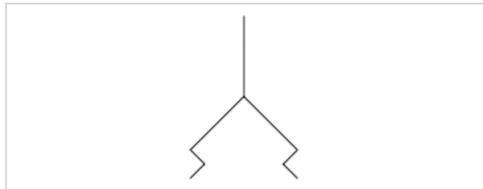


Bellow suction gripper, BSA series

- F = 0.1-45.2 N

- external diameter 5-89 mm

- Internal thread



Ambient temperature min./max. -10 ... 70 °C
 Min./max. temporary ambient temperature (30 s) -30 ... 120 °C
 Hardness according to standard 55 ± 5 Shore A
 Abrasion value according to DIN 535 16 100-120 mm³
 Weight See table below

Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415168	M5	5 mm	0,1 N	0,8 N	0,033 cm³
1820415105	G 1/8	5,9 mm	0,1 N	0,9 N	0,04 cm³
1820415073	G 1/8	9 mm	0,7 N	2,3 N	0,15 cm³
1820415077	G 1/8	14,5 mm	1,2 N	5,7 N	0,98 cm³
1820415081	G 1/8	17,2 mm	2,3 N	8,5 N	1,35 cm³
1820415085	G 1/8	20 mm	3,8 N	12,1 N	2 cm³
1820415089	G 1/4	32 mm	12 N	36,9 N	10 cm³
1820415093	G 1/4	42,6 mm	13,6 N	44 N	19,5 cm³
1820415097	G 1/4	62,2 mm	39,6 N	137 N	72,5 cm³
1820415101	G 1/4	89 mm	45,2 N	286 N	165 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415168	8 mm	2 piece	0,005 kg
1820415105	8 mm	2 piece	0,005 kg
1820415073	10 mm	2 piece	0,005 kg
1820415077	15 mm	2 piece	0,006 kg
1820415081	20 mm	1 piece	0,006 kg
1820415085	30 mm	1 piece	0,007 kg
1820415089	35 mm	1 piece	0,018 kg
1820415093	75 mm	1 piece	0,03 kg
1820415097	75 mm	1 piece	0,06 kg

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415101	100 mm	1 piece	0,17 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

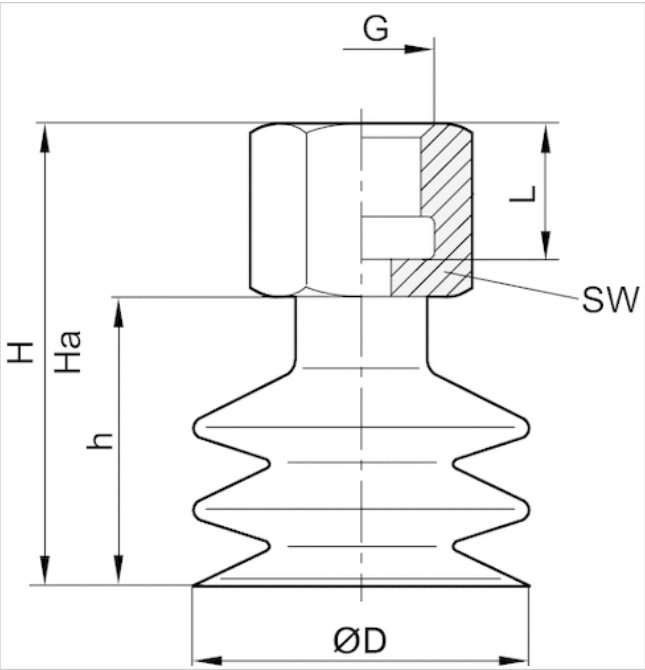
To be used on uneven, sensitive, and smooth to slightly rough surfaces.

