



# Vacuum cups | Suspensions

Non-rotating internal spring suspensions – smooth body

## Non-rotating internal spring suspensions – smooth body

**NEW**



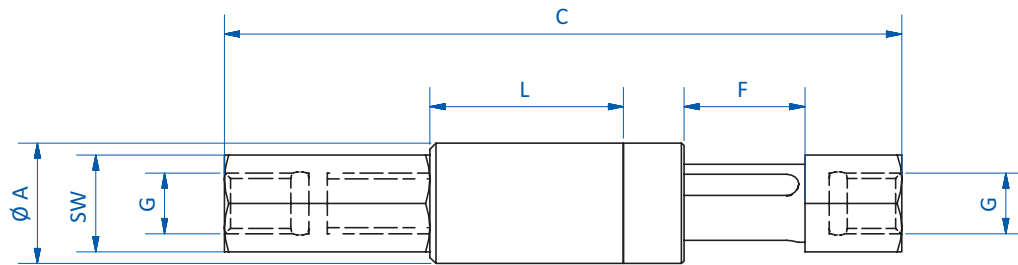
### Product notes

- > Free moving and high-load capability with ball guide technology
- > Clampable smooth body
- > Body and rod made of anodized aluminum

### Technical data

Item no.	Stroke [mm]	Weight [g]
GR03.1010	10	7
GR03.1025	25	11
GR03.1420	20	23
GR03.1435	35	35
GR03.2025	25	54
GR03.2050	50	80

### Dimensions



Item no.	Ø A [mm]	C [mm]	L [mm]	G	F [mm]	SW
GR03.1010	10	56	16	M5	10	8
GR03.1025	10	90.5	35.5	M5	25	8
GR03.1420	14	98.5	31.5	G1/8	20	12
GR03.1435	14	133.5	51.5	G1/8	35	12
GR03.2025	20	110	41	G1/8	25	16
GR03.2050	20	167.5	73.5	G1/8	50	16



### Non-rotating internal spring suspensions – threaded body

**NEW**



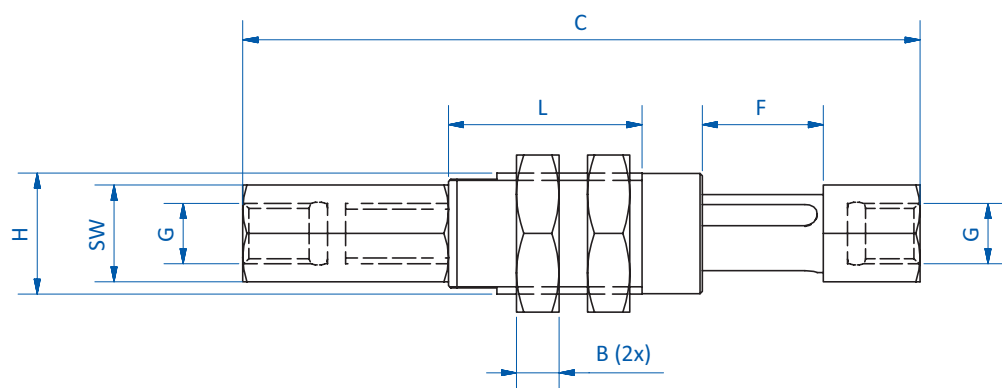
#### Product notes

- > Free moving and high-load capability with ball guide technology
- > Flexible mounting via threaded body
- > Body and rod made of anodized aluminum

#### Technical data

Item no.	Stroke [mm]	Weight [g]
GR03.1010T	10	11
GR03.1025T	25	13
GR03.1210T	10	15
GR03.1225T	25	20
GR03.1620T	20	35
GR03.1635T	35	45
GR03.2025T	25	63
GR03.2050T	50	90
GR03.2540T	40	170
GR03.2580T	80	235

#### Dimensions



GR03.1010T | GR03.1025T

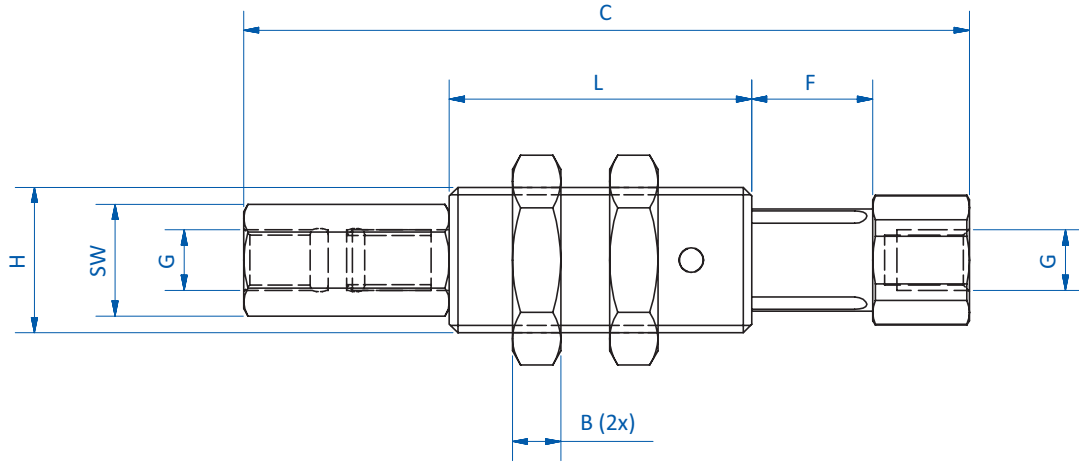
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# Vacuum cups | Suspensions

