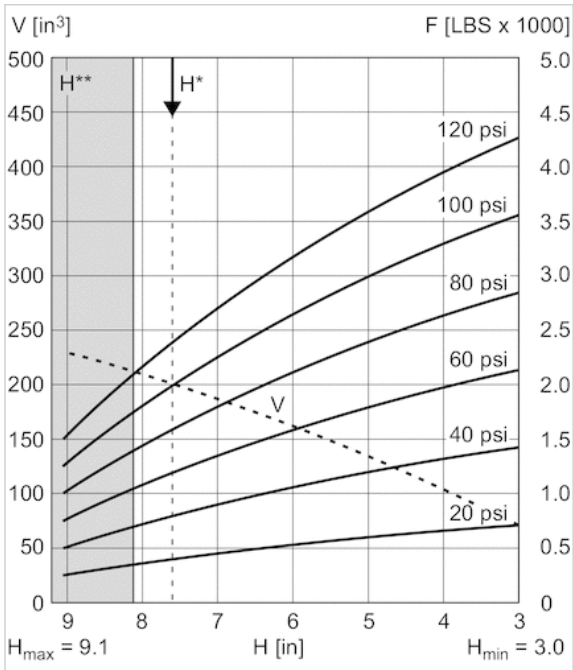
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039287



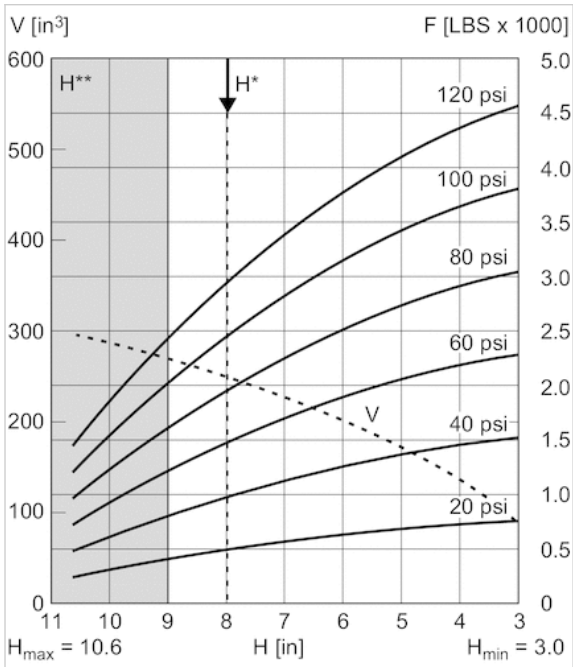
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039146



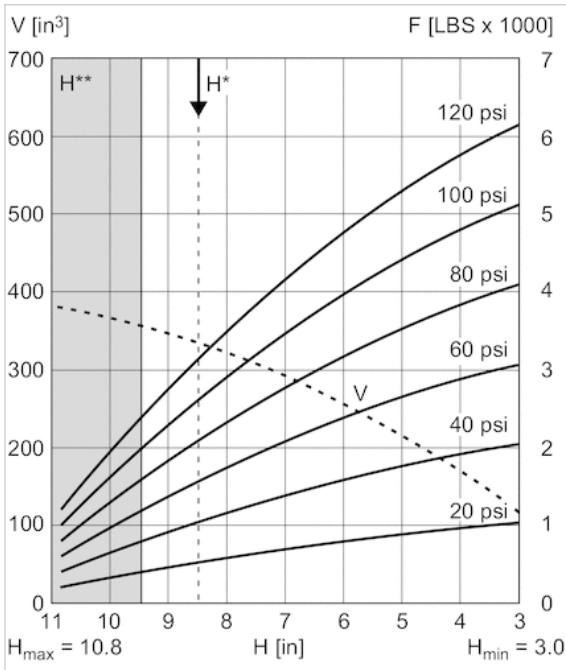
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039290