Technical information

Material	
Connector	Aluminum
Vacuum	Acrylonitrile butadiene rubber

Dimensions

Dimensions



Dimensions

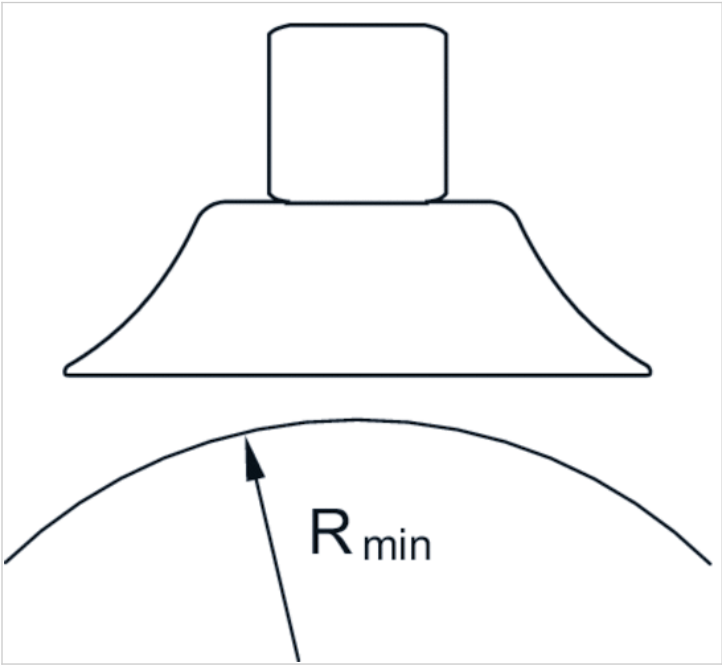
Part No.	ØD	G	Ha*)	H	h	L	SW
1820415168	5 mm	M5	21	24	13.5	8.5	8
1820415105	5,9 mm	G 1/8	22	26	14	9	14
1820415073	9 mm	G 1/8	24	27	15	9	14
1820415077	14,5 mm	G 1/8	25	34	22	9	14
1820415081	17,2 mm	G 1/8	25	34	22	9	14
1820415085	20 mm	G 1/8	25	34	22	9	14
1820415089	32 mm	G 1/4	37.5	52.5	37.5	12	17

Part No.	ØD	G	Ha*)	H	h	L	SW
1820415093	42,6 mm	G 1/4	41	61	46	12	17
1820415097	62,2 mm	G 1/4	41	70	55	12	17
1820415101	89 mm	G 1/4	69	103	88	12	21

*) Height for vacuum operation

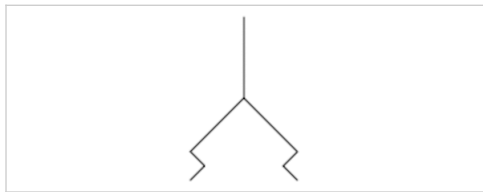
Diagrams

Max. curving on object Rmin



Bellow suction gripper, BSA series

- F = 0.1-45.2 N
- external diameter 5-89 mm
- Internal thread
- Heat resistant



Ambient temperature min./max. -30 ... 180 °C
 Min./max. temporary ambient temperature (30 s) -50 ... 220 °C
 Hardness according to standard 55 ± 5 Shore A
 Abrasion value according to DIN 535 16 180-200 mm³
 Weight See table below

Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415170	M5	5 mm	0,1 N	0,8 N	0,033 cm³
1820415107	G 1/8	5,9 mm	0,1 N	0,9 N	0,04 cm³
1820415075	G 1/8	9 mm	0,7 N	2,3 N	0,15 cm³
1820415079	G 1/8	14,5 mm	1,2 N	5,7 N	0,98 cm³
1820415083	G 1/8	17,2 mm	2,3 N	8,5 N	1,35 cm³
1820415087	G 1/8	20 mm	3,8 N	12,1 N	2 cm³
1820415091	G 1/4	32 mm	12 N	36,9 N	10 cm³
1820415095	G 1/4	42,6 mm	13,6 N	44 N	19,5 cm³
1820415099	G 1/4	62,2 mm	39,6 N	137 N	72,5 cm³
1820415103	G 1/4	89 mm	45,2 N	286 N	165 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415170	8 mm	2 piece	0,005 kg
1820415107	8 mm	2 piece	0,005 kg
1820415075	10 mm	2 piece	0,005 kg
1820415079	15 mm	2 piece	0,006 kg
1820415083	20 mm	1 piece	0,006 kg
1820415087	30 mm	1 piece	0,007 kg
1820415091	35 mm	1 piece	0,018 kg
1820415095	75 mm	1 piece	0,03 kg

