

Series BCR

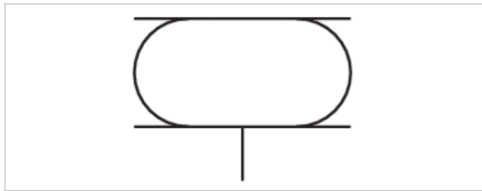


AVENTICS™ Series BCR



Series BCR

- single
- Stroke 92-131 mm



Version	Bellow actuator with mounting ring
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	Max. effective stroke	Min. radial installation space	Force min./max.	Weight
2999697410	384 mm	107 mm	490 mm	41000 ... 78000 N	5 kg
2999696600	451 mm	92 mm	570 mm	67000 ... 107000 N	7.3 kg
2999697310	517 mm	98 mm	625 mm	90000 ... 137000 N	8.7 kg
1971132000	638 mm	131 mm	770 mm	131000 ... 229000 N	11.1 kg
2999699610	890 mm	116 mm	1000 mm	265000 ... 390000 N	22 kg

Scope of delivery: incl. threaded bolts

Technical information

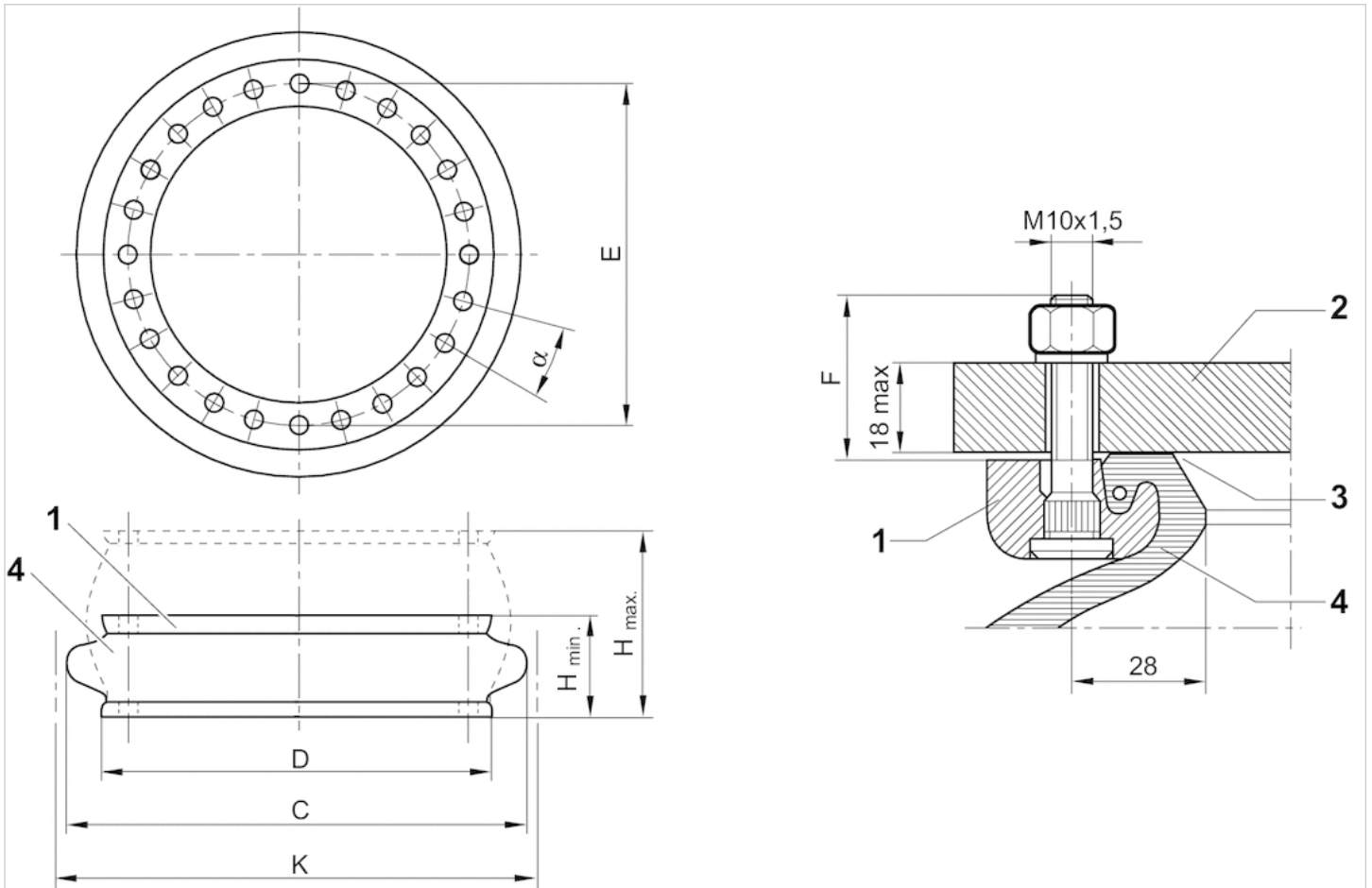
Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.
 Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the "Technical information" document (available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

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt 1. mounting ring

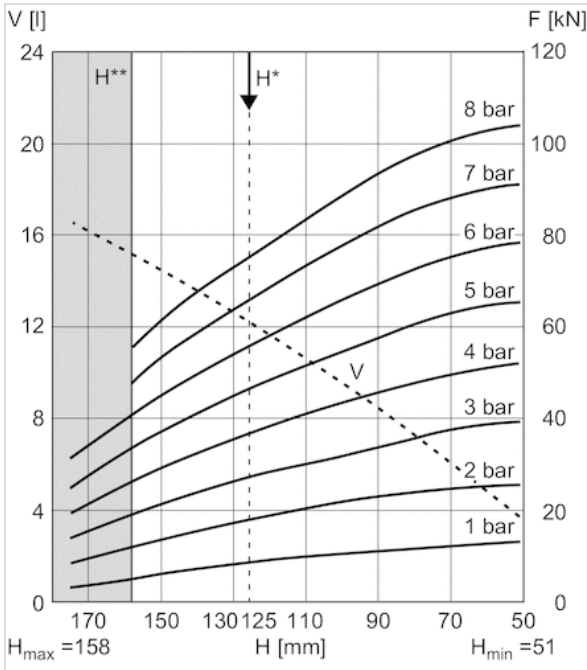
2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Dimensions

H min.	H max.	C	D	K	Return force, min.
51 mm	158 mm	452 mm	384 mm	490 mm	400 N
53 mm	145 mm	530 mm	451 mm	570 mm	90 N
55 mm	153 mm	585 mm	517 mm	625 mm	730 N
55 mm	186 mm	725 mm	638 mm	770 mm	670 N
70 mm	186 mm	950 mm	890 mm	1000 mm	1500 N

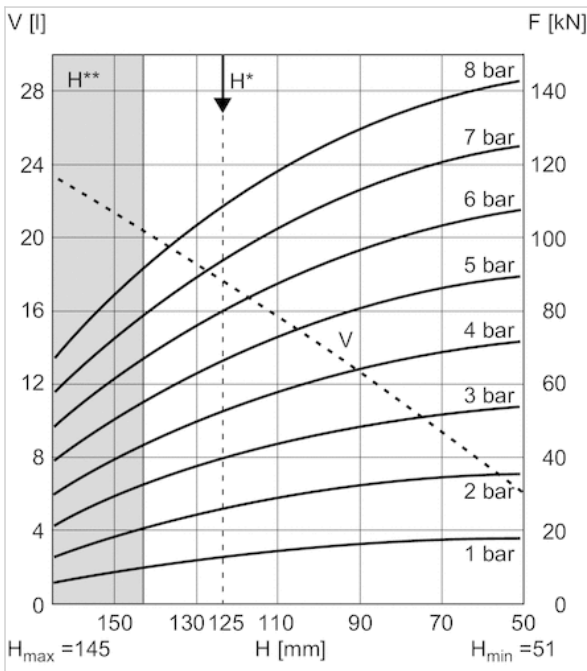
Diagrams

Force-displacement diagram, 2999697410



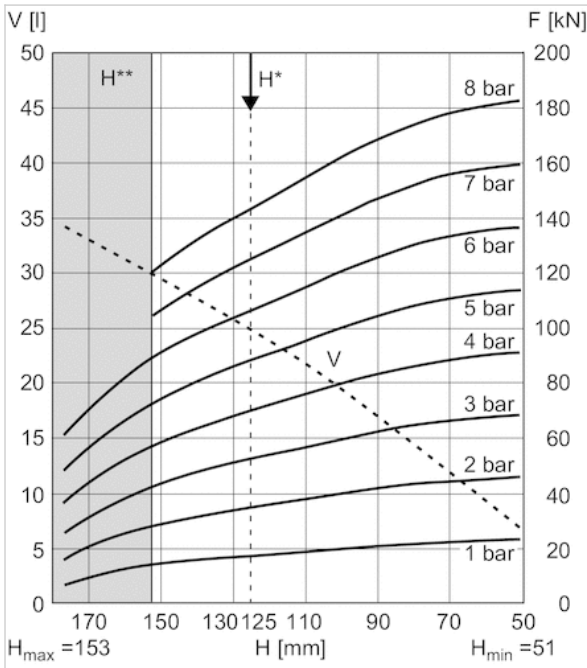
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 2999696600