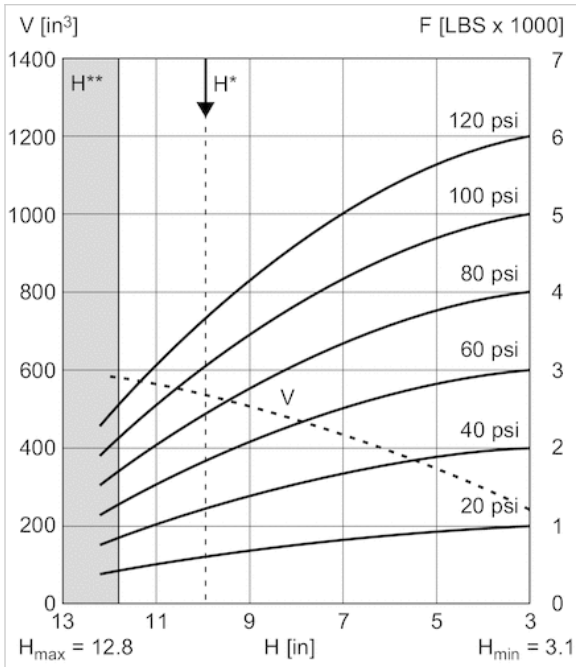
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039136



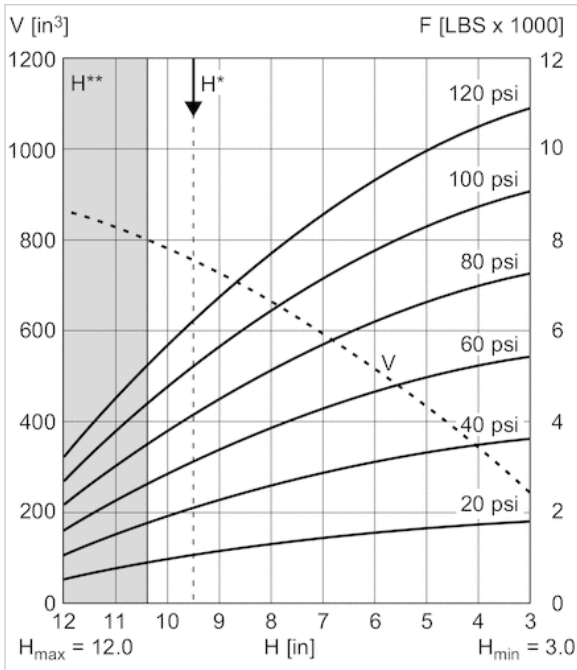
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039292



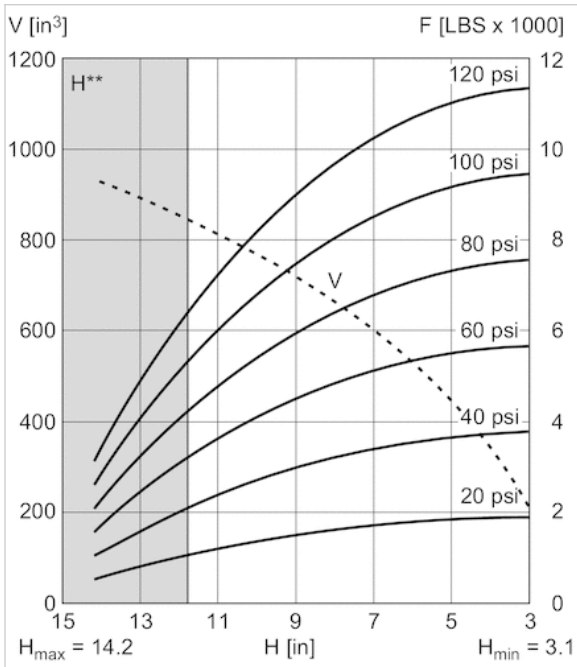
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039788



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

Force-displacement diagram, R432039295



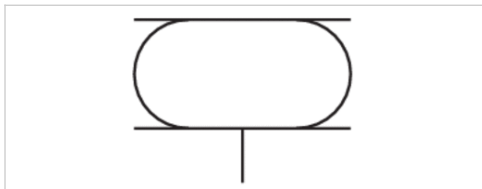
$V$  = volume  
 $H$  = height  
 $H^{**}$  = use permitted only upon approval by AVENTICS

