

Series BCR



AVENTICS™

**AVENTICS Series BCR Bellow
actuators**


EMERSON™

Series BCR

The AVENTICS Series BCR bellow cylinders are designed for applications that require very high forces with a mounting ring (no covers) and bellows made of natural rubber elastomer for direct mounting to suitable connection surfaces in the system. Therefore, the connection geometry is freely configurable.

- Bellows cylinder with bead ring connecting parts
- Permit high forces in small installation space

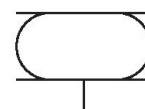


Product overview

	Page
Metric	
Series BCR..... single	4
Series BCR..... double	8
Series BCR..... triple	12
Imperial	
Series BCR - inch..... single	16
Series BCR - inch..... double	20
Series BCR - inch..... triple	24
Accessories overview Mechanical accessories	
Filler neck..... Enables use of bellow actuators for vibration isolation	28

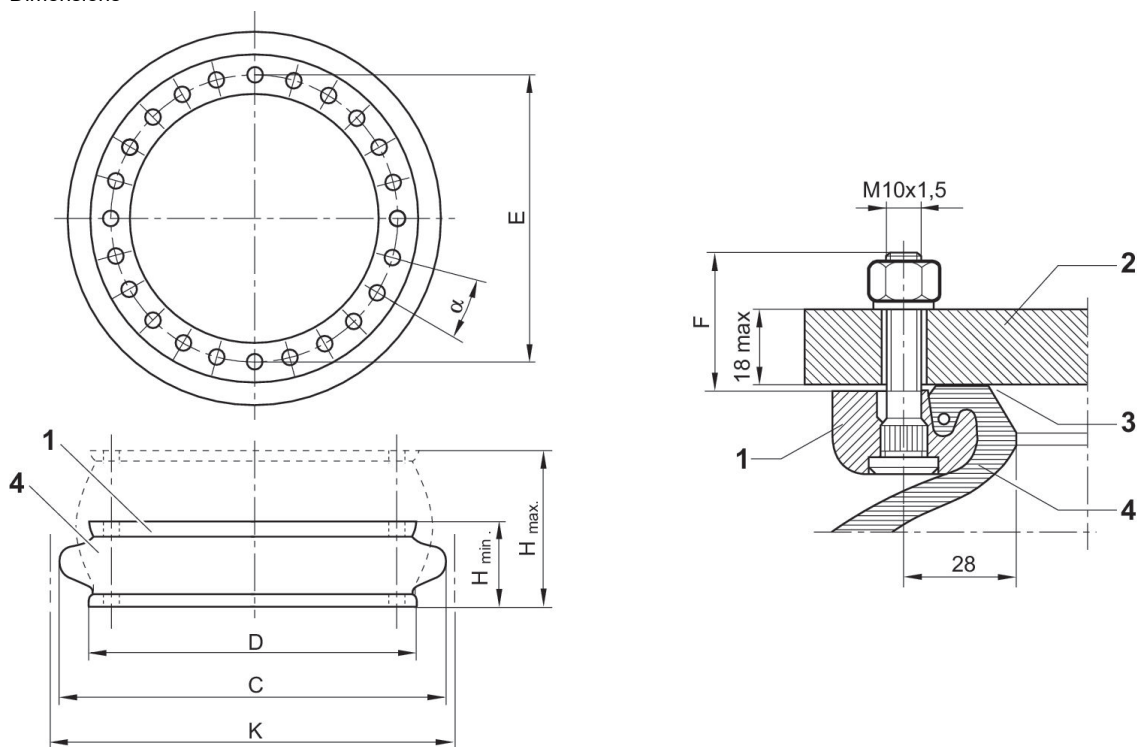
Series BCR

: single
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 20 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



Cover diameter [mm]	Max. effective stroke [mm]	Min. radial installation space [mm]	Material bellow	Force min./max. [N]	Weight [kg]	Part No.
384	107	490	caoutchouc/ butadiene caoutchouc	41000, 78000	5	2999697410
451	92	570	caoutchouc/ butadiene caoutchouc	67000, 107000	7.3	2999696600
517	98	625	caoutchouc/ butadiene caoutchouc	90000, 137000	8.7	2999697310
638	131	770	caoutchouc/ butadiene caoutchouc	131000, 229000	11.1	1971132000
890	116	1000	caoutchouc/ butadiene caoutchouc	265000, 390000	22	2999699610

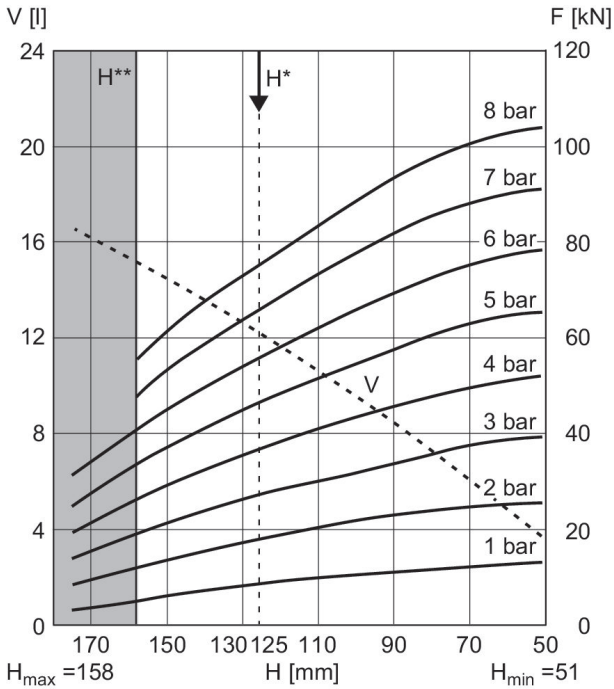
Dimensions



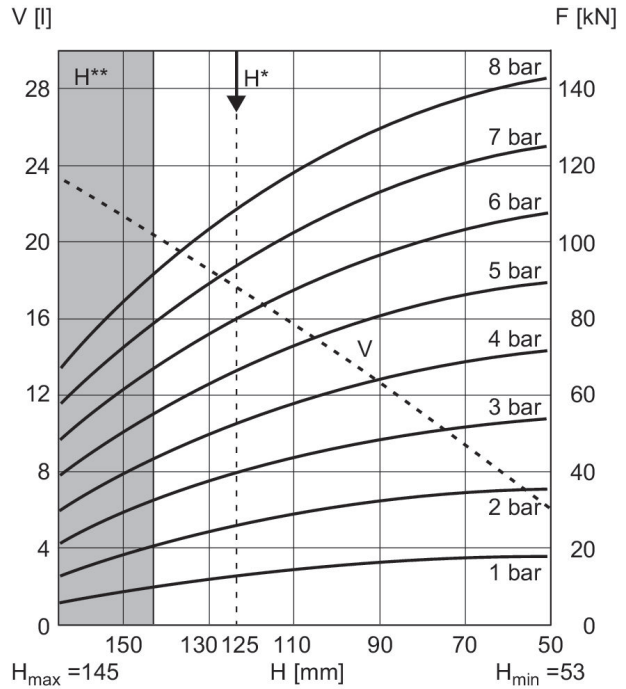
section of mounted bead ring with staybolt 1. mounting ring 2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Part No.	H min.	H max.	C	D	K	Min. return force
2999697410	51	158	452	384	490	400
2999696600	53	145	530	451	570	90
2999697310	55	153	585	517	625	730
1971132000	55	186	725	638	770	670
2999699610	70	186	950	890	1000	1500