Non-rotating internal spring suspensions – threaded body

## Dimensions



GR03.1210T | GR03.1225T | GR03.1620T | GR03.1635T | GR03.2025T | GR03.2050T | GR03.2540T | GR03.2580T

Item no.	H	B [mm]	C [mm]	L [mm]	G	F [mm]	SW
GR03.1010T	M10x1	3.5	56	16	M5	10	8
GR03.1025T	M10x1	3.5	90.5	35.5	M5	25	8
GR03.1210T	M12x1	4	60	25	M5	10	8
GR03.1225T	M12x1	4	94	44	M5	25	8
GR03.1620T	M16x1	5	98.5	38.5	G1/8	20	12
GR03.1635T	M16x1	5	135	58.5	G1/8	36.5	12
GR03.2025T	M20x1.5	6	113	50	G1/4	25	16
GR03.2050T	M20x1.5	6	170.5	82.5	G1/4	50	16
GR03.2540T	M25x1.5	8	159	71	G3/8	40	22
GR03.2580T	M25x1.5	8	249	121	G3/8	80	22



### Suspensions with internal spring and threaded connection – SZ-NIV-I

**BESTSELLER**



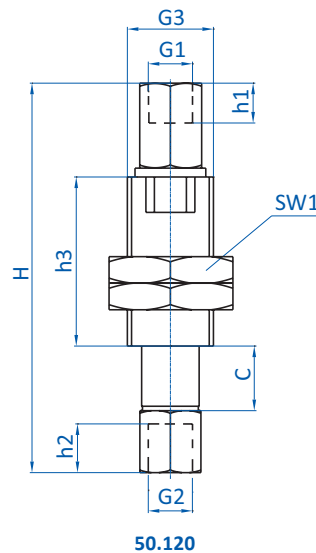
#### Product notes

- > Compensate for height differences
- > Soft attachment for sensitive products
- > With internal spring protected from dirt and with spring deflection limiter
- > Vacuum connection on top, vacuum channel via suspension

#### Technical data

Item no.	Model	Thread suction side G2	Thread fixing bushes G3	Stroke C [mm]	Spring rate [N/mm]	Max. spring force [N]	Spring pre-load [N]	Weight [g]	Suitable mounting bracket
50.120	SZ-NIV-I-M5-IG-7	M5-female	G1/8-male	7	0.606	6	1.8	17	GR02.230 (p.86)
50.123	SZ-NIV-I-G1/8-AG-8	G1/8-male	M14x1.5-male	8	0.097	2.6	1.8	41	--
50.124	SZ-NIV-I-G1/8-AG-20	G1/8-male	M16x1-male	19	0.482	12.8	3.7	73	GR02.231 (p.86)

#### Dimensions



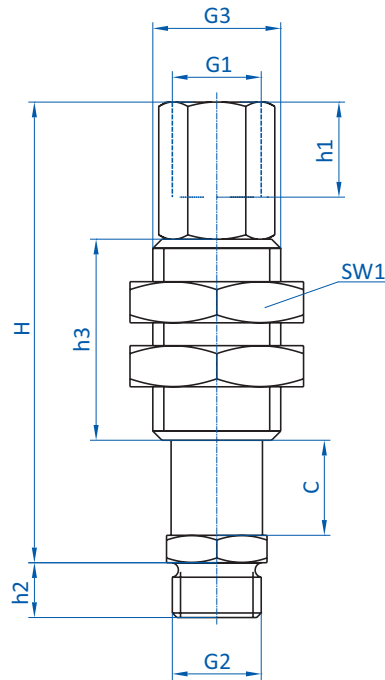
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# Vacuum cups | Suspensions

Suspensions with internal spring and threaded connection – SZ-NIV-I

## Dimensions



50.123 | 50.124

Item no.	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]	SW1	G1 (female)	G2 (female)	G2 (male)	G3 (male)	C [mm]
50.120	44	4.3	5	19	14	M5	M5	--	G1/8	7
50.123	50	10	6	22	19	G1/8	--	G1/8	M14x1.5	8
50.124	73	12	5.6	35	21	G1/8	--	G1/8	M16x1	20