# Series BCP - inch

- standard version
- triple
- Stroke 275.08-284.99 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		
R432039294	228.09 mm	3/4 NPT		284.99 mm
R432039296	287 mm	3/4 NPT		275.08 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.
R432039294	345.44 mm	17100 ... 153469.75 N	5.9 kg	Fig. 1
R432039296	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  
 Reduced service life at a temperature greater than 50 °C

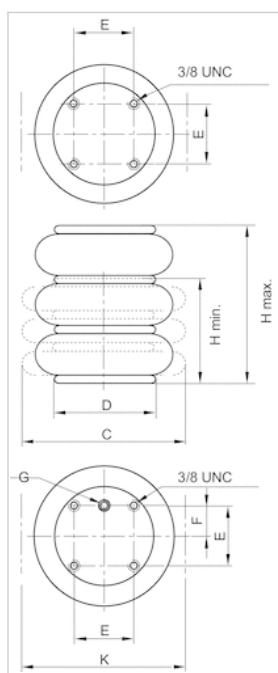
## Technical information

Material	
Bellow	Natural rubber
Front cover	Steel, galvanized

Material	
End cover	Steel, galvanized

## Dimensions

Fig. 2



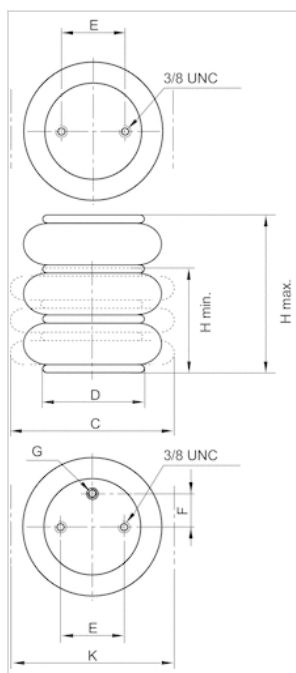
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D
R432039296	3/4 NPT	110 mm	385 mm	384 mm	287 mm

E ±0,5 [mm]	F ±0,5 [mm]	K	Return force, min.
6.25	3.13	410 mm	500 N

## Dimensions

Fig. 1



## Dimensions

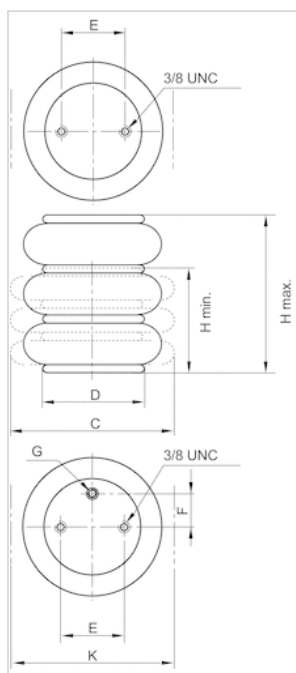
Part No.	Compressed air connection G	H min.	H max.	C	D
R432039294	3/4 NPT	109.98 mm	394.97 mm	12.8 mm	228.09 mm

E ±0,5 [mm]	F ±0,5 [mm]	K	Return force, min.
6.2	2.88	345.44 mm	400 N



## Dimensions

Fig. 1

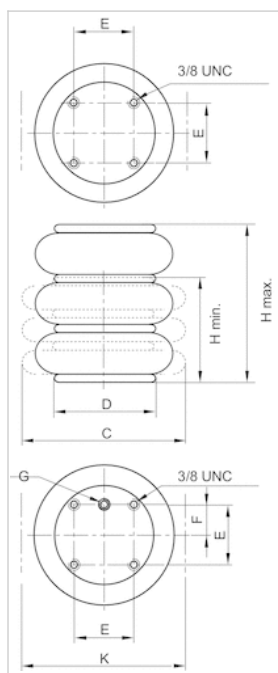


## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D
R432039294	3/4 NPT	109.98 mm	394.97 mm	12.8 mm	228.09 mm
E ±0,5 [mm]		F ±0,5 [mm]		K	Return force, min.
6.2		2.88		345.44 mm	400 N