Force-displacement diagram 2999697410

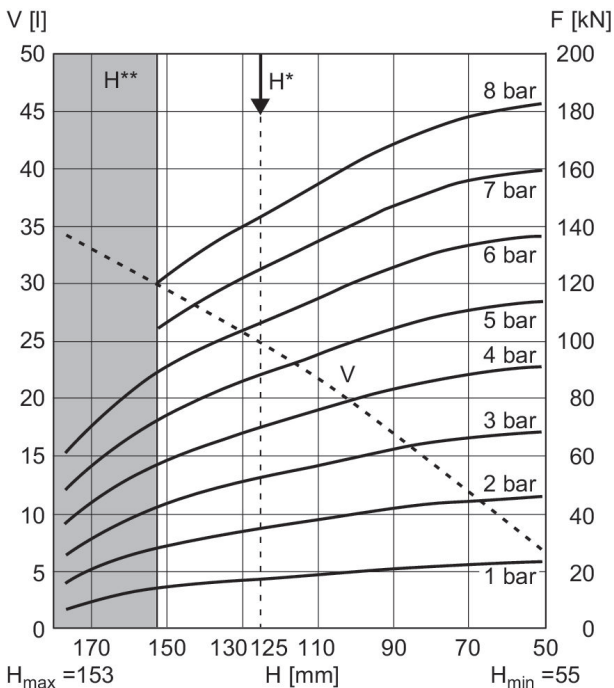


Force-displacement diagram 2999696600

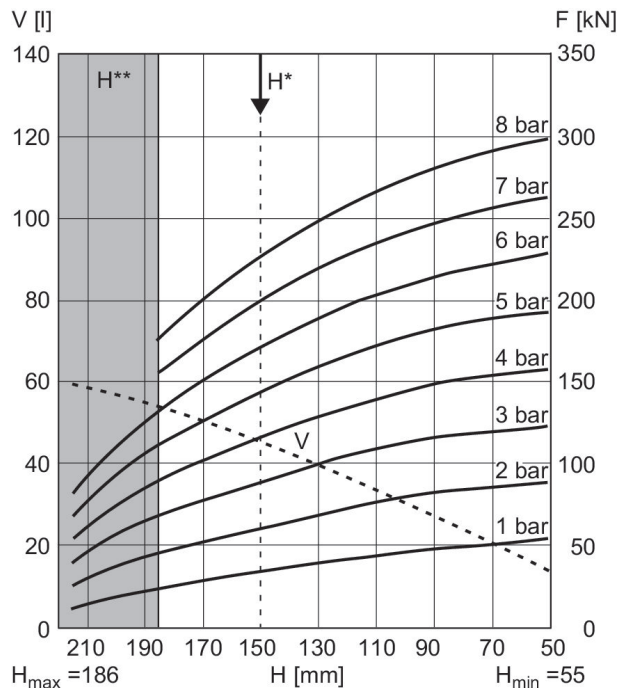


V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 2999697310

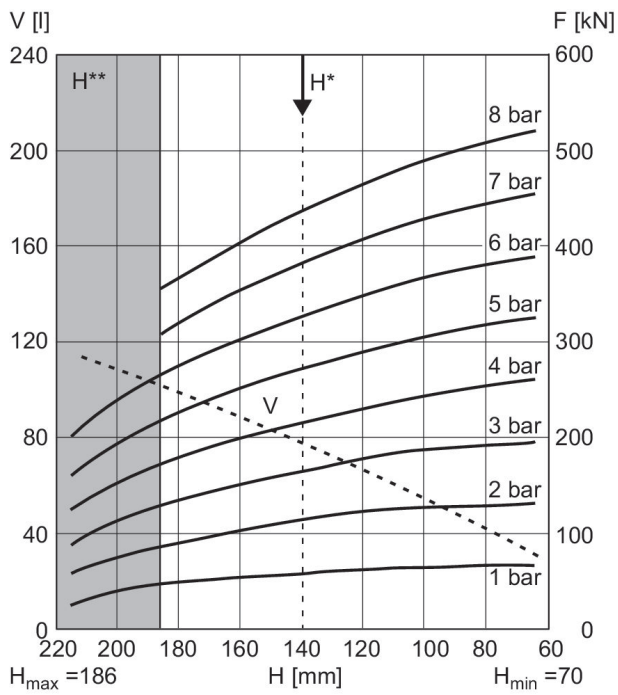


Force-displacement diagram 1971132000



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

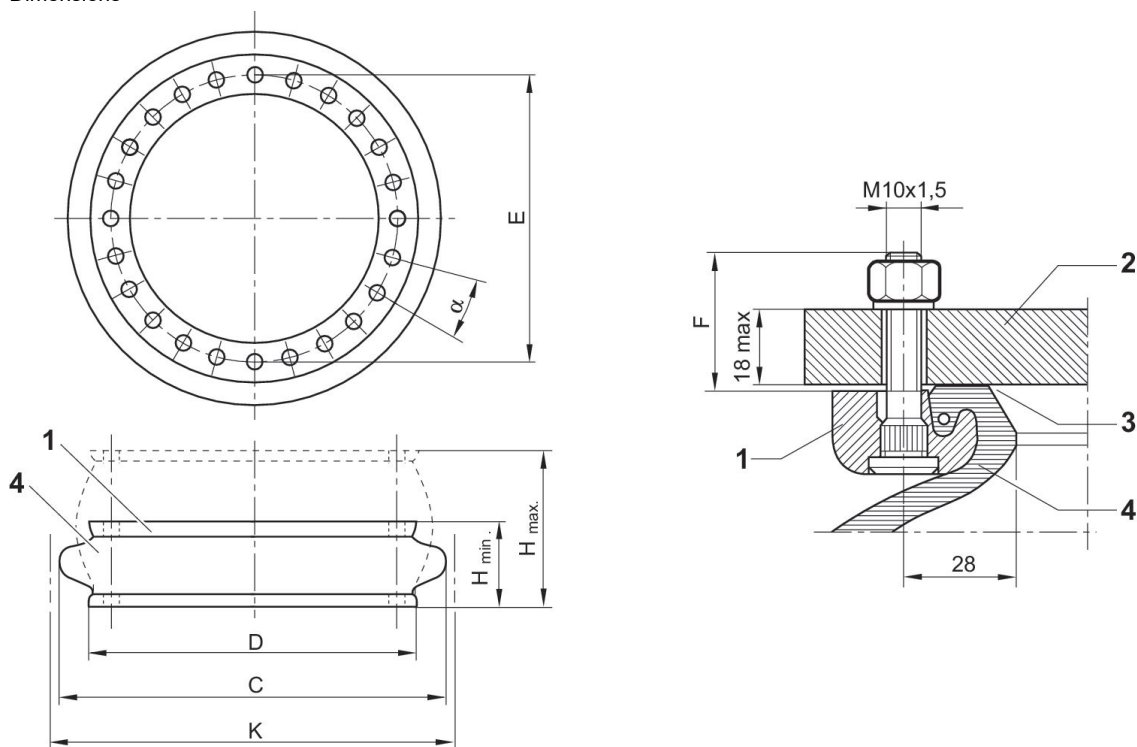
Series BCR

: double
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 25 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



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

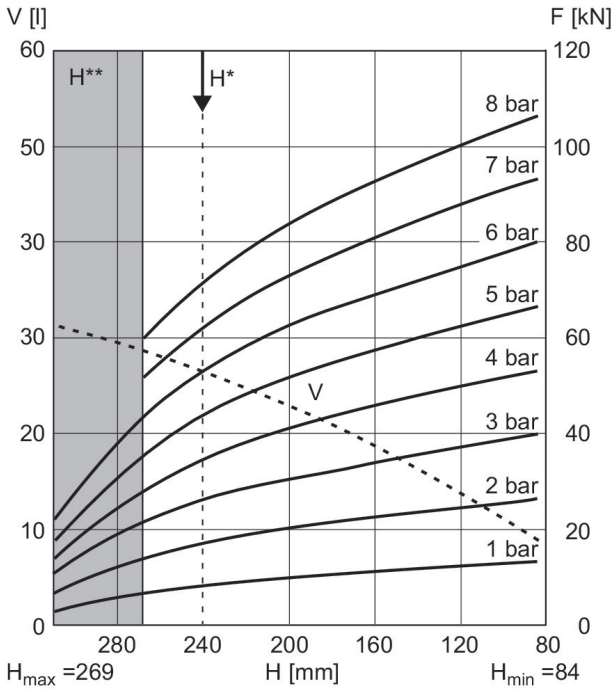
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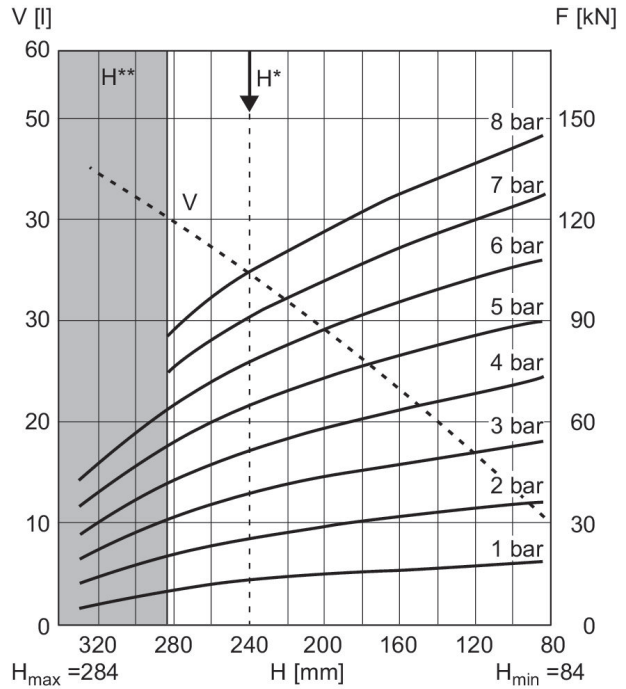
section of mounted bead ring with staybolt 1. mounting ring 2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Part No.	H min.	H max.	C	D	E ±2	F	α°	K mm	Min. return force N
1944182000	84	269	450	384	350	31,8	20	495	200
1951182000	84	284	525	451	419	31,8	15	575	200
1957192000	84	284	590	517	482	31,8	15	633	440
1971232000	89	310	720	638	596	31,8	11.25	770	700
2999697010	107	340	950	890	830	26.8	9	1000	5500