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415099	75 mm	1 piece	0,06 kg
1820415103	100 mm	1 piece	0,17 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

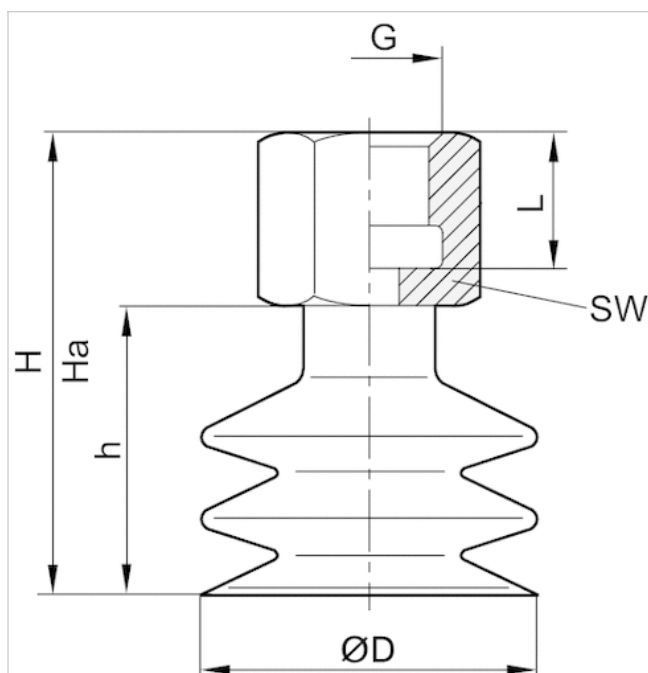
To be used on uneven, sensitive, and smooth to slightly rough surfaces.

Technical information

Material	
Connector	Aluminum
Vacuum	Fluoromethyl silicone

Dimensions

Dimensions



Dimensions

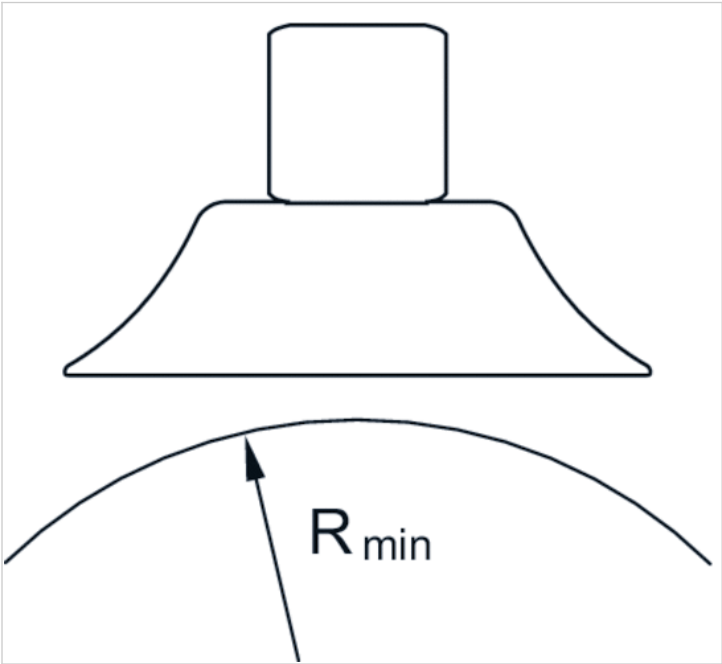
Part No.	ØD	G	Ha*)	H	h	L	SW
1820415170	5 mm	M5	21	24	13.5	8.5	8
1820415107	5,9 mm	G 1/8	22	26	14	9	14
1820415075	9 mm	G 1/8	24	27	15	9	14
1820415079	14,5 mm	G 1/8	25	34	22	9	14
1820415083	17,2 mm	G 1/8	25	34	22	9	14
1820415087	20 mm	G 1/8	25	34	22	9	14

Part No.	ØD	G	Ha*)	H	h	L	SW
1820415091	32 mm	G 1/4	37.5	52.5	37.5	12	17
1820415095	42,6 mm	G 1/4	41	61	46	12	17
1820415099	62,2 mm	G 1/4	41	70	55	12	17
1820415103	89 mm	G 1/4	69	103	88	12	21