## Dimensions

Fig. 2

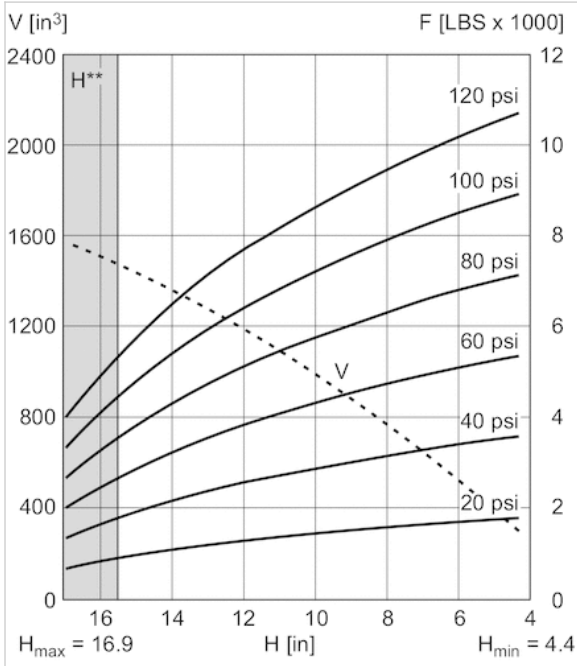


## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D
R432039296	3/4 NPT	110 mm	385 mm	384 mm	287 mm
E ±0,5 [mm]	F ±0,5 [mm]	K		Return force, min.	
6.25	3.13	410 mm		500 N	

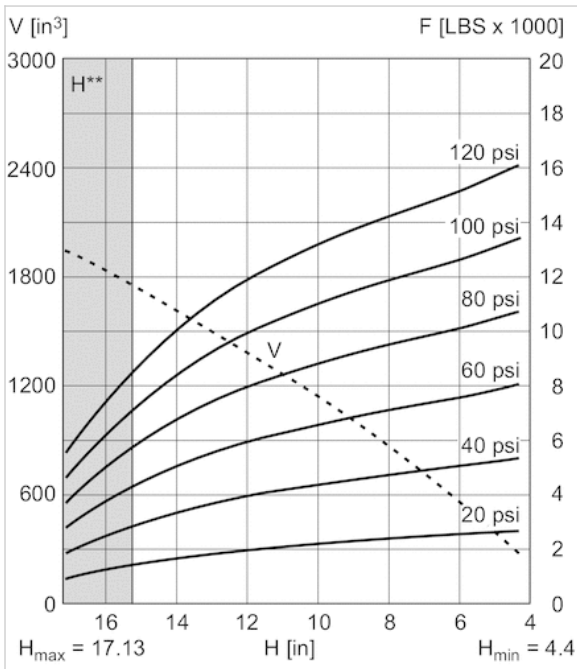
## Diagrams

Force-displacement diagram, R432039294



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

Force-displacement diagram, R432039296



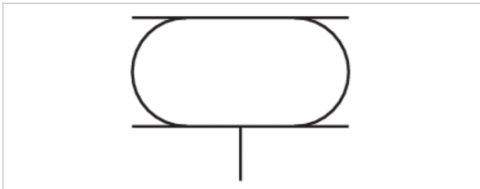
V = volume  
 H = height  
 H\*\*= use permitted only upon approval by AVENTICS

# Series BCP - inch

- Heat-resistant version
- single
- Stroke 43.18-124.46 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		
R432039274	108 mm	1/4 NPT		43.18 mm
R432039276	114 mm	1/4 NPT		93.98 mm
R432039278	141 mm	3/4 NPT		119.38 mm
R432039279	161 mm	3/4 NPT		91.44 mm
R432039280	228 mm	3/4 NPT		101.6 mm
R432039281	287 mm	3/4 NPT		124.46 mm

Part No.	Min. radial installation space	Force min./max.	Weight	Fig.	
R432039274	165 mm	3500 ... 6900 N	1.4 kg	Fig. 1	-
R432039276	225 mm	4300 ... 10900 N	1.4 kg	Fig. 1	-
R432039278	250 mm	7000 ... 14000 N	1.9 kg	Fig. 1	1)
R432039279	265 mm	9300 ... 17300 N	2.3 kg	Fig. 2	-
R432039280	340 mm	19400 ... 33300 N	3.9 kg	Fig. 2	-
R432039281	400 mm	26100 ... 50000 N	5.9 kg	Fig. 4	-

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.