Force-displacement diagram 1944182000

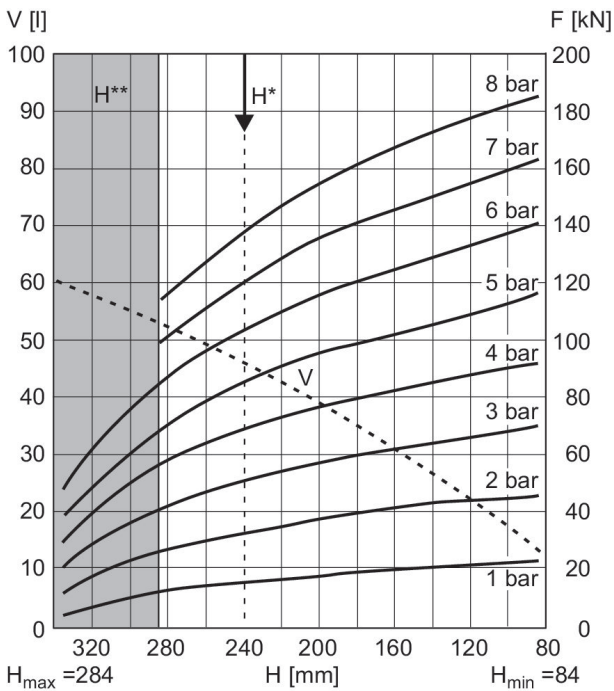


Force-displacement diagram 1951182000

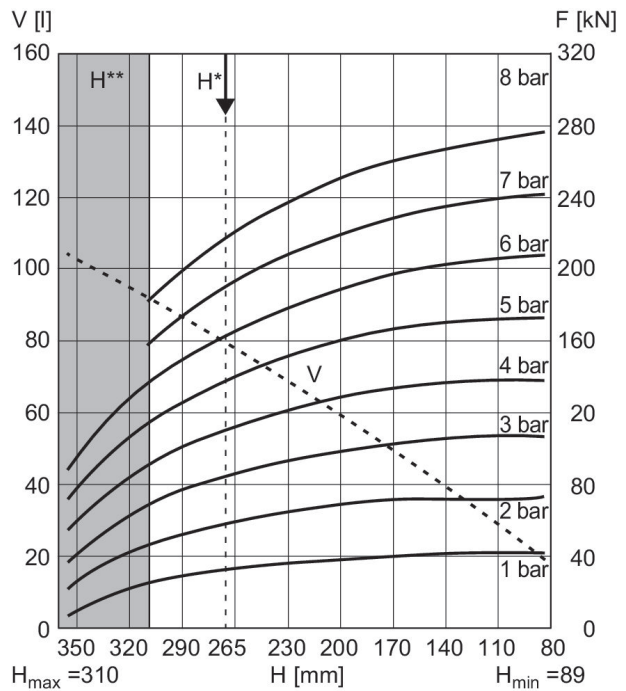


V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 1957192000

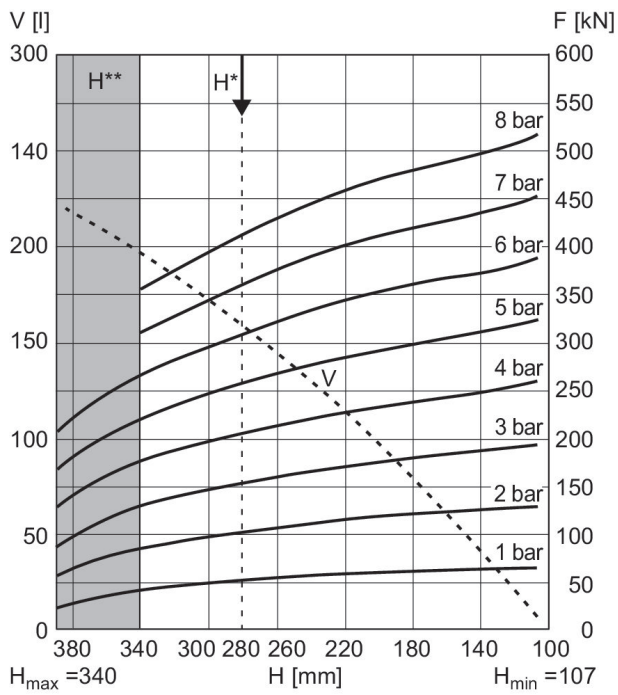


Force-displacement diagram 1971232000



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

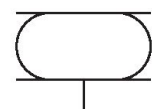
Force-displacement diagram 2999697010



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

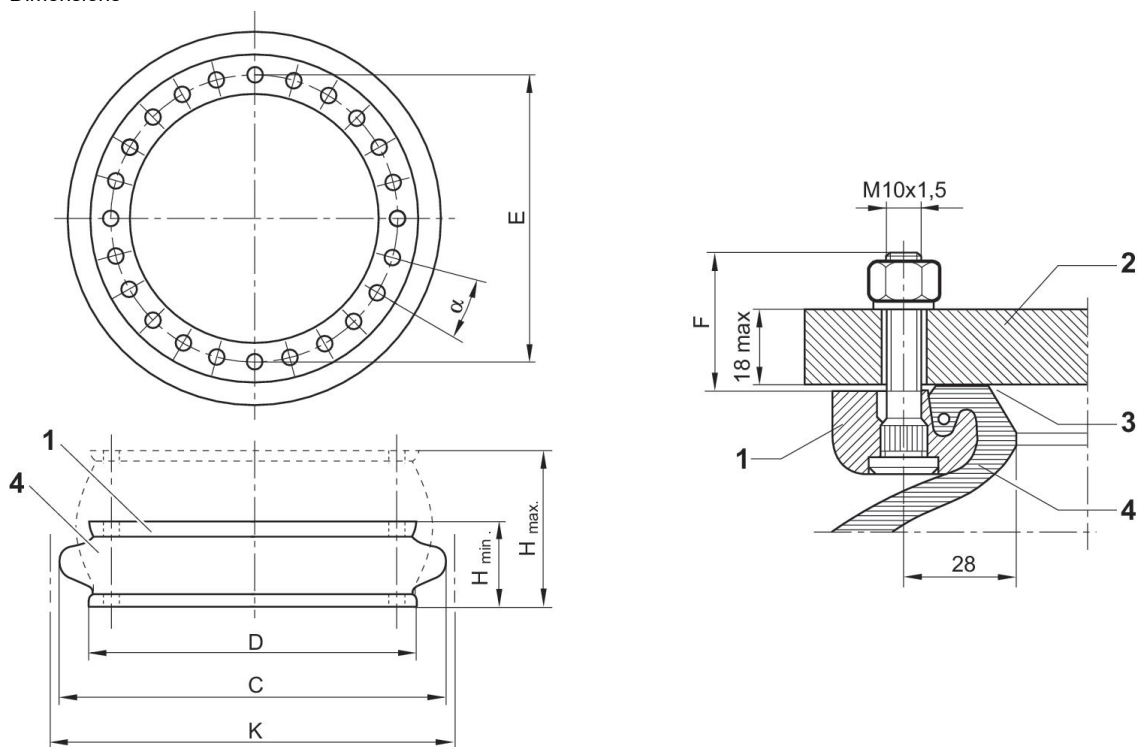
Series BCR

: triple
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 30 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