*) Height for vacuum operation

Diagrams

Max. curving on object Rmin

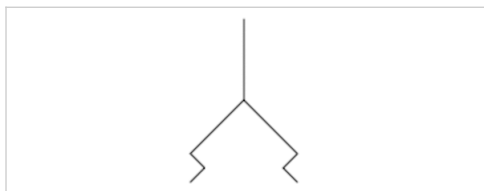


Bellow suction gripper, BSA series

- F = 0.1-45.2 N
- external diameter 5-89 mm
- External thread



Ambient temperature min./max. -10 ... 70 °C
 Min./max. temporary ambient temperature (30 s) -30 ... 120 °C
 Hardness according to standard 55 ± 5 Shore A
 Abrasion value according to DIN 535 16 100-120 mm³
 Weight See table below



Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415169	M5	5 mm	0,1 N	0,8 N	0,033 cm³
1820415106	G 1/8	5,9 mm	0,1 N	0,9 N	0,04 cm³
1820415074	G 1/8	9 mm	0,7 N	2,3 N	0,15 cm³
1820415078	G 1/8	14,5 mm	1,2 N	5,7 N	0,98 cm³
1820415082	G 1/8	17,2 mm	2,3 N	8,5 N	1,35 cm³
1820415086	G 1/8	20 mm	3,8 N	12,1 N	2 cm³
1820415090	G 1/4	32 mm	12 N	36,9 N	10 cm³
1820415094	G 1/4	42,6 mm	13,6 N	44 N	19,5 cm³
1820415098	G 1/4	62,2 mm	39,6 N	137 N	72,5 cm³
1820415102	G 1/4	89 mm	45,2 N	286 N	165 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415169	8 mm	2 piece	0,005 kg
1820415106	8 mm	2 piece	0,005 kg
1820415074	10 mm	2 piece	0,005 kg
1820415078	15 mm	2 piece	0,006 kg
1820415082	20 mm	1 piece	0,006 kg
1820415086	30 mm	1 piece	0,007 kg
1820415090	35 mm	1 piece	0,017 kg
1820415094	75 mm	1 piece	0,027 kg
1820415098	76 mm	1 piece	0,06 kg

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415102	100 mm	1 piece	0,18 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

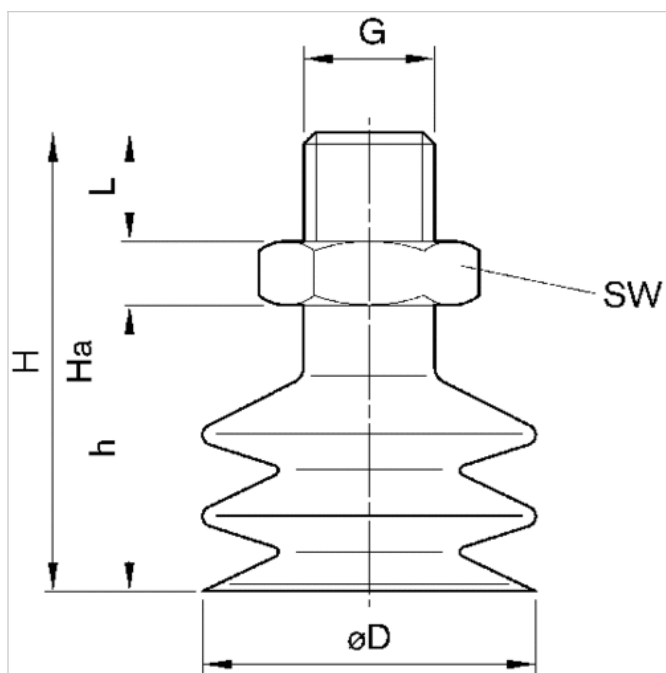
To be used on uneven, sensitive, and smooth to slightly rough surfaces.