## Technical information

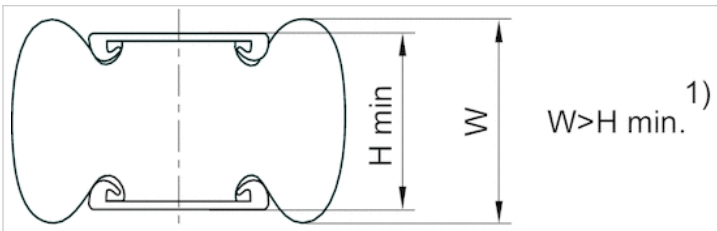
Compliance with the minimum height  $H_{min}$ . as well as the maximum height  $H_{max}$ . must be ensured with end stops.  
 Use at operating height  $\geq H_{max}$ : only permitted upon approval by AVENTICS  
 Further information on vibration isolation can be found in the "Technical information" document (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

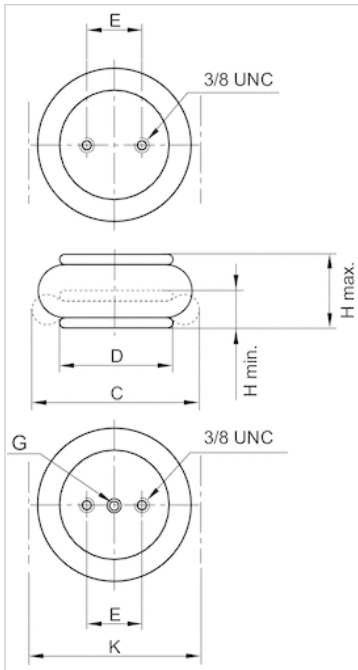
### Comment



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

Fig. 1



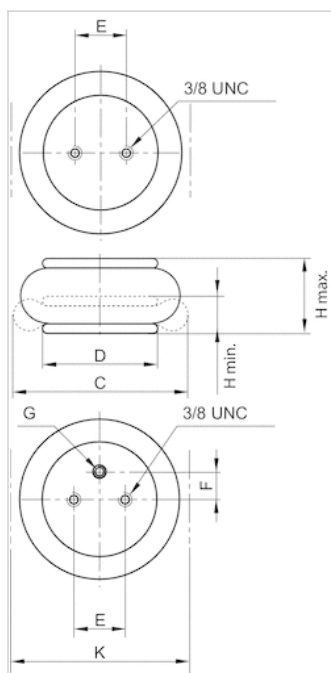
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039274	1/4 NPT	50.8 mm	93.98 mm	150 mm	108 mm	1.75
R432039276	1/4 NPT	50.8 mm	144.78 mm	210 mm	114 mm	1.75
R432039278	3/4 NPT	50.8 mm	170.18 mm	235 mm	141 mm	2.76

K	Return force, min.
165 mm	250 N
225 mm	45 N
250 mm	200 N

## Dimensions

Fig. 2



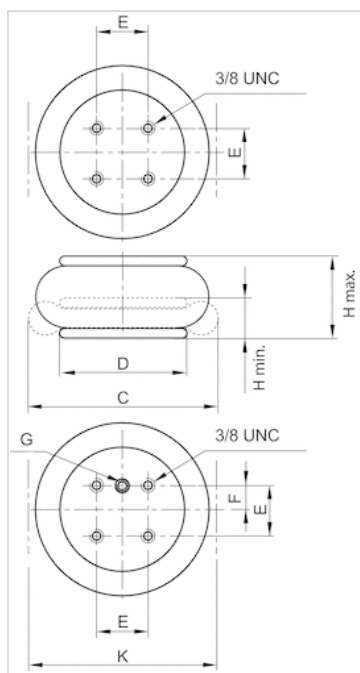
## Dimensions

Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039279	3/4 NPT	50.8 mm	142.24 mm	250 mm	161 mm	3.5
R432039280	3/4 NPT	50.8 mm	152.4 mm	325.1 mm	228 mm	6.2