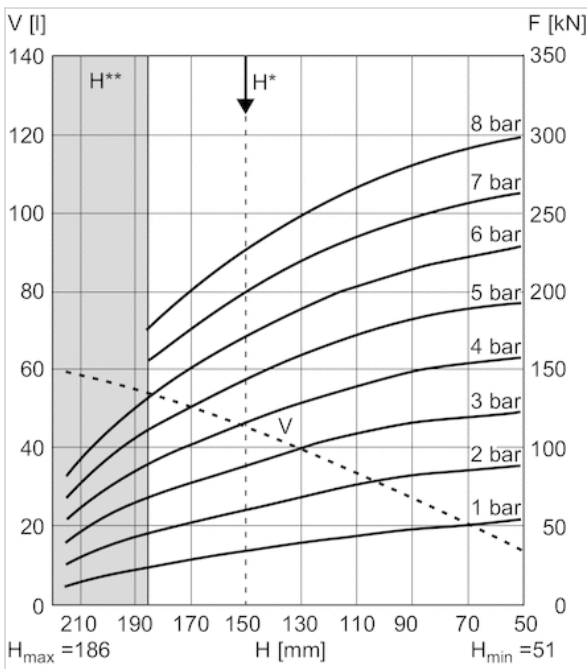
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 2999697310



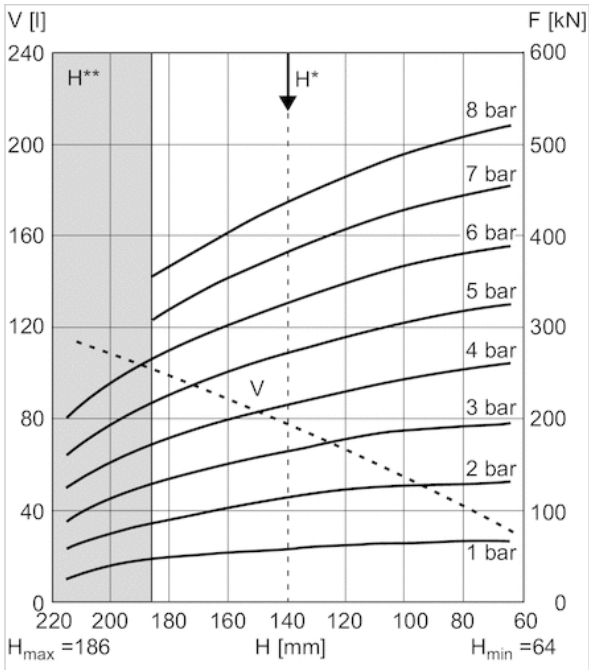
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1971132000



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, 2999699610



V = volume

H = height

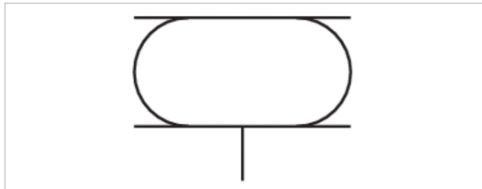
H* = recommended operating height for vibration isolation

H** = use permitted only upon approval by AVENTICS

1 kN = 1000 N

Series BCR

- double
- Stroke 185-233 mm



Version	Bellow actuator with mounting ring
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.	25 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Max. effective stroke	Min. radial installation space	Force min./max.	Weight
1944182000	384 mm	185 mm	495 mm	44000 ... 80000 N	8.6 kg
1951182000	451 mm	200 mm	575 mm	64000 ... 108000 N	10.2 kg
1957192000	517 mm	200 mm	633 mm	84000 ... 141000 N	12 kg
1971232000	638 mm	221 mm	770 mm	136000 ... 207000 N	15.4 kg
2999697010	890 mm	233 mm	1000 mm	257000 ... 390000 N	32.9 kg

Scope of delivery: incl. threaded bolts

Technical information

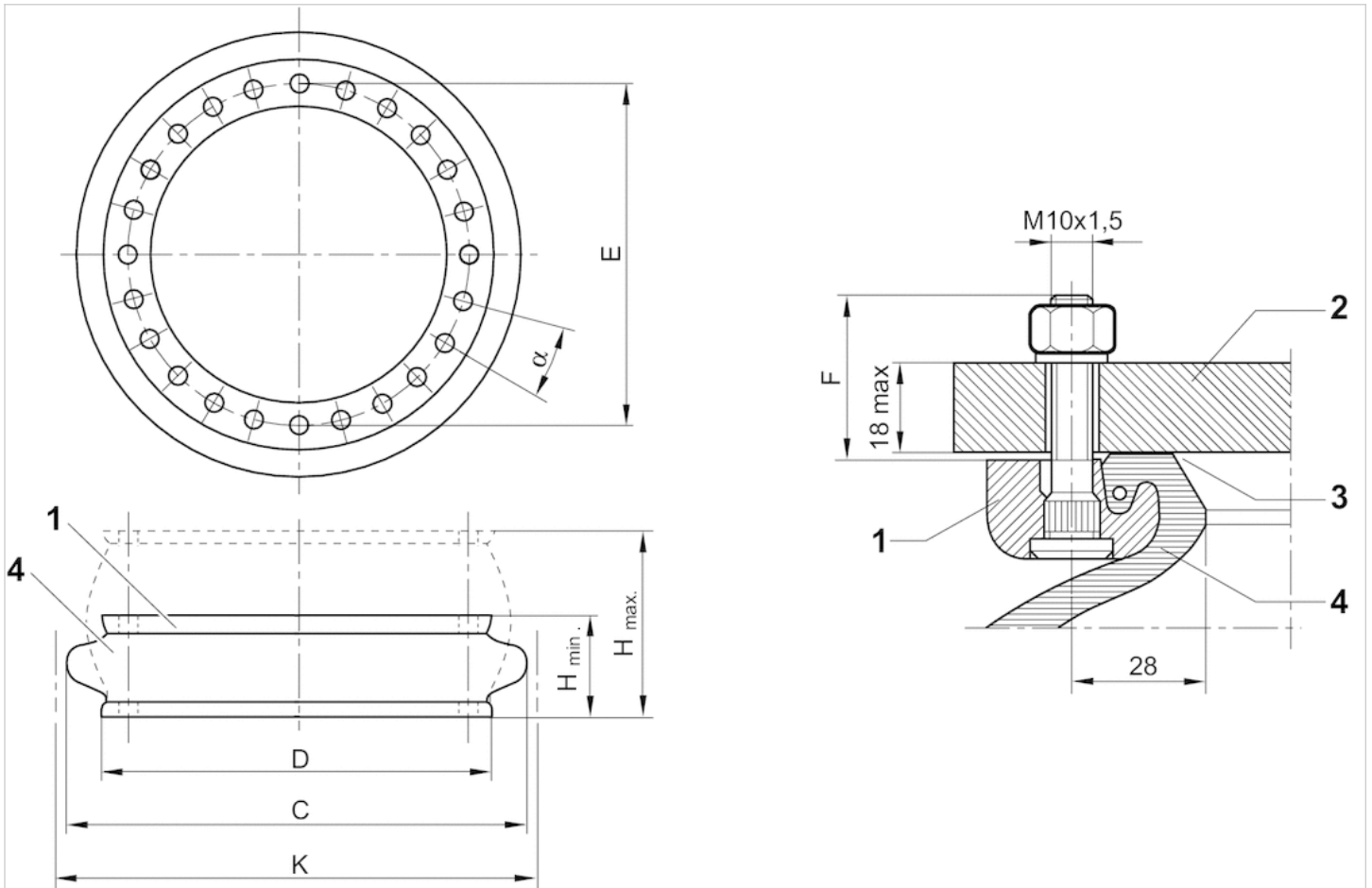
Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.
 Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the "Technical information" document (available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

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt 1. mounting ring

2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Dimensions

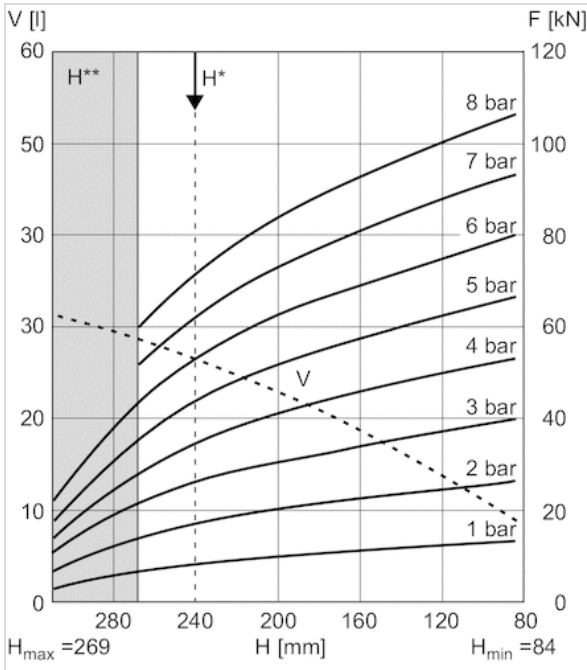
Part No.	H min.	H max.	C	D	E ±2	F	α°	K mm
1944182000	84 mm	269 mm	450 mm	384 mm	350	31,8	20	495 mm
1951182000	84 mm	284 mm	525 mm	451 mm	419	31,8	15	575 mm
1957192000	84 mm	284 mm	590 mm	517 mm	482	31,8	15	633 mm
1971232000	89 mm	310 mm	720 mm	638 mm	596	31,8	11.25	770 mm
2999697010	107 mm	340 mm	950 mm	890 mm	830	26.8	9	1000 mm