Technical information

Material	
Connector	Aluminum
Vacuum	Acrylonitrile butadiene rubber

Dimensions

Dimensions



Dimensions

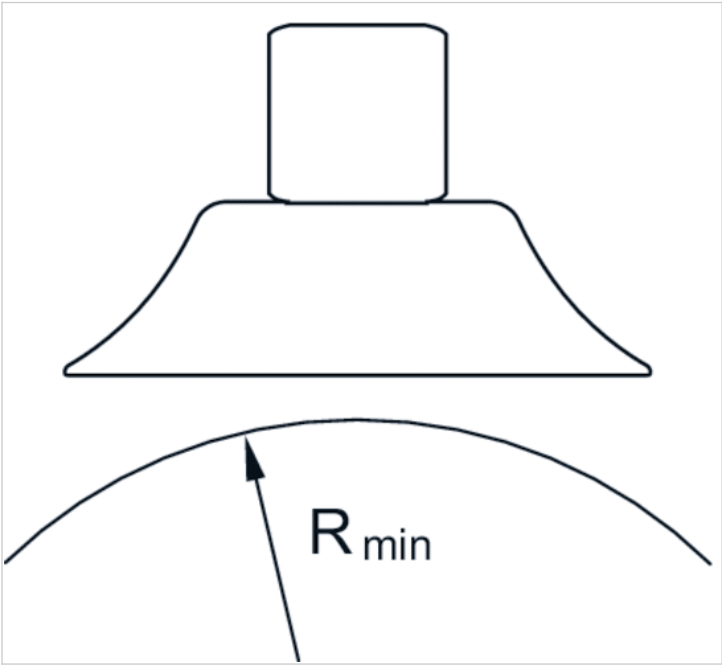
Part No.	ØD	G	Ha*)	H	h	SW	L
1820415169	5 mm	M5	21	24	13.5	8	5
1820415106	5,9 mm	G 1/8	23.5	27.5	14	14	7.5
1820415074	9 mm	G 1/8	25.5	28.5	15	14	7.5
1820415078	14,5 mm	G 1/8	26.5	35.5	22	14	7.5
1820415082	17,2 mm	G 1/8	26.5	35.5	22	14	7.5
1820415086	20 mm	G 1/8	26.5	35.5	22	14	7.5
1820415090	32 mm	G 1/4	37.5	52.5	37.5	17	11

Part No.	ØD	G	Ha*)	H	h	SW	L
1820415094	42,6 mm	G 1/4	41	61	46	17	11
1820415098	62,2 mm	G 1/4	41	70	55	17	11
1820415102	89 mm	G 1/4	69	103	88	21	11

*) Height for vacuum operation

Diagrams

Max. curving on object Rmin

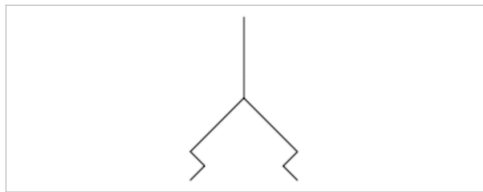


Bellow suction gripper, BSA series

- F = 0.1-45.2 N
- external diameter 5-89 mm
- External thread
- Heat resistant



Ambient temperature min./max. -30 ... 180 °C
 Min./max. temporary ambient temperature (30 s) -50 ... 220 °C
 Hardness according to standard 55 ± 5 Shore A
 Abrasion value according to DIN 535 16 180-200 mm³
 Weight See table below



Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415171	M5	5 mm	0,1 N	0,8 N	0,033 cm³
1820415108	G 1/8	5,9 mm	0,1 N	0,9 N	0,04 cm³
1820415076	G 1/8	9 mm	0,7 N	2,3 N	0,15 cm³
1820415080	G 1/8	14,5 mm	1,2 N	5,7 N	0,98 cm³
1820415084	G 1/8	17,2 mm	2,3 N	8,5 N	1,35 cm³
1820415088	G 1/8	20 mm	3,8 N	12,1 N	2 cm³
1820415092	G 1/4	32 mm	12 N	36,9 N	10 cm³
1820415096	G 1/4	42,6 mm	13,6 N	44 N	19,5 cm³
1820415100	G 1/4	62,2 mm	39,6 N	137 N	72,5 cm³
1820415104	G 1/4	89 mm	45,2 N	286 N	165 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415171	8 mm	2 piece	0,005 kg
1820415108	8 mm	2 piece	0,005 kg
1820415076	10 mm	2 piece	0,005 kg
1820415080	15 mm	2 piece	0,006 kg
1820415084	20 mm	1 piece	0,006 kg
1820415088	30 mm	1 piece	0,007 kg
1820415092	35 mm	1 piece	0,017 kg
1820415096	75 mm	1 piece	0,027 kg