F ±0,5	K	Return force, min.
1.5	265 mm	200 N
2.87	340 mm	300 N

## Dimensions

Fig. 4



## Dimensions

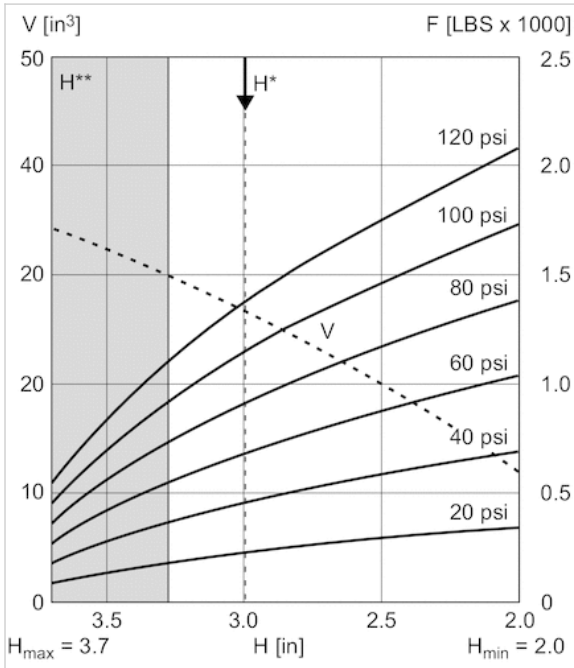
Part No.	Compressed air connection G	H min.	H max.	C	D	E ±0,5
R432039281	3/4 NPT	50.8 mm	175.26 mm	385 mm	287 mm	6.25

F ±0,5	K	Return force, min.
3.13	400 mm	300 N



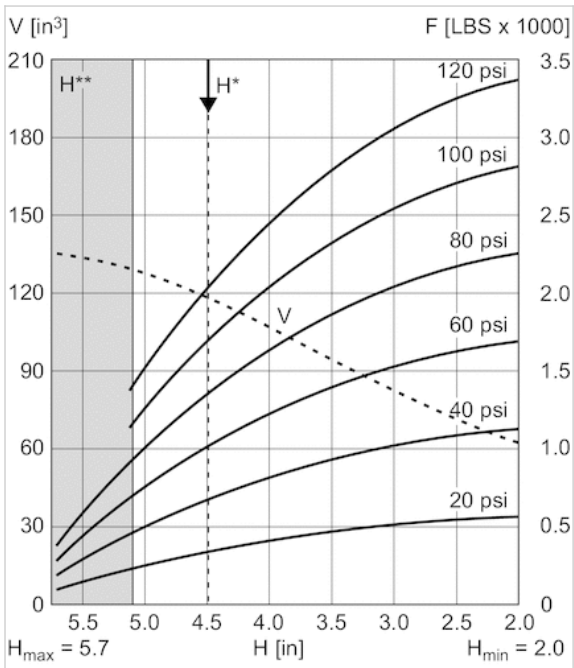
## Diagrams

### Force-displacement diagram, R432039274



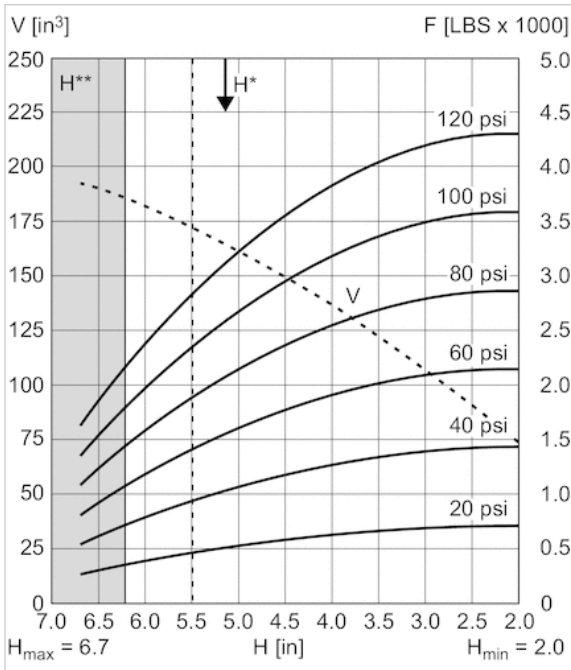
V = volume  
 H = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS