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

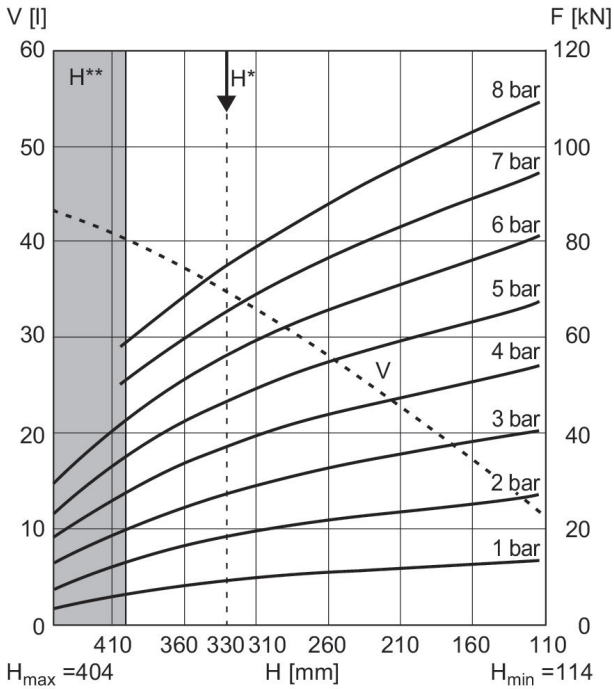
Dimensions



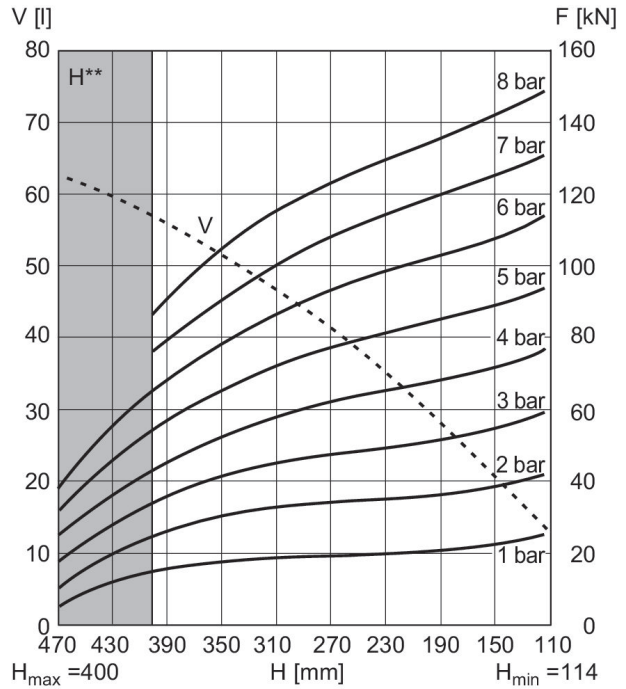
section of mounted bead ring with staybolt 1. mounting ring 2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 suitable tightening torque M8: 25 Nm, M10: 40 Nm, M16: 70 Nm air connection in the mounting part

Part No.	H min.	H max.	C	D	E ±2	F	α°	K	Min. return force
1946272000	114	404	462	384	350	31,8	20	510	600
1951282000	114	400	521	451	419	31,8	15	570	420
2999698310	114	419	600	517	482	31,8	15	650	400
1971372000	126	480	725	638	596	31,8	11,25	775	800
2999697110	140	490	950	890	830	26,8	9	1000	7500