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415100	75 mm	1 piece	0,06 kg
1820415104	100 mm	1 piece	0,18 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

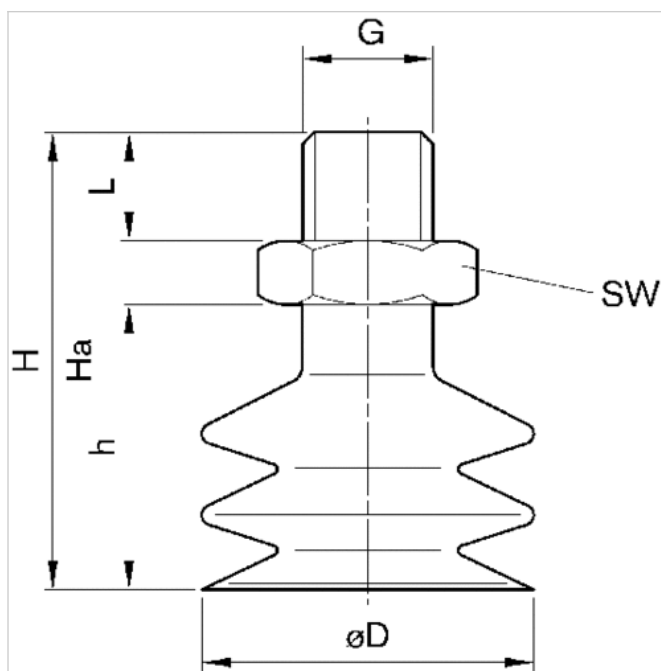
To be used on uneven, sensitive, and smooth to slightly rough surfaces.

Technical information

Material	
Connector	Aluminum
Vacuum	Fluoromethyl silicone

Dimensions

Dimensions



Dimensions

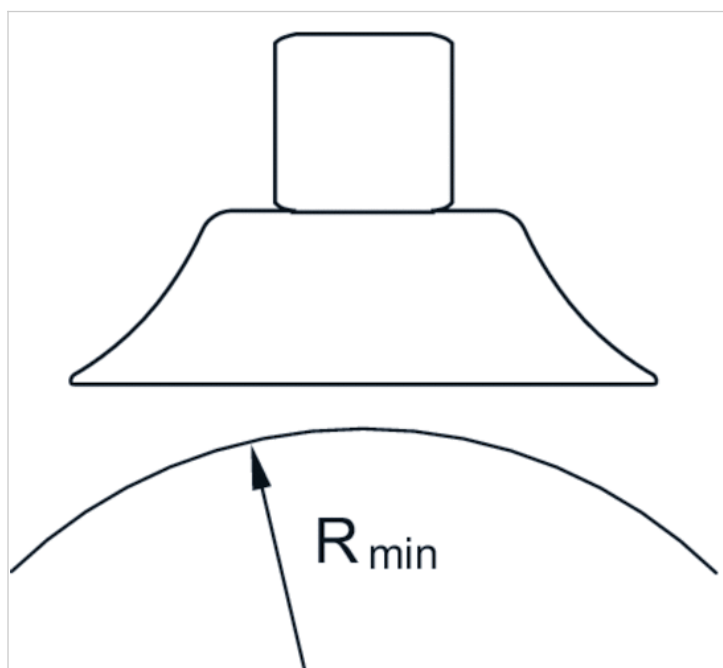
Part No.	ØD	G	Ha*)	H	h	SW	L
1820415171	5 mm	M5	21	24	13.5	8	5
1820415108	5,9 mm	G 1/8	23.5	27.5	14	14	7.5
1820415076	9 mm	G 1/8	25.5	28.5	15	14	7.5
1820415080	14,5 mm	G 1/8	26.5	35.5	22	14	7.5
1820415084	17,2 mm	G 1/8	26.5	35.5	22	14	7.5
1820415088	20 mm	G 1/8	26.5	35.5	22	14	7.5