Return force, min. N

200 N
 200 N
 440 N
 700 N
 5500 N

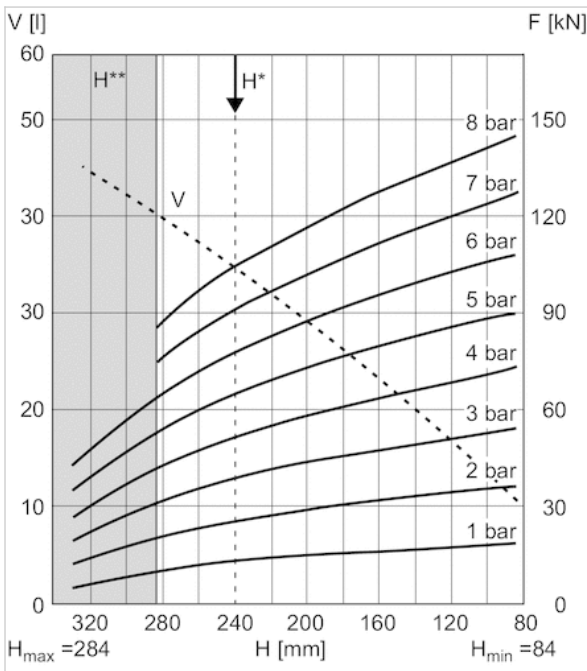
Diagrams

Force-displacement diagram, 1944182000



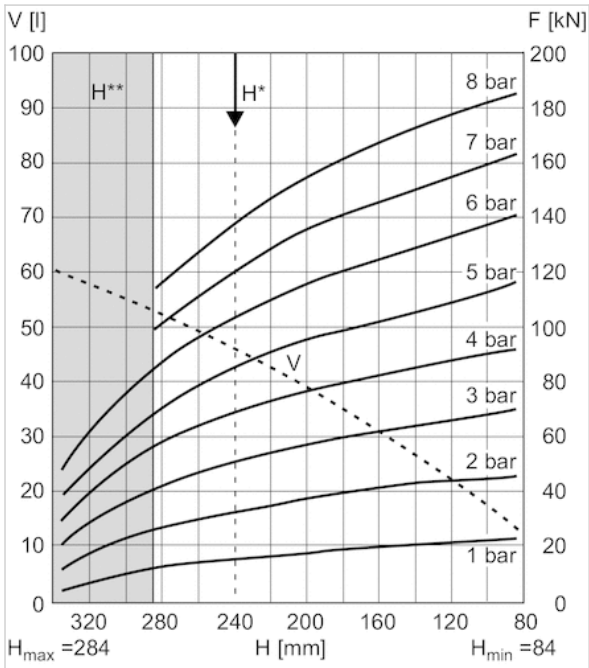
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1951182000



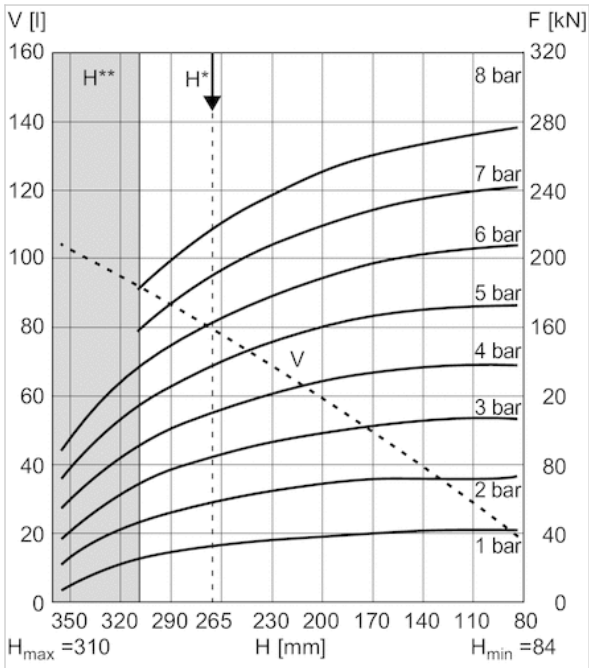
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1957192000



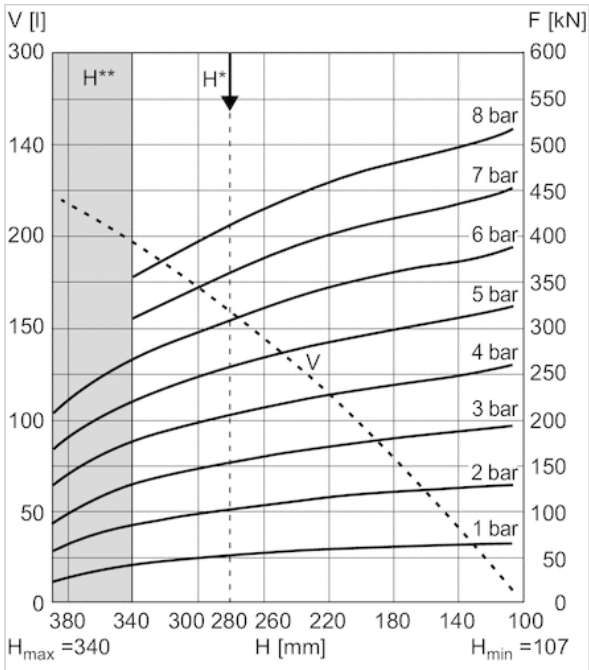
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1971232000



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

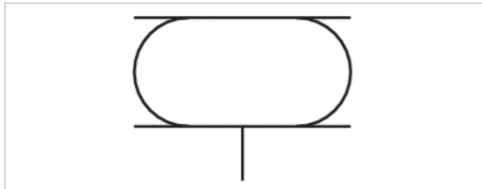
Force-displacement diagram, 2999697010



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

Series BCR

- triple
- Stroke 286-354 mm



Version	Bellow actuator with mounting ring
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.	30 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Max. effective stroke	Min. radial installation space	Force min./max.	Weight
1946272000	384 mm	290 mm	510 mm	43000 ... 81000 N	9.3 kg
1951282000	451 mm	286 mm	570 mm	65000 ... 114000 N	12.5 kg
2999698310	517 mm	305 mm	650 mm	84000 ... 140000 N	14.5 kg
1971372000	638 mm	354 mm	775 mm	124000 ... 219000 N	17 kg
2999697110	890 mm	350 mm	1000 mm	277000 ... 390000 N	44 kg

Scope of delivery: incl. threaded bolts

Technical information

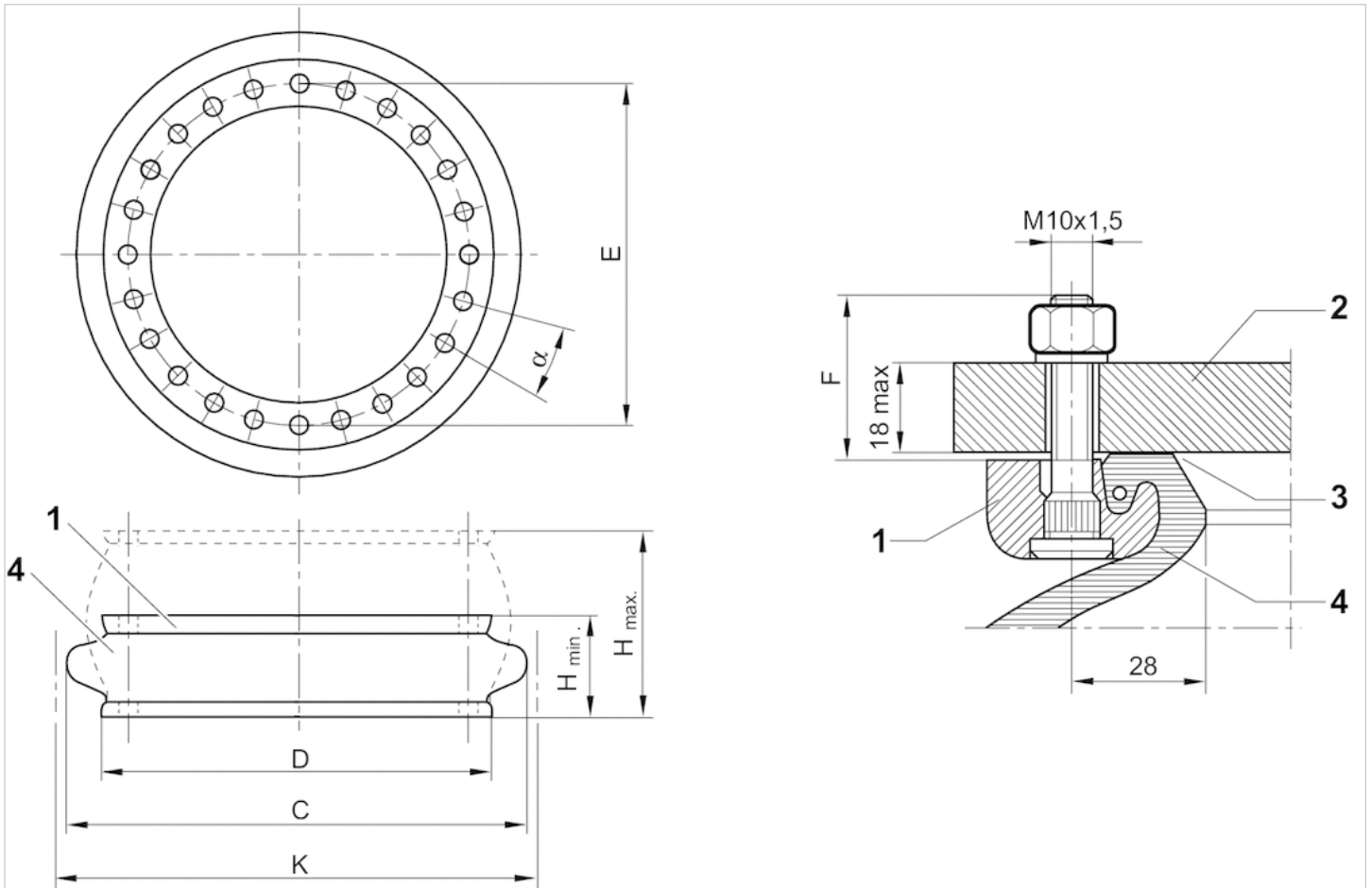
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 Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the "Technical information" document (available in the MediaCentre).
 Reduced service life at a temperature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