Force-displacement diagram 1946272000

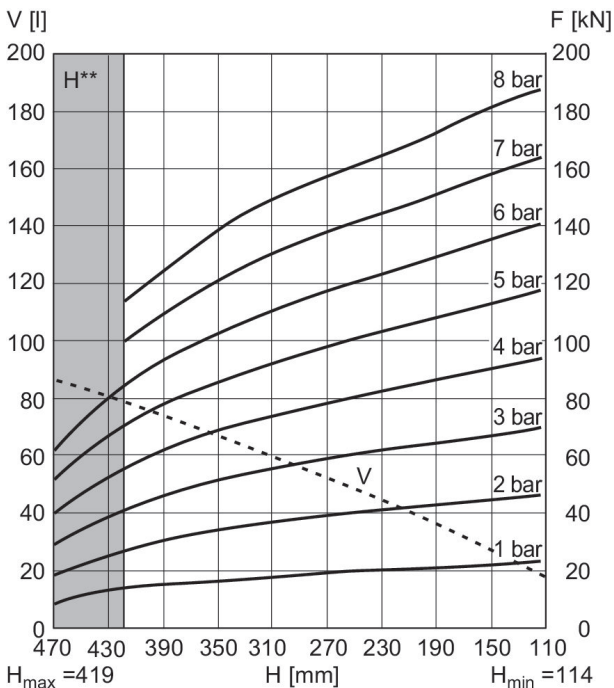


Force-displacement diagram 1951282000

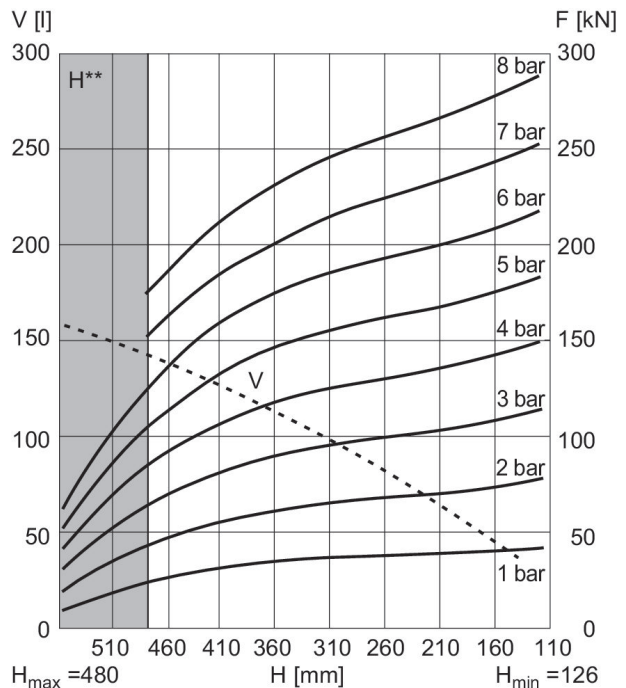


V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS
1 kN = 1000 N

Force-displacement diagram 2999698310

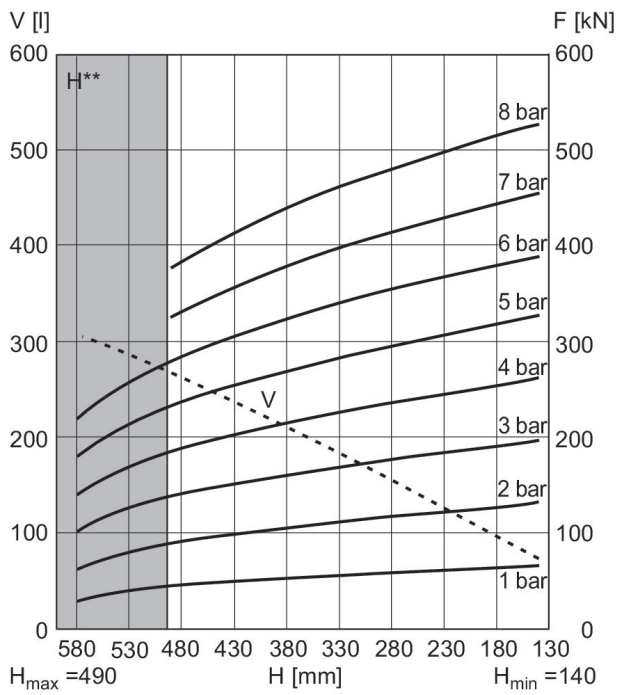


Force-displacement diagram 1971372000



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

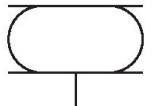
Force-displacement diagram 2999697110



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

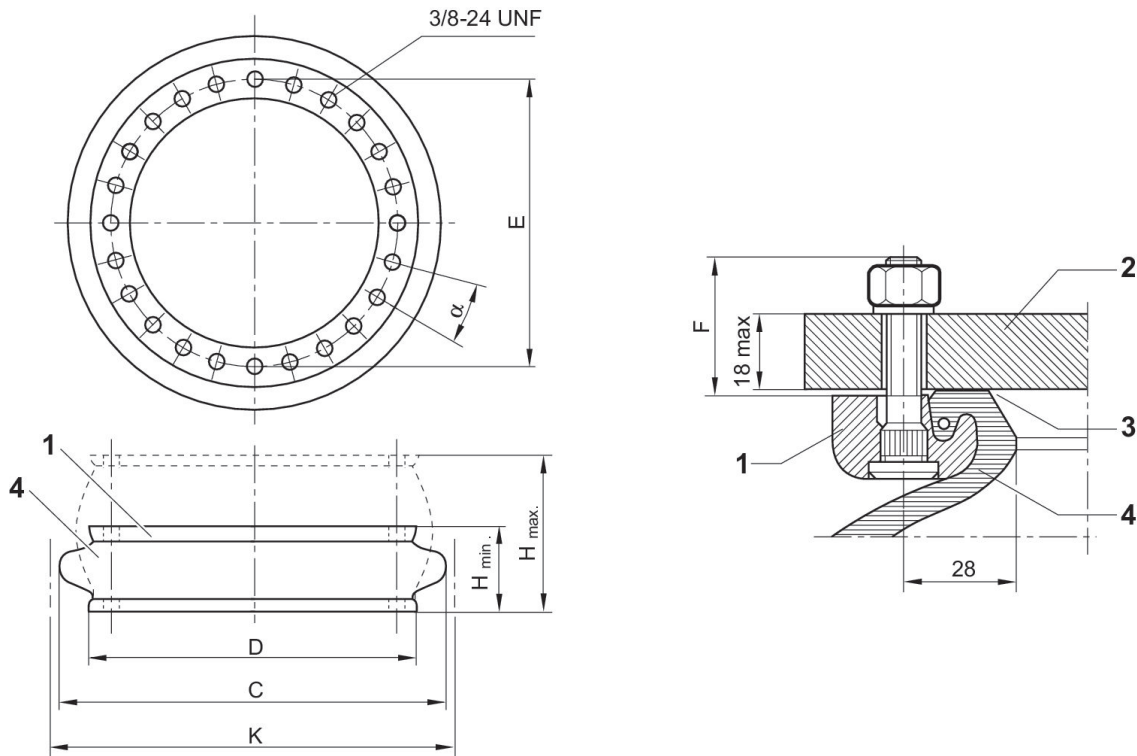
Series BCR - inch

: single
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 20 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



Cover diameter [mm]	Max. effective stroke [mm]	Min. radial installation space [mm]	Material bellow	Force min./max. [N]	Weight [kg]	Part No.
384	124.46	490	Natural rubber	41000, 78000	5	R432039303
451	111.76	570	Natural rubber	67000, 107000	7.3	R432039308
517	4.8	625	Natural rubber	90000, 137000	8.7	R432039310
638	160.02	770	Natural rubber	131000, 229000	11.1	R432039313
890	144.78	1000	Natural rubber	265000, 390000	22	R432039315

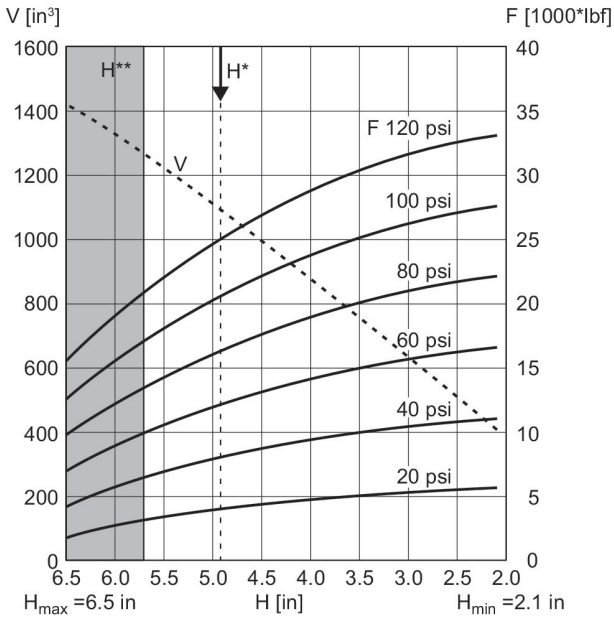
Dimensions



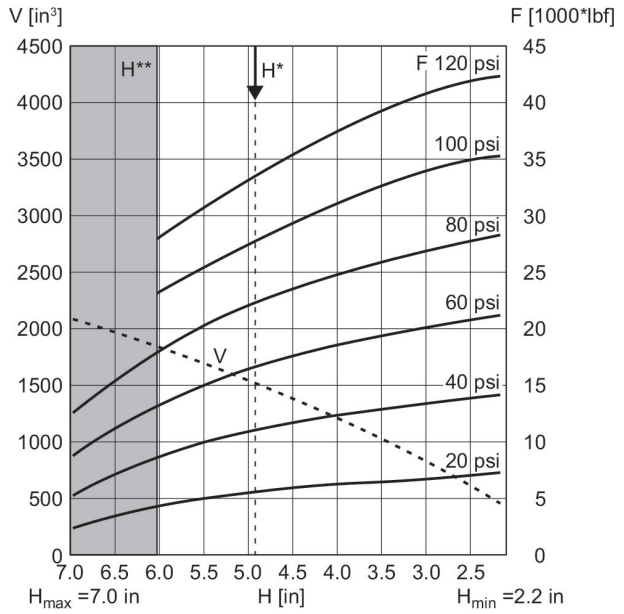
section of mounted bead ring with staybolt 1. mounting ring 2. machine part 3. sealing surface *) 4. bellow * recommendation for surface finish: if the surface is turned or cylindrically ground: Ra 6 if the surface is milled or surface ground: Ra 0,8 max torque: 30 lbf ft

Part No.	H min.	H max.	C	D	K	Min. return force
R432039303	51	158	452	384	490	400
R432039308	53	145	530	451	570	90
R432039310	55	153	585	517	625	730
R432039313	55	186	725	638	770	670
R432039315	70	186	950	890	1000	1500