### Standard suspensions with threaded connection – SZ-NIV-S



#### Product notes

- > Compensate for height differences
- > Soft attachment for sensitive products
- > Leveling as standard version
- > Vacuum connection on top, vacuum channel via suspension
- > Also available non-rotating (M5-female)

#### Notes

- > Recommendation: For the best possible service life do not exceed max. stroke indicated

#### Technical data

Item no.	Model	Thread suction side G2	Thread fixing bushes G3	Stroke C [mm]	Spring rate [N/mm]	Max. spring force [N]	Spring pre-load [N]	Non-rotating	Weight [g]	Suitable mounting bracket
50.158	SZ-NIV-S-M5-IG-5	M5-female	G1/8-male	5	0.393	4	2	--	17	GR02.230 (p.86)
50.149	SZ-NIV-S-M5-IG-10	M5-female	G1/8-male	10	0.361	5.8	2.2	--	18	GR02.230 (p.86)
50.152	SZ-NIV-S-M5-IG-10-VS	M5-female	G1/8-male	10	0.361	5.5	1.9	Yes	19	GR02.230 (p.86)
50.150	SZ-NIV-S-M5-IG-20	M5-female	G1/8-male	18	0.227	4.3	0.3	--	20	GR02.230 (p.86)
50.153	SZ-NIV-S-M5-IG-20-VS	M5-female	G1/8-male	20	0.227	4.8	0.3	Yes	21	GR02.230 (p.86)
50.230	SZ-NIV-S-G1/8-AG-15	G1/8-male	M16x1-male	15	0.211	6.5	3.3	--	94	GR02.231 (p.86)
50.160	SZ-NIV-S-G1/8-AG-25	G1/8-male	M16x1-male	25	0.231	8.7	2.9	--	94	GR02.231 (p.86)
50.162	SZ-NIV-S-G1/8-AG-50	G1/8-male	M16x1-male	50	0.156	9.7	1.9	--	110	GR02.231 (p.86)
50.164	SZ-NIV-S-G1/4-AG-25	G1/4-male	M20x1.5-male	25	0.65	18.3	2	--	136	GR02.232 (p.86)
50.166	SZ-NIV-S-G1/4-AG-75	G1/4-male	M20x1.5-male	75	0.245	19.4	1.1	--	195	GR02.232 (p.86)

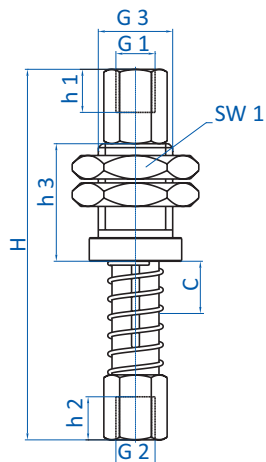
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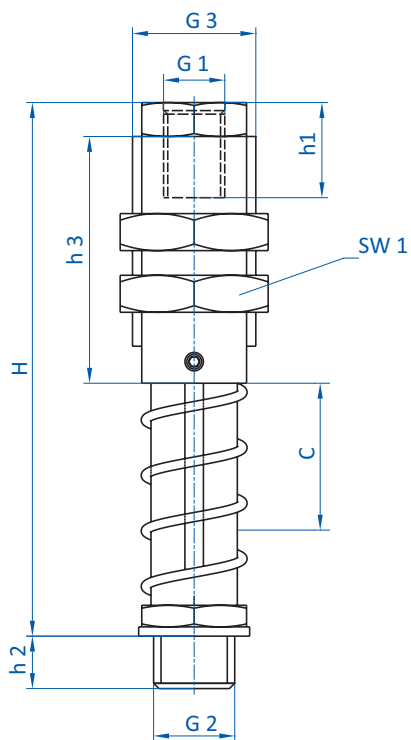
# Vacuum cups | Suspensions

Standard suspensions with threaded connection – SZ-NIV-S

## Dimensions



50.158 | 50.149 | 50.152 | 50.150 | 50.153



50.230 | 50.160 | 50.162 | 50.164 | 50.166

Item no.	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]	SW1	G1 (female)	G2 (male)	G2 (female)	G3 (male)	C [mm]
50.158	43	5.5	6.2	15	14	M5	--	M5	G1/8	5
50.149	47	5.5	6.2	15	14	M5	--	M5	G1/8	10
50.152	47	5.5	6.2	15	14	M5	--	M5	G1/8	10
50.150	59	5.5	6.2	15	14	M5	--	M5	G1/8	20
50.153	59	5.5	6.2	15	14	M5	--	M5	G1/8	20
50.230	72	8	6.5	30	22	G1/8	G1/8	--	M16x1	15
50.160	85	8.5	8.5	30	22	G1/8	G1/8	--	M16x1	25
50.162	116	8.5	6.5	30	22	G1/8	G1/8	--	M16x1	50
50.164	95	15	9	40	24	G1/8	G1/4	--	M20x1.5	25
50.166	153	15	10.5	40	24	G1/8	G1/4	--	M20x1.5	75