### Force-displacement diagram, R432039276



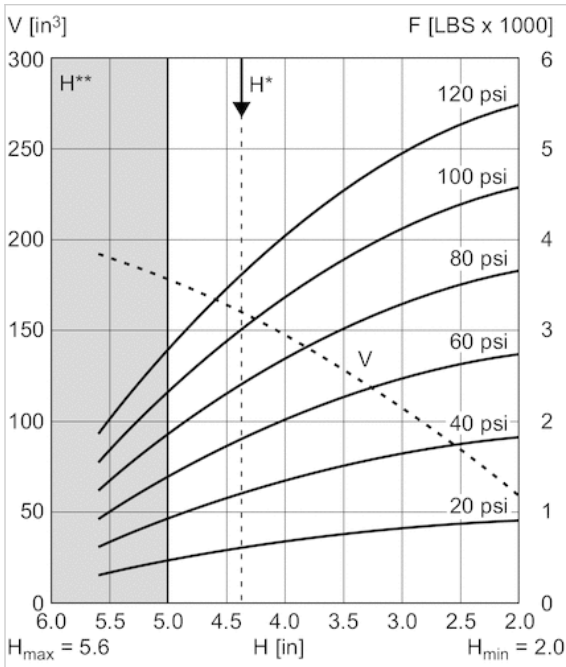
V = volume  
 H = height  
 $H^*$  = recommended operating height for vibration isolation  
 $H^{**}$  = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039278



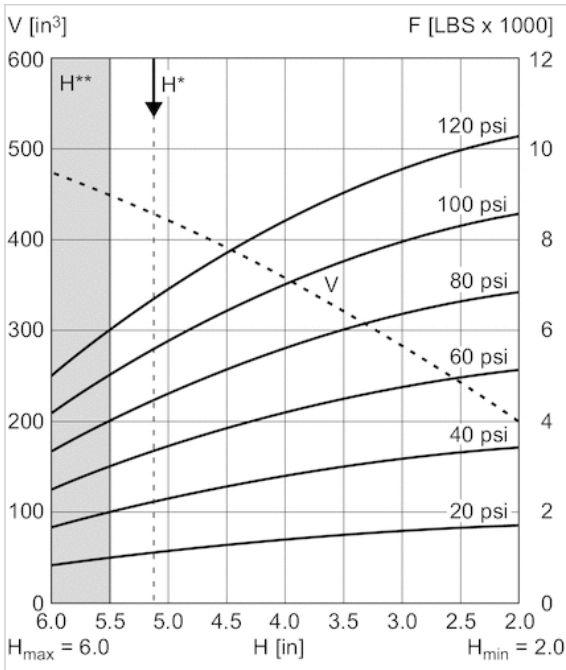
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039279



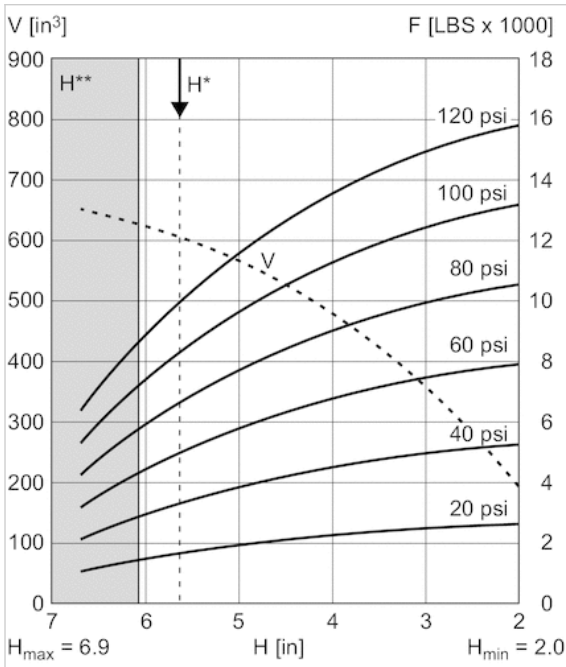
V = volume  
 H = height  
 H\* = recommended operating height for vibration isolation  
 H\*\* = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039280