Force-displacement diagram R432039308

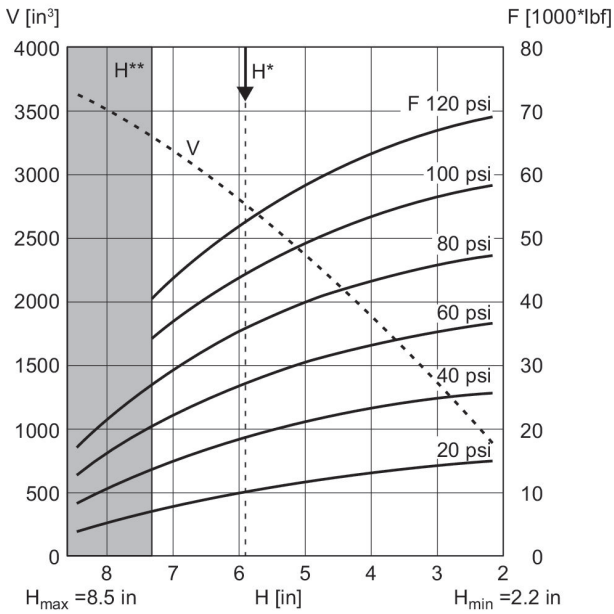


Force-displacement diagram R432039310

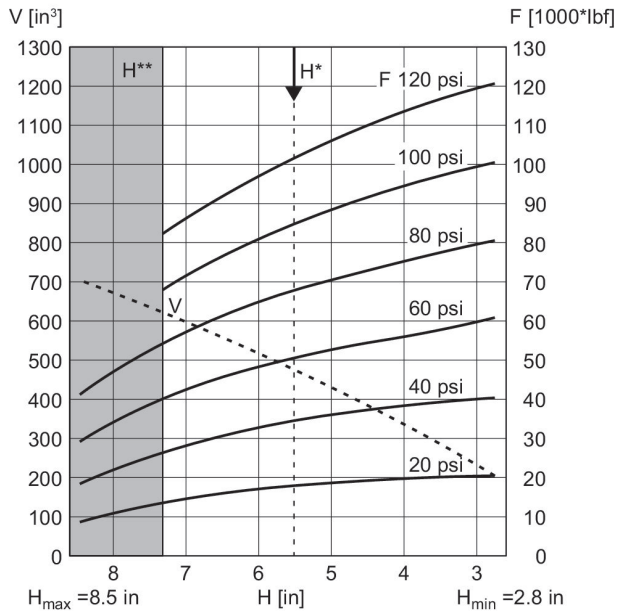


V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039313

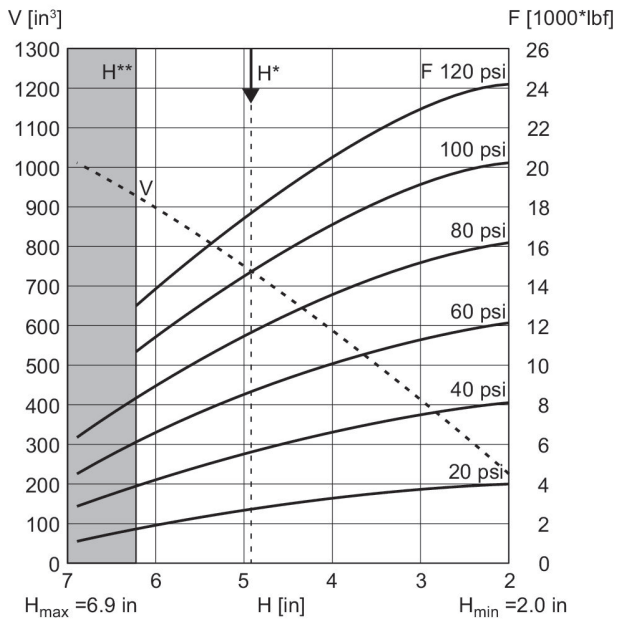


Force-displacement diagram R432039315



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

Force-displacement diagram R432039303



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

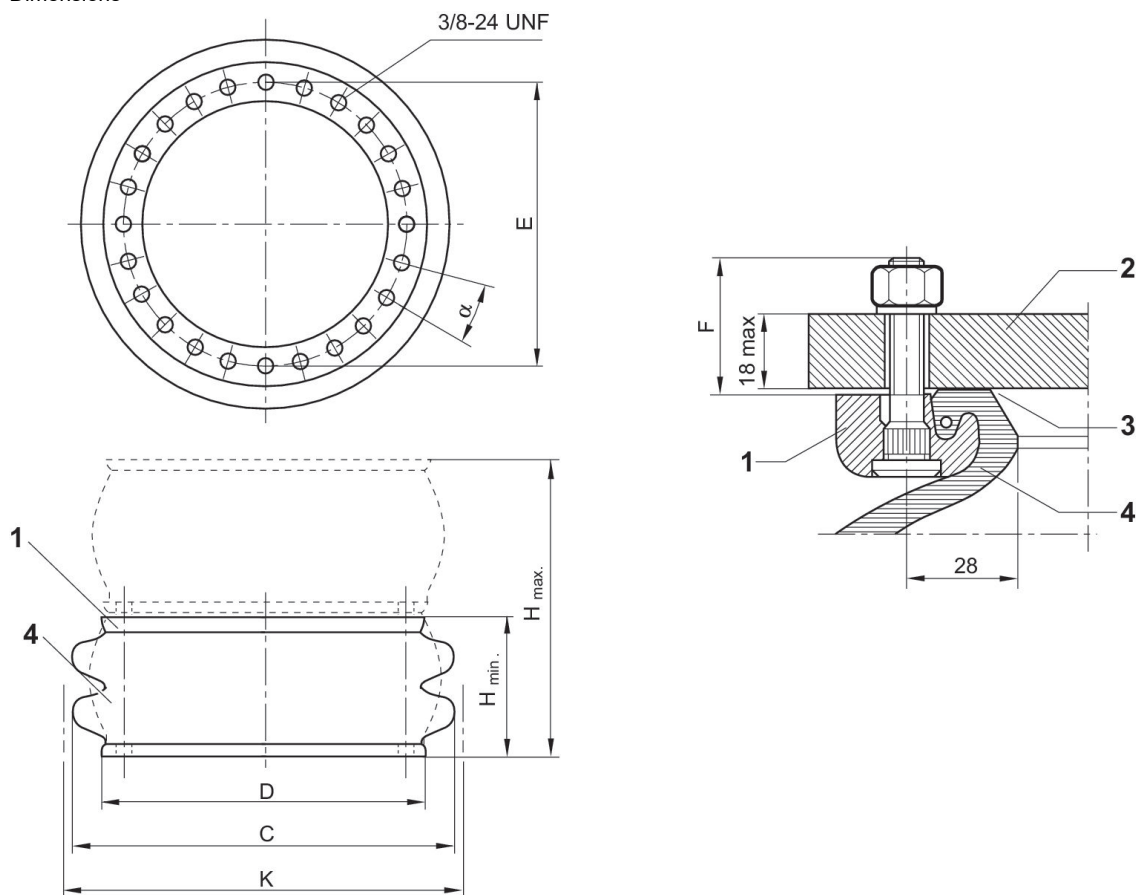
Series BCR - inch

: double
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 25 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



Cover diameter [mm]	Max. effective stroke [mm]	Min. radial installation space [mm]	Material bellow	Force min./max. [N]	Weight [kg]	Part No.
384	226.06	309.88	Natural rubber	44000, 80000	8.6	R432039304
451	246.38	575	Natural rubber	64000, 108000	10.2	R432039306
517	251.46	673.1	Natural rubber	84000, 141000	12.02	R432039309
638	10.5	770	Natural rubber	136000, 207000	15.4	R432039312
890	11.2	1000	Natural rubber	257000, 390000	32.9	R432039316

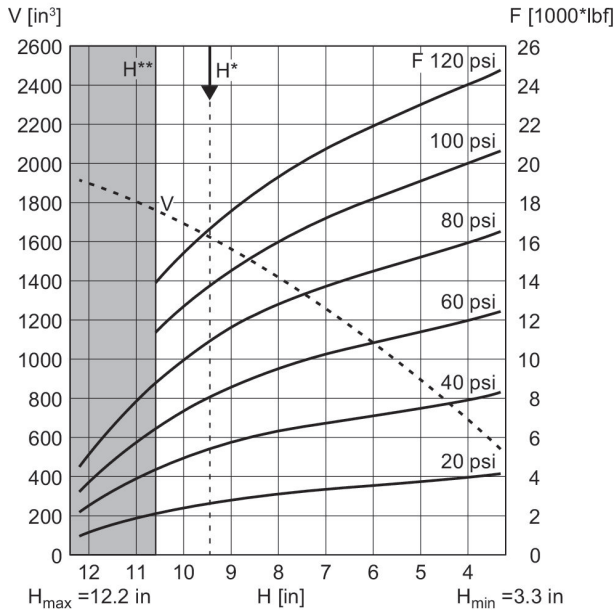
Dimensions



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

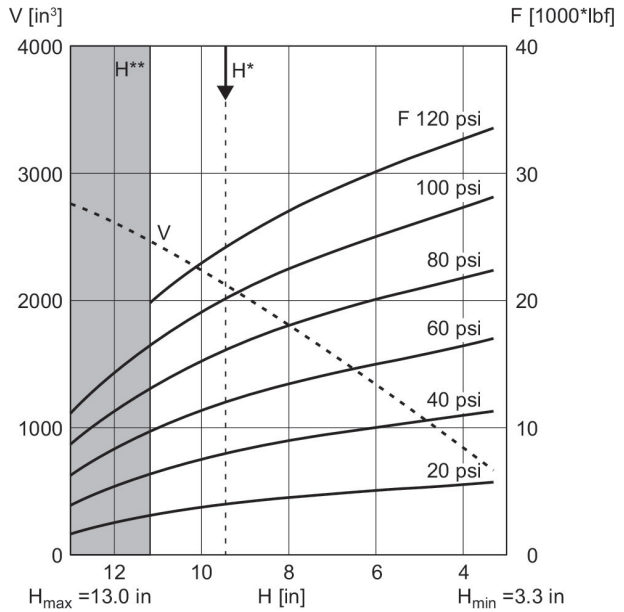
Part No.	H min. mm	H max. mm	C mm	D mm	E ±2	F	α°	K	Min. return force N
R432039304	83.82	309.88	450	384	13.78	1.25	20	309.88	200
R432039306	84	330.2	525	451	16.5	1.25	15	575	200
R432039309	83.82	335.28	590	517	18.98	1.25	15	673.1	439.95
R432039312	88.9	355.6	720	638	23.46	1.25	11.25	770	700
R432039316	106.68	391.16	950	890	32.68	1.06	9	1000	5500