Technical information

Material	
Bellow	caoutchouc/butadiene caoutchouc
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt 1. mounting ring

2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Dimensions

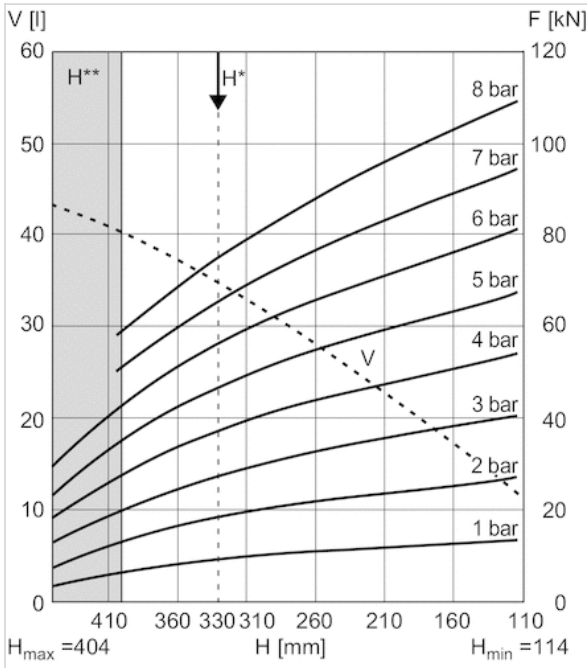
Part No.	H min.	H max.	C	D	E ±2	F	α°	K
1946272000	114 mm	404 mm	462 mm	384 mm	350	31,8	20	510 mm
1951282000	114 mm	400 mm	521 mm	451 mm	419	31,8	15	570 mm
2999698310	114 mm	419 mm	600 mm	517 mm	482	31,8	15	650 mm
1971372000	126 mm	480 mm	725 mm	638 mm	596	31,8	11,25	775 mm
2999697110	140 mm	490 mm	950 mm	890 mm	830	26,8	9	1000 mm

Return force, min.

600 N
420 N
400 N
800 N
7500 N

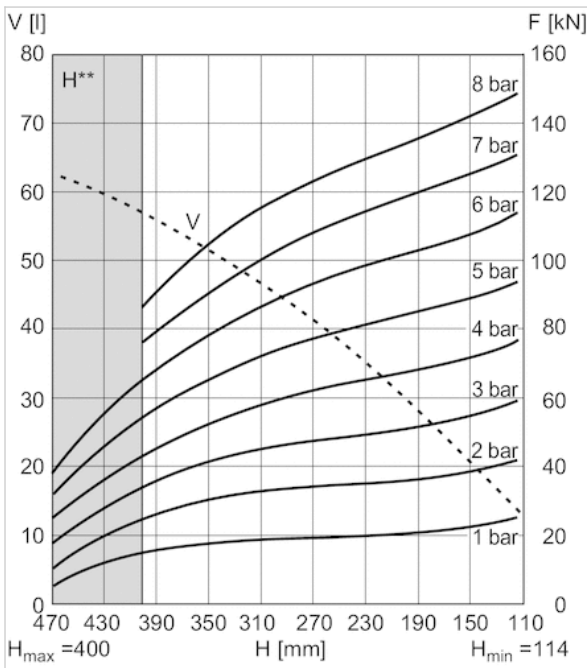
Diagrams

Force-displacement diagram, 1946272000



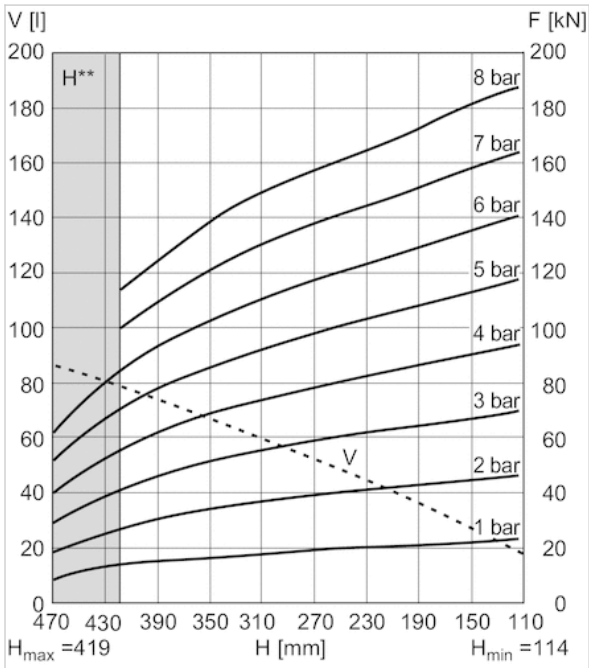
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1951282000



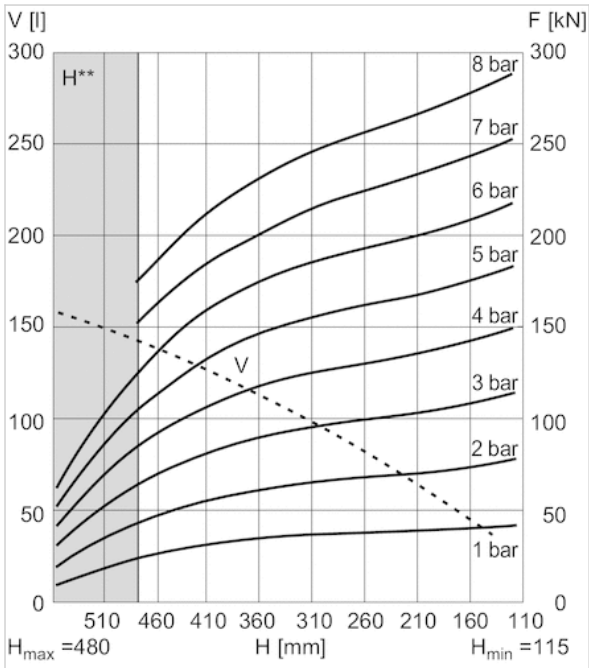
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 2999698310



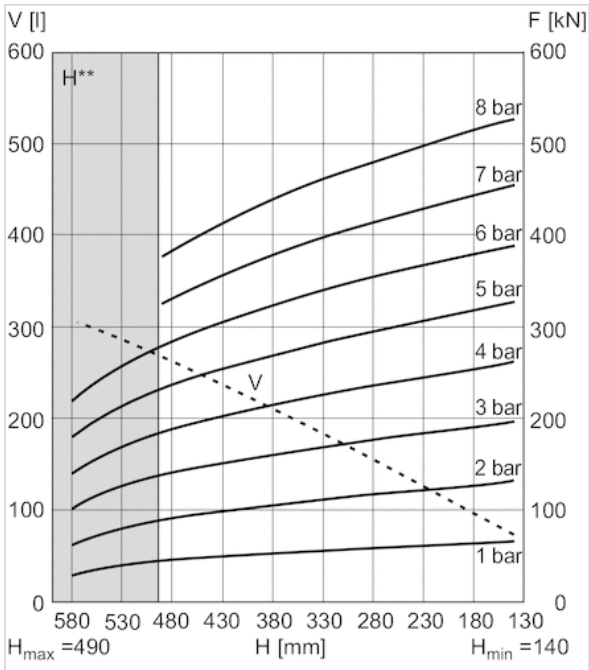
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Force-displacement diagram, 1971372000



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, 2999697110

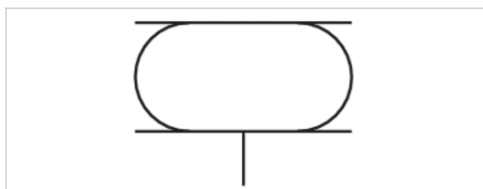


V = volume
 H = height
 H^{*} = recommended operating height for vibration isolation
 H^{**} = use permitted only upon approval by AVENTICS
 1 kN = 1000 N

Series BCR - inch

- single

- Stroke 4.8-160.02 mm



Version	Bellow actuator with mounting ring
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	Max. effective stroke	Min. radial installation space	Force min./max.
R432039303	384 mm	124.46 mm	490 mm	41000 ... 78000 N
R432039308	451 mm	111.76 mm	570 mm	67000 ... 107000 N
R432039310	517 mm	4.8 mm	625 mm	90000 ... 137000 N
R432039313	638 mm	160.02 mm	770 mm	131000 ... 229000 N
R432039315	890 mm	144.78 mm	1000 mm	265000 ... 390000 N

Part No.	Weight
R432039303	5 kg
R432039308	7.3 kg
R432039310	8.7 kg
R432039313	11.1 kg
R432039315	22 kg

Scope of delivery: mounting rings, 1 7/8-inch screw, nuts, and washers

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).