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

Force-displacement diagram, R432039281



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.

0 ... 20 bar

Ambient temperature min./max.

-50 ... 130 °C

Medium

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

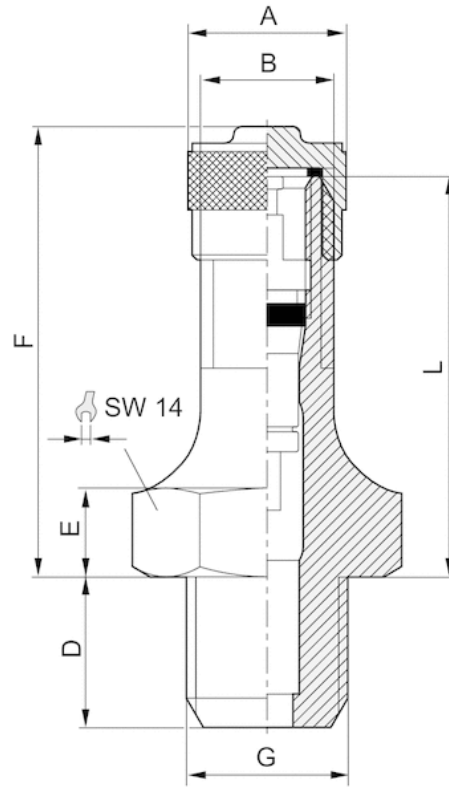


Fig. 2

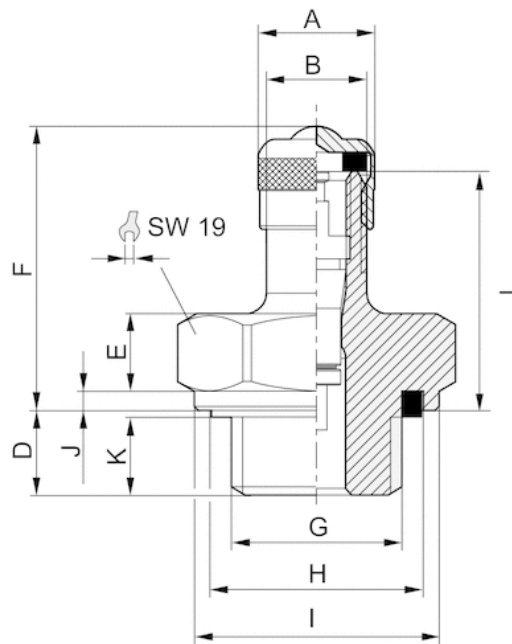
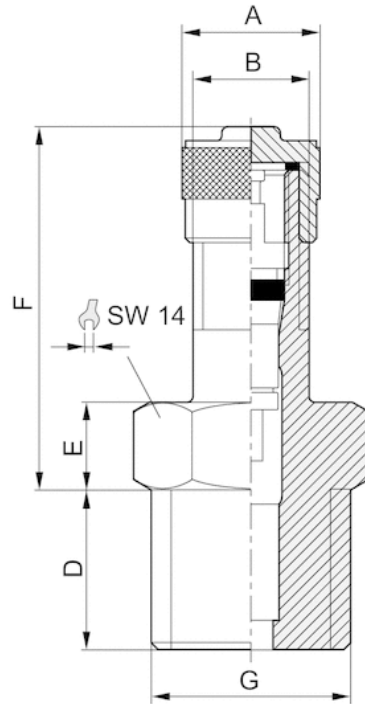


Fig. 3



### 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.

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