Force-displacement diagram R432039304



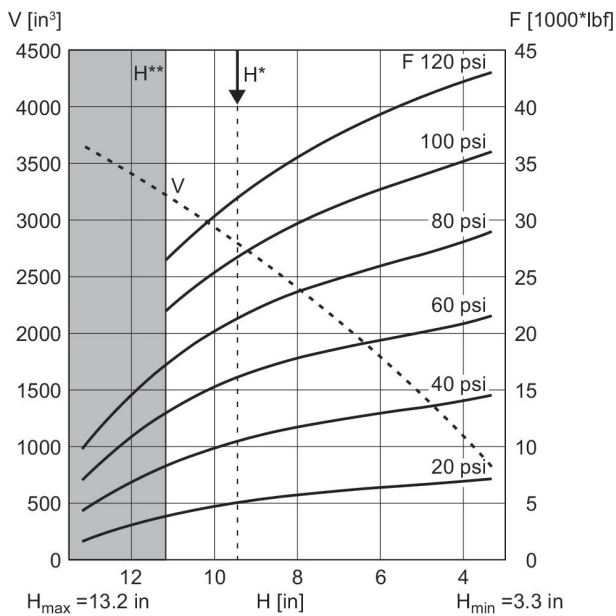
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039306



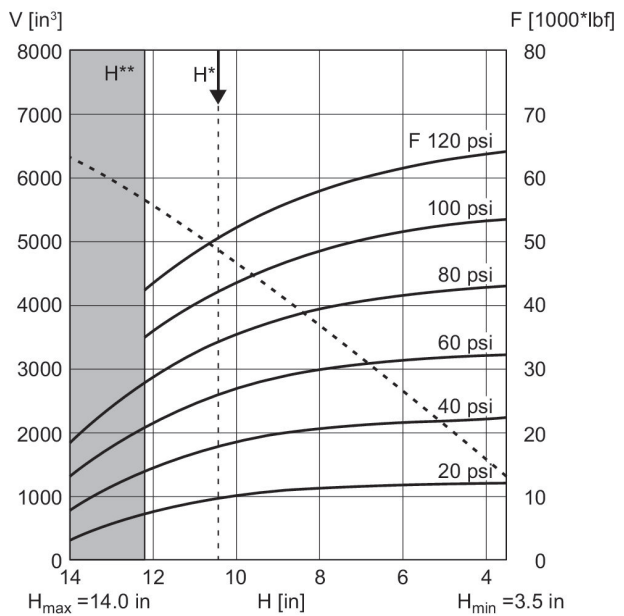
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039309



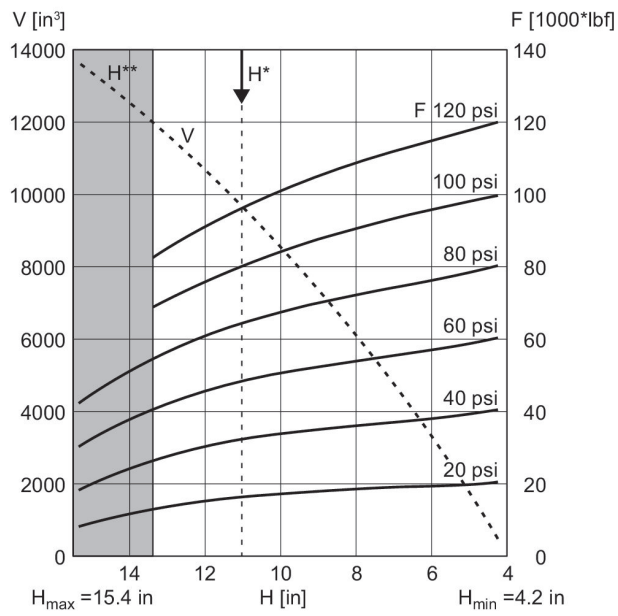
V = volume H = height H^* = recommended operating height for vibration isolation H^{**} = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039312



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

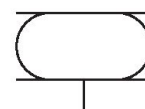
Force-displacement diagram R432039316



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

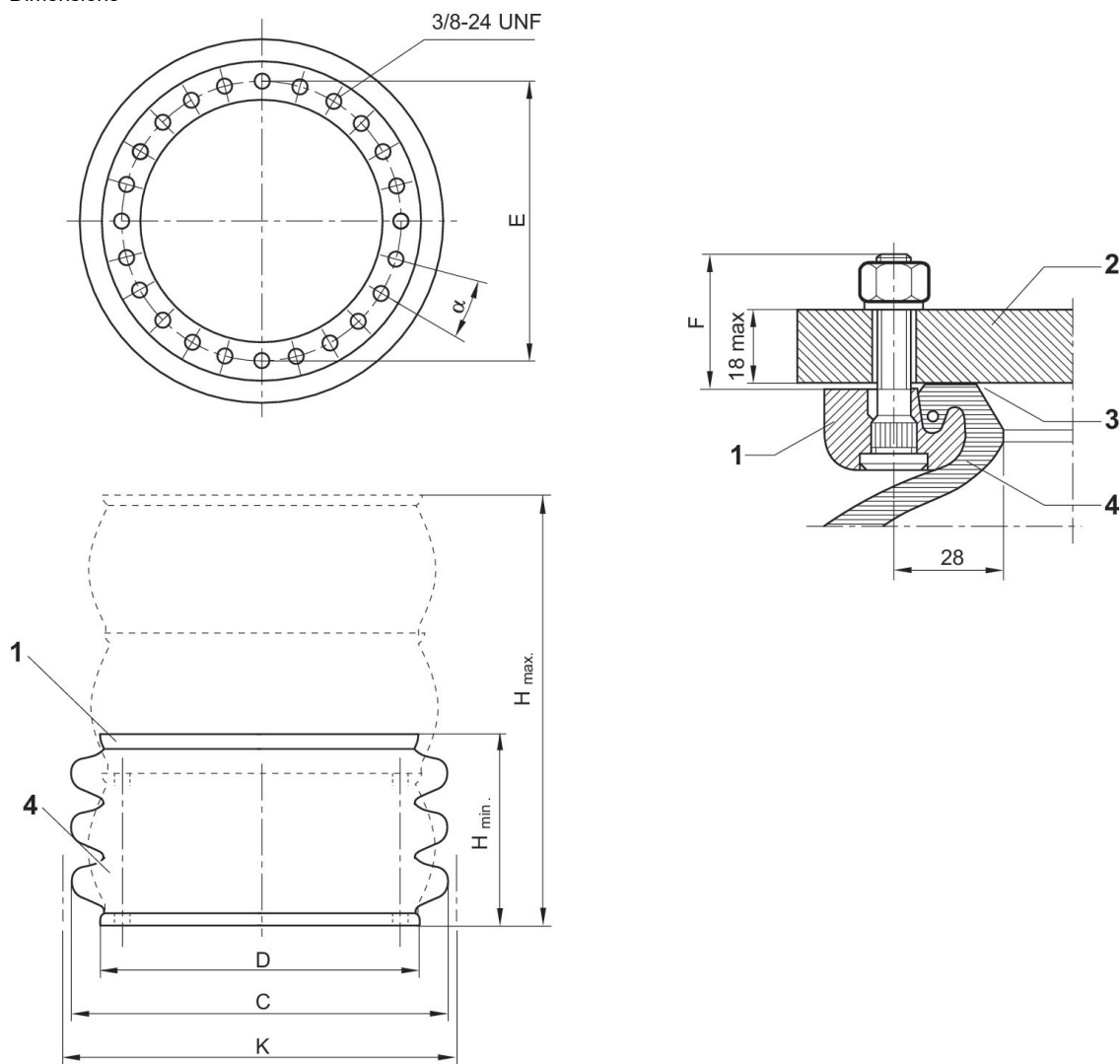
Series BCR - inch

: triple
 Type: Bellow actuator with mounting ring
 Functional principle: Single-acting, retracted without pressure
 Max. permissible angle of tilt: 30 °
 Ambient temperature min./max.: -40 °C ... 70 °C
 Working pressure min./max.: 0 bar ... 8 bar



Cover diameter [mm]	Max. effective stroke [mm]	Min. radial installation space [mm]	Material bellow	Force min./max. [N]	Weight [kg]	Part No.
384	335.28	510	Natural rubber	43000, 81000	9.3	R432039305
451	355.6	570	Natural rubber	65000, 114000	12.5	R432039307
517	355.6	650	Natural rubber	84000, 140000	14.5	R432039311
638	441.96	775	Natural rubber	124000, 219000	17	R432039314
890	439.42	1000	Natural rubber	277000, 390000	44	R432039317