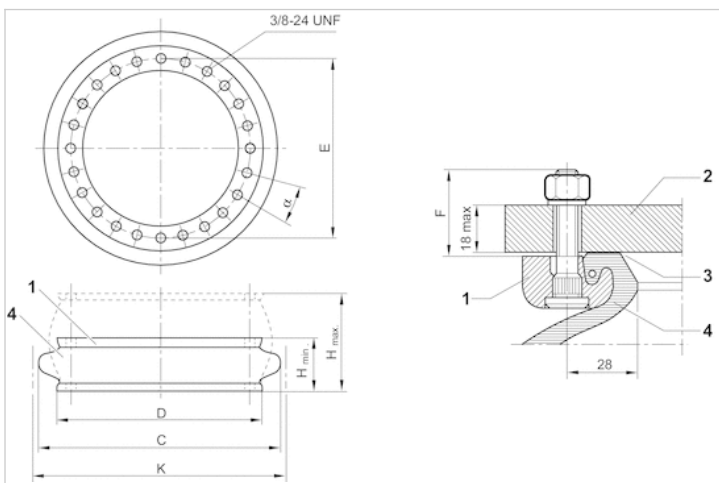
Reduced service life at a temperature greater than 50 °C

Technical information

Material	
Bellow	Natural rubber
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt

- 1. mounting ring
- 2. machine part
- 3. sealing surface *)
- 4. bellow

* recommendation for surface finish:

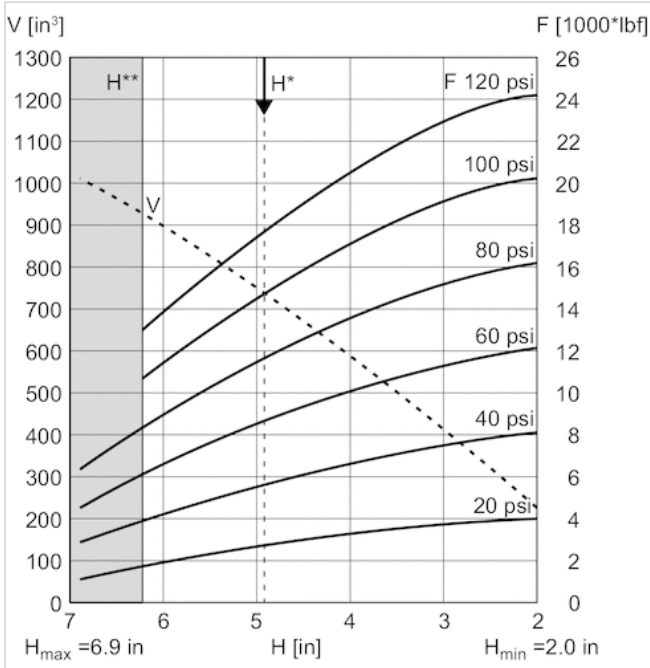
if the surface is turned or cylindrically ground: Ra 6

if the surface is milled or surface ground: Ra 0,8

max torque: 30 lbf ft

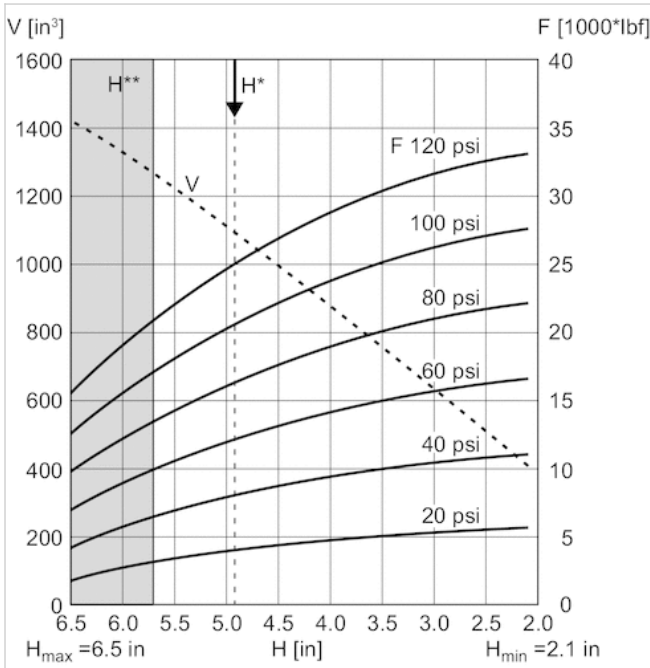
Diagrams

Force-displacement diagram, R432039303



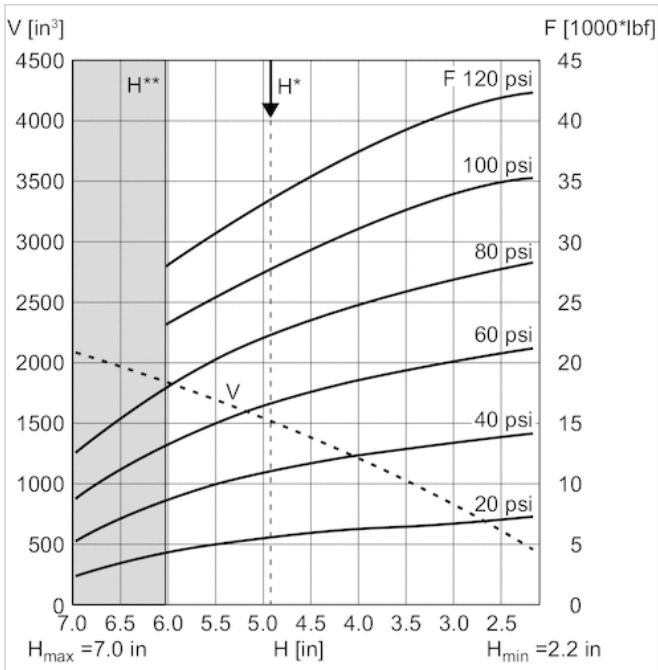
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039308



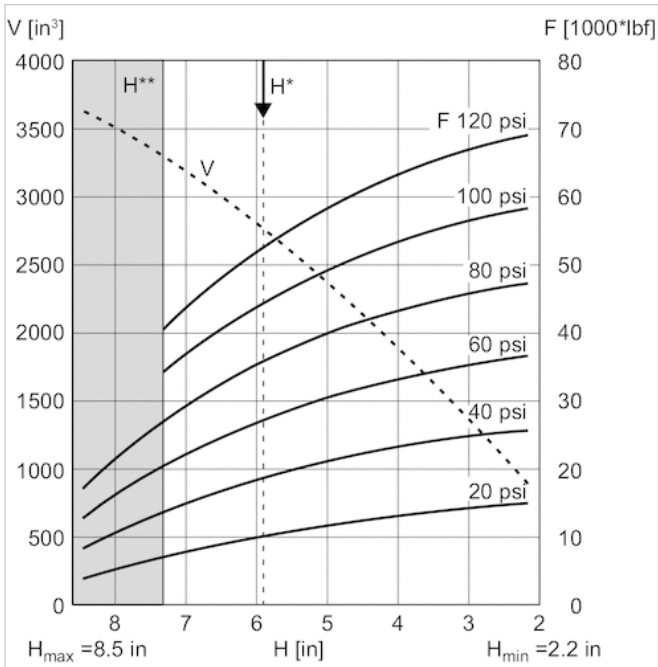
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039310