Part No.	ØD	G	Ha*)	H	h	SW	L
1820415092	32 mm	G 1/4	37.5	52.5	37.5	17	11
1820415096	42,6 mm	G 1/4	41	61	46	17	11
1820415100	62,2 mm	G 1/4	41	70	55	17	11
1820415104	89 mm	G 1/4	69	103	88	21	11

*) Height for vacuum operation

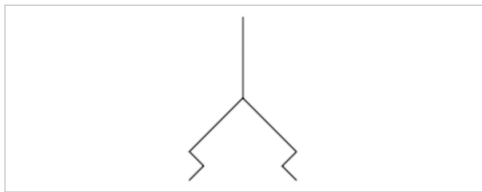
Diagrams

Max. curving on object Rmin



Bellow suction gripper, BSA series

- F = 13.5-120 N
- external diameter 29-80.2 mm
- Internal thread
- low-wear



Ambient temperature min./max. -40 ... 80 °C
 Min./max. temporary ambient temperature (30 s) -40 ... 100 °C
 Hardness according to standard 72 ± 5 Shore A
 Abrasion value according to DIN 535 16 10-12 mm³
 Weight See table below

Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415161	G 1/4	29 mm	13,5 N	32 N	9 cm³
1820415162	G 1/4	59 mm	61 N	100 N	61 cm³
1820415163	G 1/4	80,2 mm	120 N	250 N	195 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415161	25 mm	1 piece	0,017 kg
1820415162	50 mm	1 piece	0,047 kg
1820415163	60 mm	1 piece	0,145 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

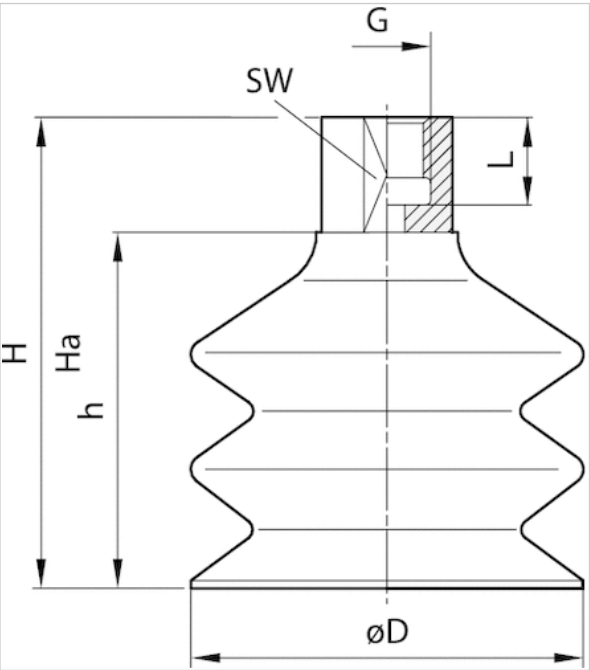
To be used on uneven, sensitive, and smooth to slightly rough surfaces.