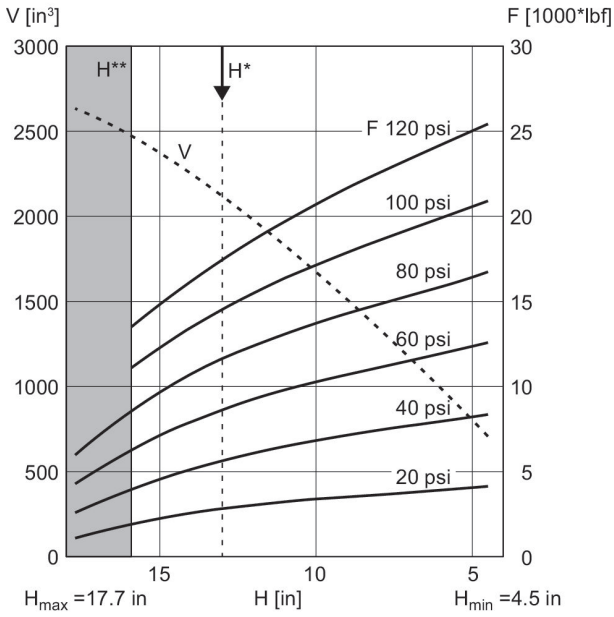
Dimensions



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

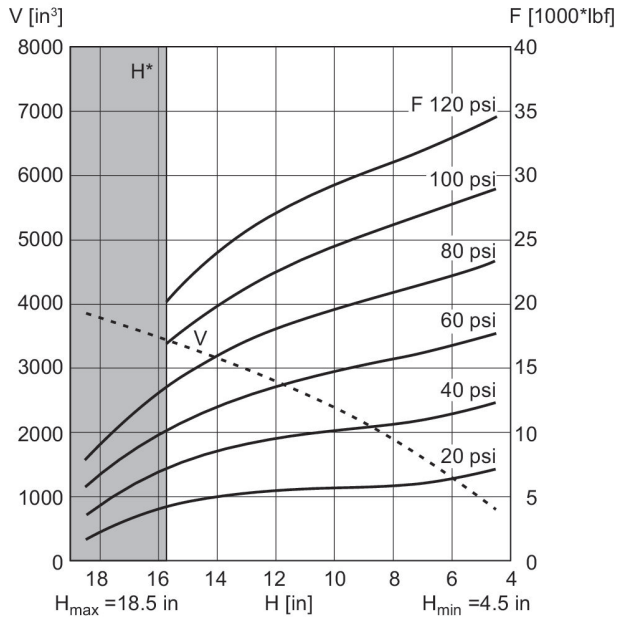
Part No.	H min. mm	H max. mm	C mm	D mm	E ±2	F	α°	K mm	Min. return force
R432039305	114	449.58	462	384	13.78	1.25	20	510	600
R432039307	114.3	469.9	521	451	16.5	1.25	15	570	420
R432039317	114.3	469.9	600	517	32.68	1.06	11.25	650	400
R432039314	127	568.96	725	638	23.46	1.25	9	775	800
R432039311	139.7	579.12	950	890	18.98	1.25	15	1000	7500

Force-displacement diagram R432039305



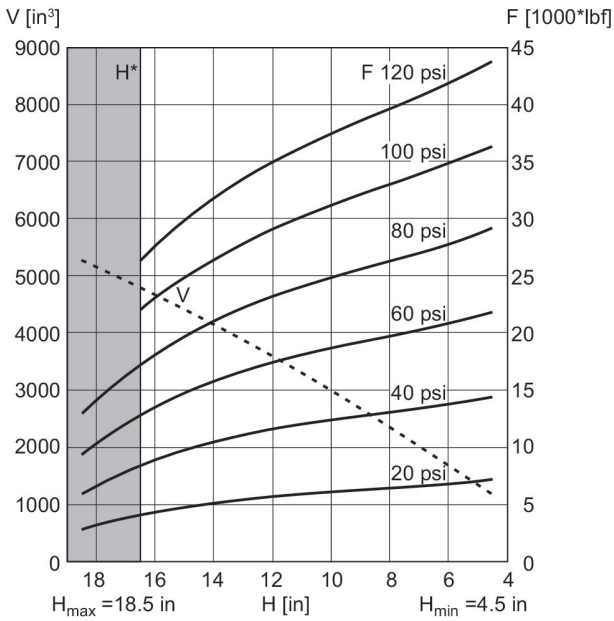
V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS

R432039307 Force-displacement diagram R432039308



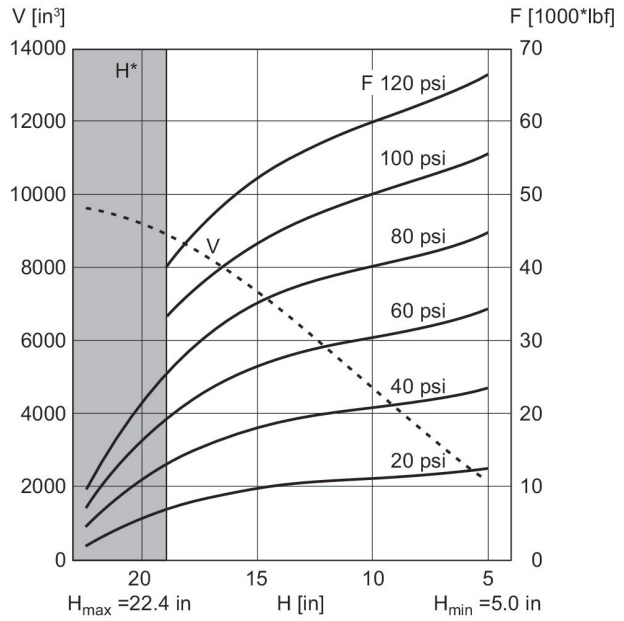
V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039311



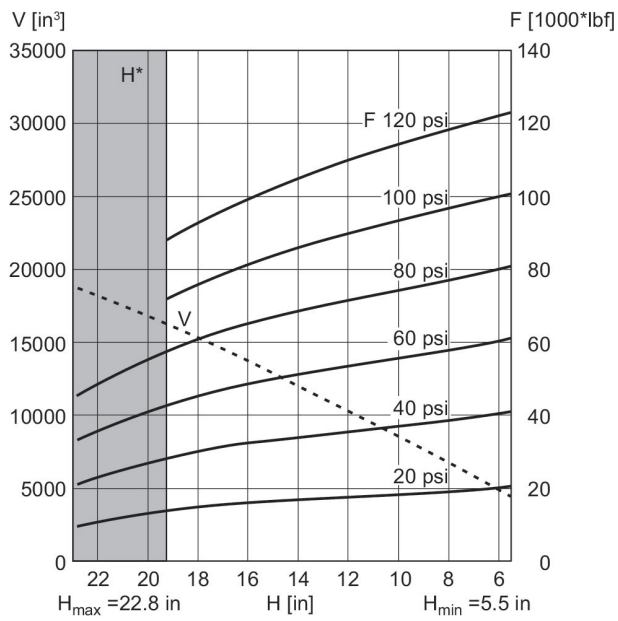
V = volume H = height H* = recommended operating height for vibration isolation H** = use permitted only upon approval by AVENTICS

Force-displacement diagram R432039314



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

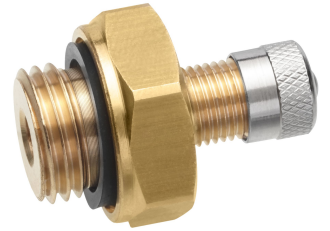
Force-displacement diagram R432039317



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

Filler neck

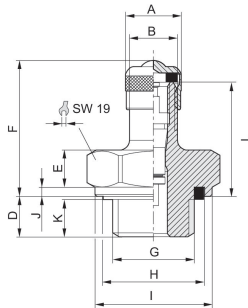
Min. ambient temperature: -50 °C
 Max. ambient temperature: 130 °C
 Min. working pressure: 0 bar
 Max. working pressure: 20 bar



G	Part No.
G 1/4	3900040040
1/4 - 18 NPTF	R412010046

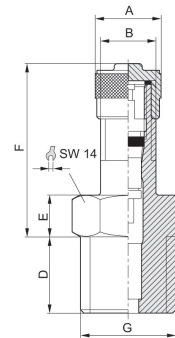
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Dimensions



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Dimensions



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