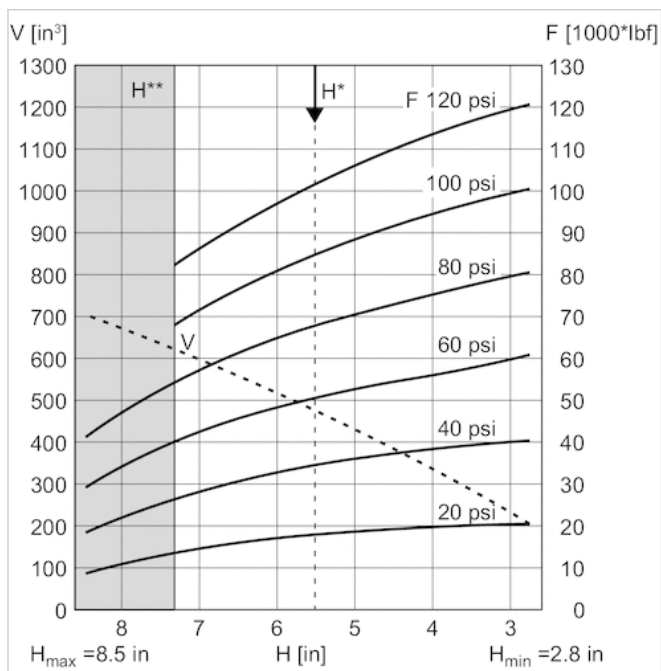
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039313



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

Force-displacement diagram, R432039315



V = volume

H = height

H^* = recommended operating height for vibration isolation

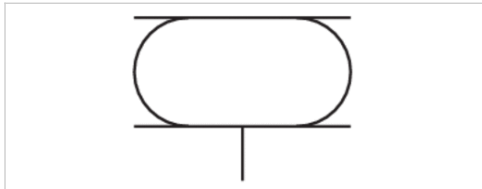
H^{**} = use permitted only upon approval by AVENTICS

Series BCR - inch

- double
- Stroke 10.5-251.46 mm



Version	Bellow actuator with mounting ring
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.	25 °
Pressure for determining forces	6 bar
Weight	See table below



Technical data

Part No.	Cover diameter	Max. effective stroke	Min. radial installation space	Force min./max.
R432039304	384 mm	226.06 mm	309.88 mm	44000 ... 80000 N
R432039306	451 mm	246.38 mm	575 mm	64000 ... 108000 N
R432039309	517 mm	251.46 mm	673.1 mm	84000 ... 141000 N
R432039312	638 mm	10.5 mm	770 mm	136000 ... 207000 N
R432039316	890 mm	11.2 mm	1000 mm	257000 ... 390000 N

Part No.	Weight
R432039304	8.6 kg
R432039306	10.2 kg
R432039309	12.02 kg
R432039312	15.4 kg
R432039316	32.9 kg

Scope of delivery: mounting rings, 1 7/8-inch screw, nuts, and washers

Technical information

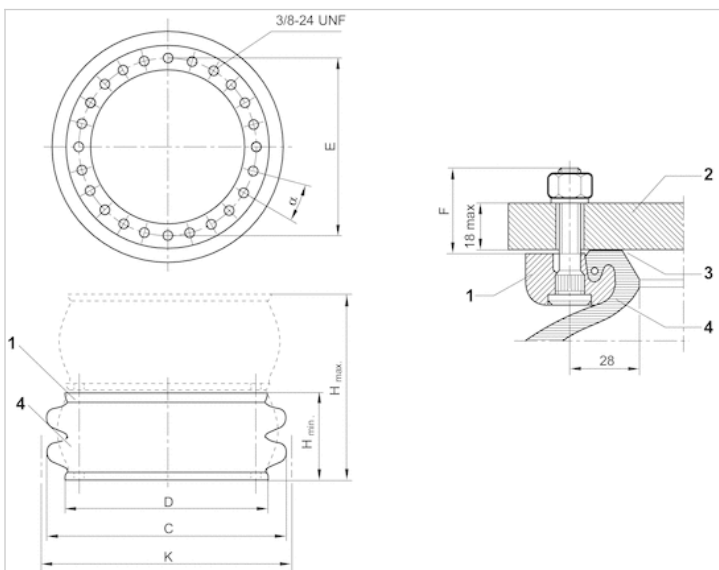
Compliance with the minimum height H min. as well as the maximum height H max. must be ensured with end stops.
 Use at operating height $\geq H_{max}$: only permitted upon approval by AVENTICS
 Further information on vibration isolation can be found in the "Technical information" document (available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

Technical information

Material	
Bellow	Natural rubber
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt

- 1. mounting ring
- 2. machine part
- 3. sealing surface *)
- 4. bellow

* recommendation for surface finish:

if the surface is turned or cylindrically ground: Ra 6

if the surface is milled or surface ground: Ra 0,8

max torque: 30 lbf ft

Dimensions

Part No.	H min.	H max.	C	D	E ±2	F	α°	K
R432039304	83.82 mm	309.88 mm	450 mm	384 mm	13.78	1.25	20	309.88 mm
R432039306	84 mm	330.2 mm	525 mm	451 mm	16.5	1.25	15	575 mm
R432039309	83.82 mm	335.28 mm	590 mm	517 mm	18.98	1.25	15	673.1 mm
R432039312	88.9 mm	355.6 mm	720 mm	638 mm	23.46	1.25	11.25	770 mm
R432039316	106.68 mm	391.16 mm	950 mm	890 mm	32.68	1.06	9	1000 mm