Technical information

Material	
Connector	Aluminum
Vacuum	Polyurethane

Dimensions

Dimensions



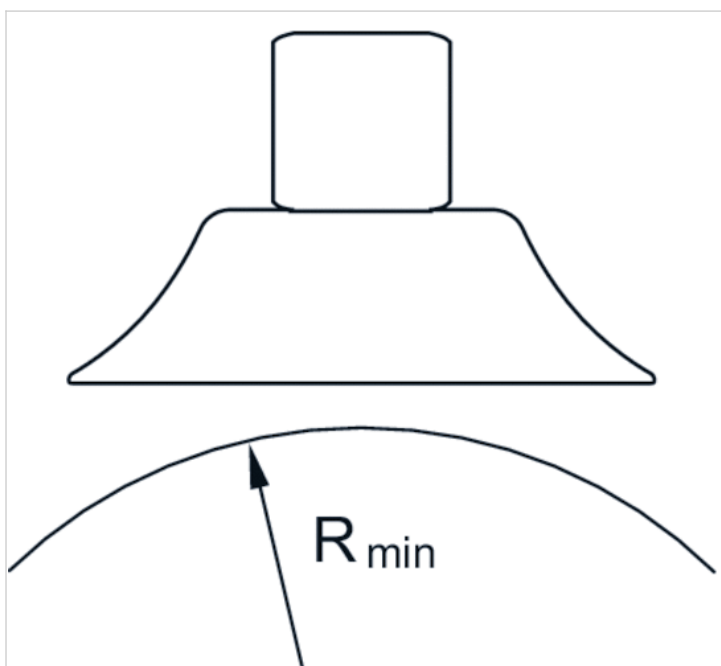
Dimensions

Part No.	ØD	G	Ha*)	H	h	SW	L
1820415161	29 mm	G 1/4	40	55	40	17	12
1820415162	59 mm	G 1/4	40	70	55	17	12
1820415163	80,2 mm	G 1/4	62	100	85	22	12

*) Height for vacuum operation

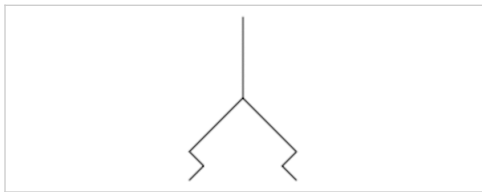
Diagrams

Max. curving on object Rmin



Bellow suction gripper, BSA series

- F = 13.5-120 N
- external diameter 29-80.2 mm
- External thread
- low-wear



Ambient temperature min./max. -40 ... 80 °C
 Min./max. temporary ambient temperature (30 s) -40 ... 100 °C
 Hardness according to standard 72 ± 5 Shore A
 Abrasion value according to DIN 535 16 10-12 mm³
 Weight See table below

Technical data

Part No.	Compressed air connection	external diameter	Holding force	Separation force	Volume
			*)		
1820415010	G 1/4	29 mm	13,5 N	32 N	9 cm³
1820415013	G 1/4	59 mm	61 N	100 N	61 cm³
1820415014	G 1/4	80,2 mm	120 N	250 N	195 cm³

Part No.	Max. curving on object Rmin	Delivery unit	Weight
1820415010	25 mm	1 piece	0,017 kg
1820415013	50 mm	1 piece	0,047 kg
1820415014	60 mm	1 piece	0,145 kg

*) Theoretical value at 60% vacuum level, without safety factor

Technical information

To be used on uneven, sensitive, and smooth to slightly rough surfaces.

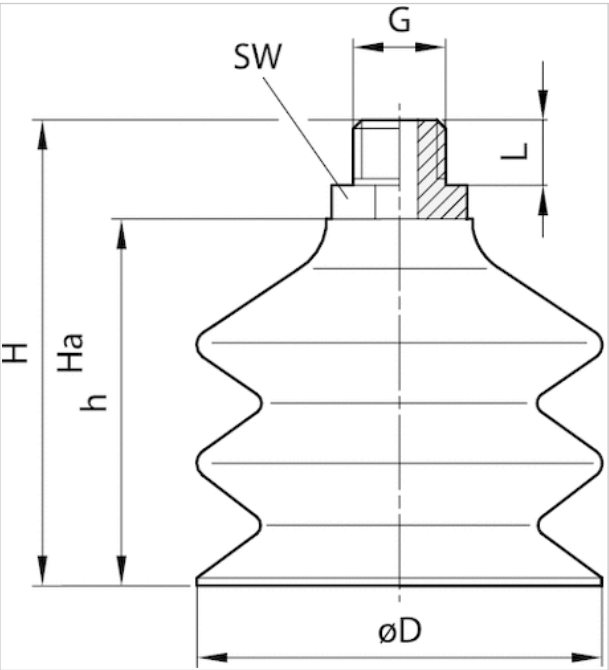
Technical information

Material

Connector	Aluminum
Vacuum	Polyurethane

Dimensions

Dimensions



Dimensions

Part No.	ØD	G	Ha*)	H	h	SW	L
1820415010	29 mm	G 1/4	40	55	40	17	10
1820415013	59 mm	G 1/4	40	70	55	17	10
1820415014	80,2 mm	G 1/4	62	100	85	22	10

*) Height for vacuum operation

Diagrams

Max. curving on object Rmin