Return force, min. N

200 N

200 N

439.95 N

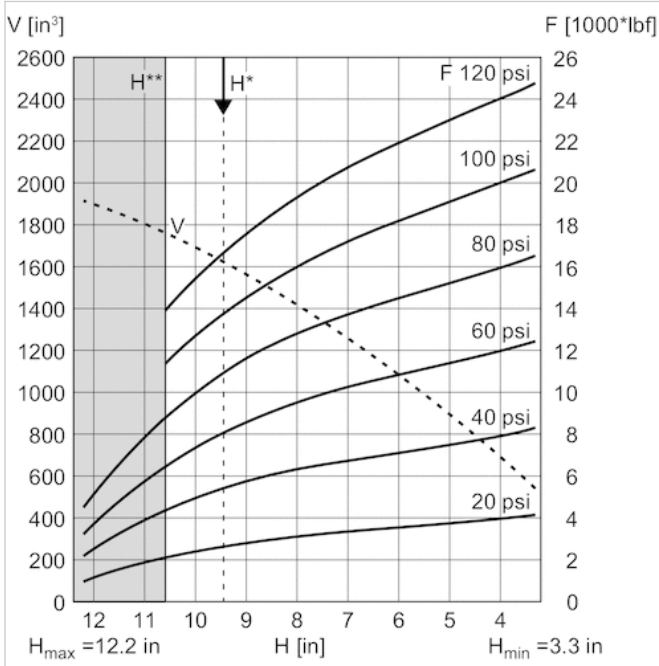
Return force, min. N

700 N

5500 N

Diagrams

Force-displacement diagram, R432039304



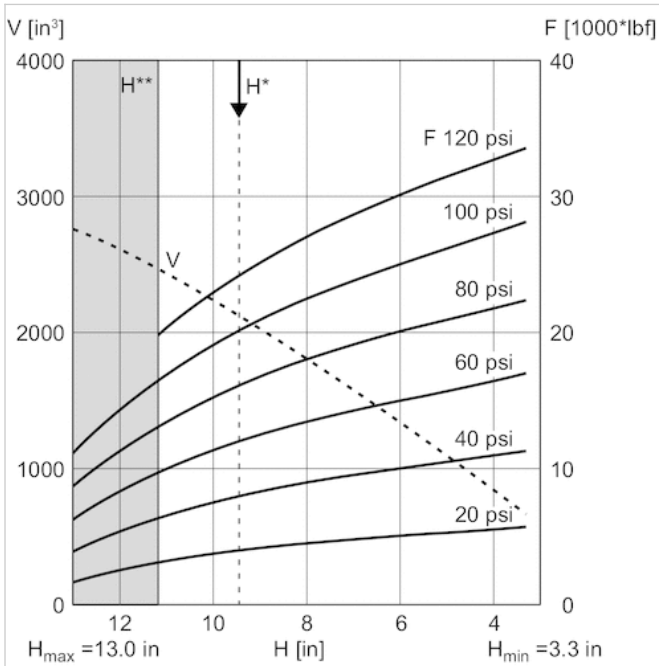
V = volume

H = height

H* = recommended operating height for vibration isolation

H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039306

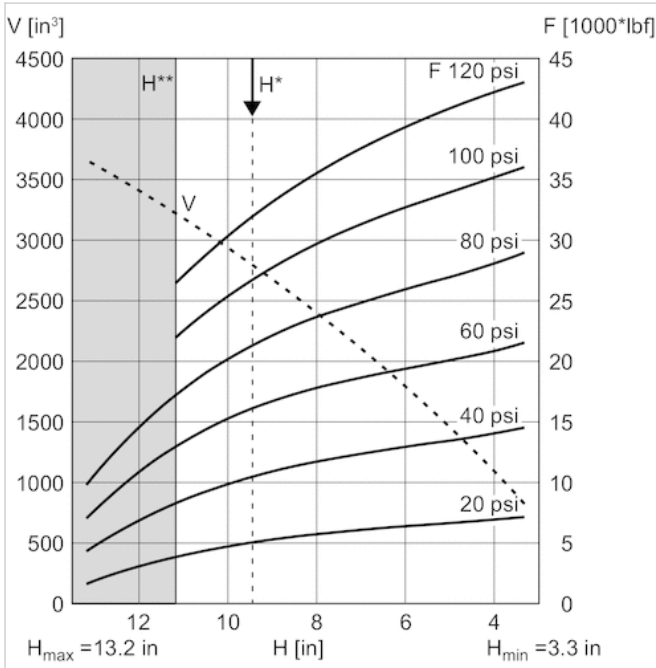


V = volume

H = height

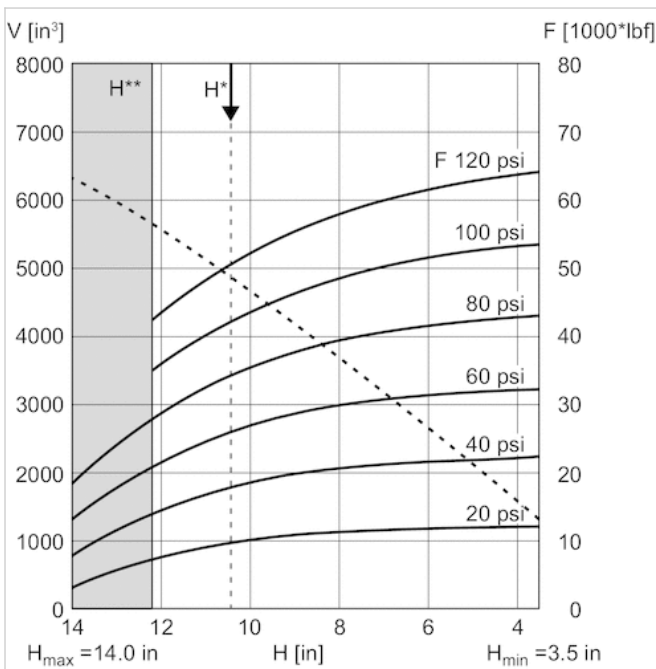
H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039309



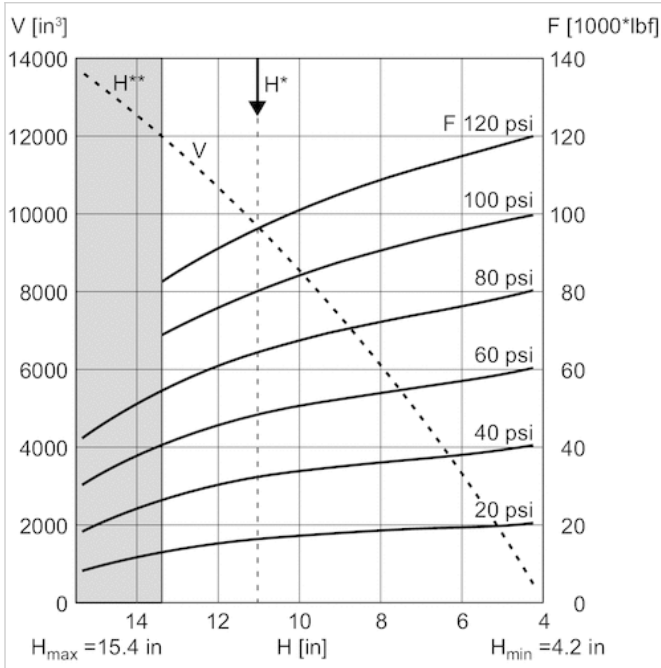
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039312



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

Force-displacement diagram, R432039316

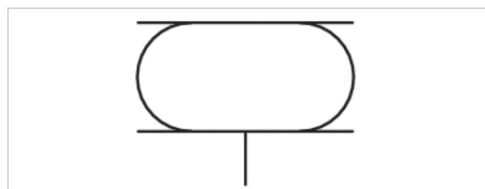


V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Series BCR - inch

- triple

- Stroke 335.28-441.96 mm



Version	Bellow actuator with mounting ring
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.	30 °
Pressure for determining forces	6 bar
Weight	See table below

Technical data

Part No.	Cover diameter	Max. effective stroke	Min. radial installation space	Force min./max.
R432039305	384 mm	335.28 mm	510 mm	43000 ... 81000 N
R432039307	451 mm	355.6 mm	570 mm	65000 ... 114000 N
R432039311	517 mm	355.6 mm	650 mm	84000 ... 140000 N
R432039314	638 mm	441.96 mm	775 mm	124000 ... 219000 N
R432039317	890 mm	439.42 mm	1000 mm	277000 ... 390000 N

Part No.	Weight
R432039305	9.3 kg
R432039307	12.5 kg
R432039311	14.5 kg
R432039314	17 kg
R432039317	44 kg

Scope of delivery: mounting rings, 1 7/8-inch screw, nuts, and washers

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

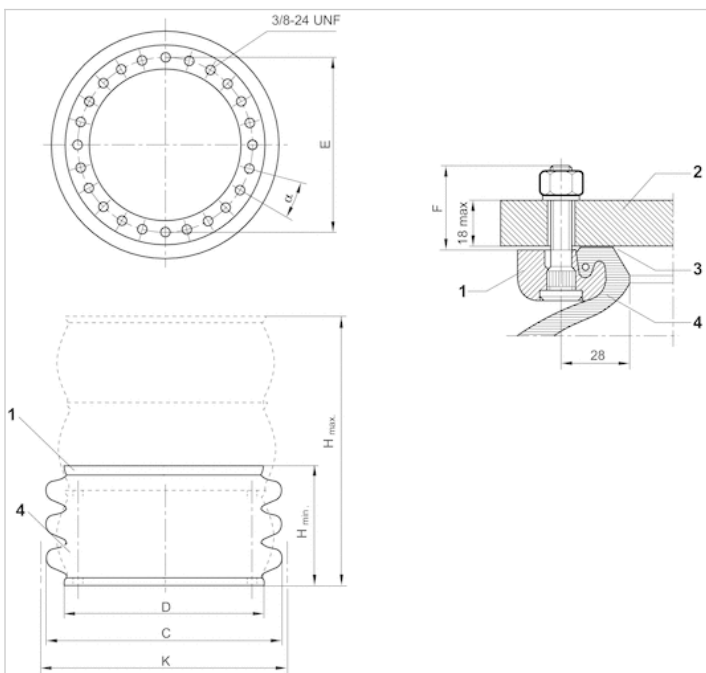
Technical information

Material

Bellow	Natural rubber
clamping ring	Aluminum
Mounting ring	Aluminum

Dimensions

Dimensions



section of mounted bead ring with staybolt

- 1. mounting ring
- 2. machine part
- 3. sealing surface *)
- 4. bellow

* recommendation for surface finish:
 if the surface is turned or cylindrically ground: Ra 6
 if the surface is milled or surface ground: Ra 0,8
 max torque: 30 lbf ft

Dimensions

Part No.	H min.	H max.	C	D	E ±2	F	α°	K
R432039305	114 mm	449.58 mm	462 mm	384 mm	13.78	1.25	20	510 mm
R432039307	114.3 mm	469.9 mm	521 mm	451 mm	16.5	1.25	15	570 mm
R432039311	114.3 mm	469.9 mm	600 mm	517 mm	18.98	1.25	15	650 mm
R432039314	127 mm	568.96 mm	725 mm	638 mm	23.46	1.25	9	775 mm
R432039317	139.7 mm	579.12 mm	950 mm	890 mm	32.68	1.06	11.25	1000 mm

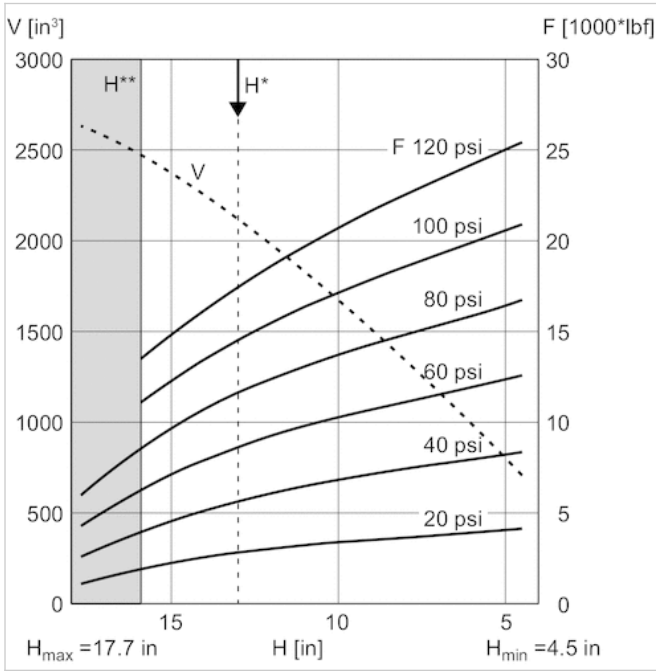
Return force, min.

600 N

Return force, min.
420 N
400 N
800 N
7500 N

Diagrams

Force-displacement diagram, R432039305



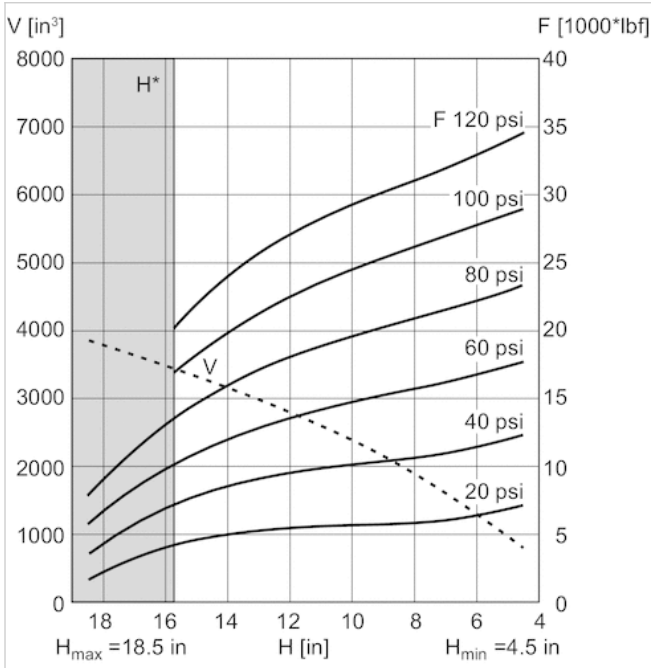
V = volume

H = height

H* = recommended operating height for vibration isolation

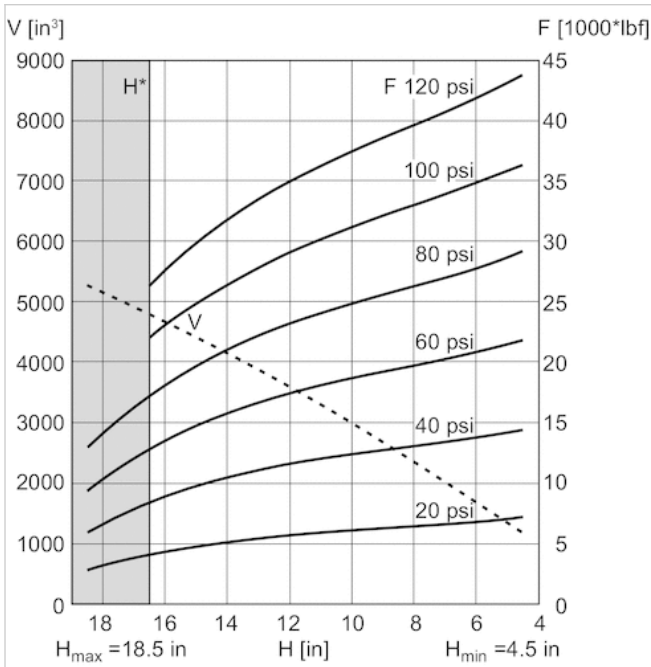
H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039307



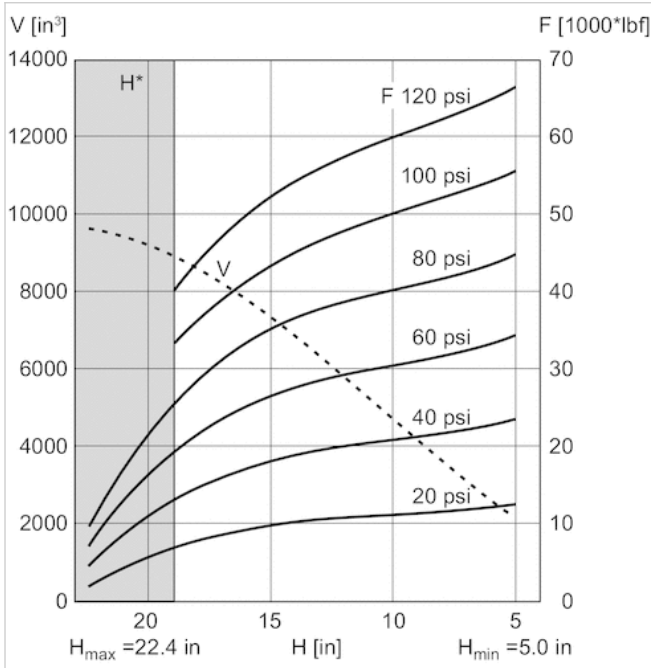
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039311



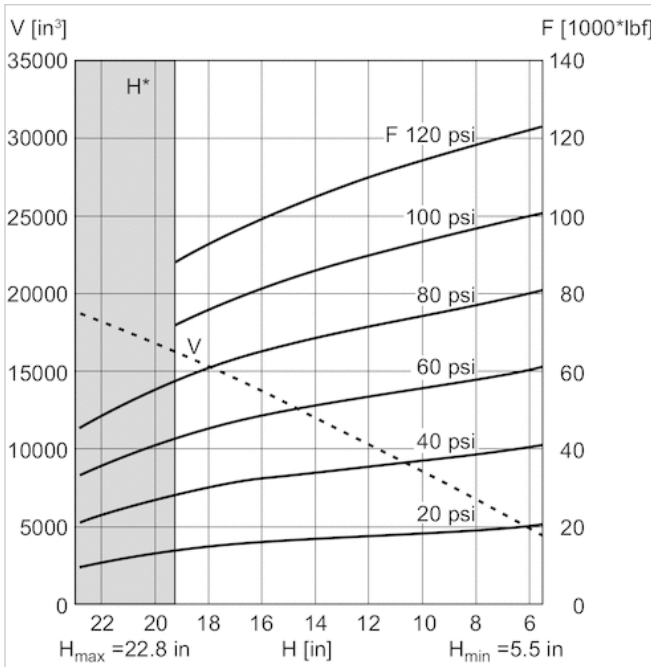
V = volume
 H = height
 H* = recommended operating height for vibration isolation
 H** = use permitted only upon approval by AVENTICS

Force-displacement diagram, R432039314



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

Force-displacement diagram, R432039317



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

Filler neck

- Enables use of bellows actuators for vibration isolation
- 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.
3900040040	G 1/4	Fig. 2
R412010046	1/4 - 18 NPTF	Fig. 3

Technical information

Material	
Material	Brass

Dimensions

Fig. 1

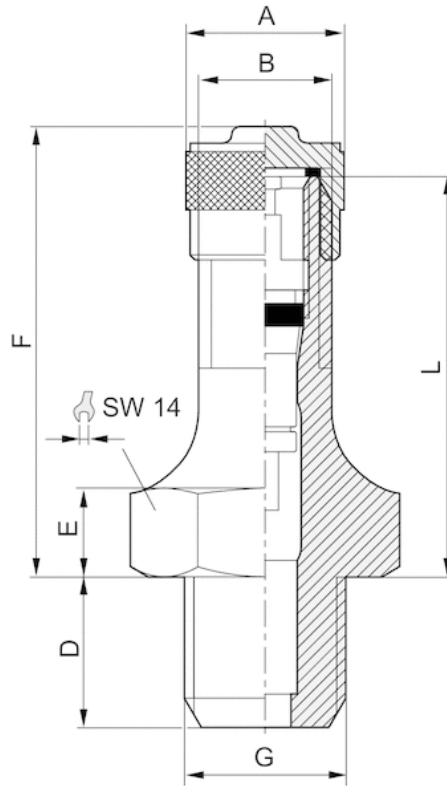


Fig. 2

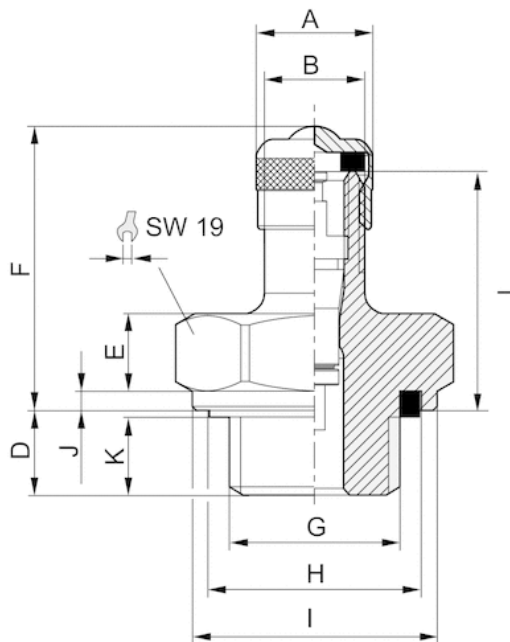
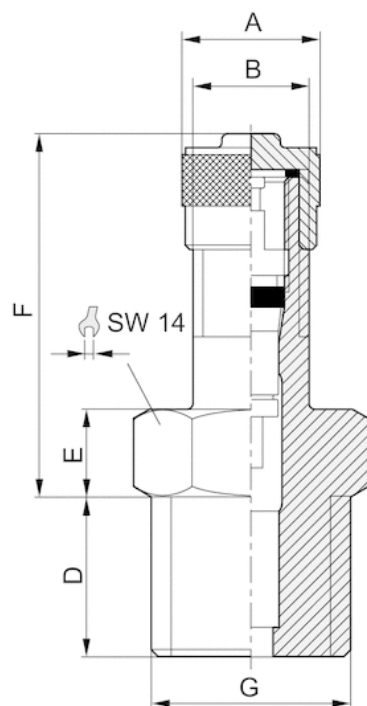


Fig. 3



Dimensions

Part No.	Port G	ØA	B 1)	D	E	F	H	I	J	K 2)	L	Fig.
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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