Suspensions pour ventouses

- Les suspensions (ou buffer, ou compensateurs de niveau) sont employées pour maintenir en position les ventouses durant l'approche du robot.
- Gimatic propose une gamme spécialement conçue pour les applications plastiques.
- Elles sont généralement montées sur des effecteurs de robot (EOAT) avec les étriers MFI.

Vacuum cup suspensions

- *The suspensions (or buffers, or level compensators) are used to keep the suction cups in position as the robot approaches.*
- *Gimatic offers a range specifically designed for Plastics applications.*
- *They are typically mounted on EOATs (End Of Arm Toolings) with MFI brackets.*

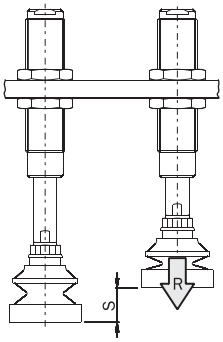
Force de réaction

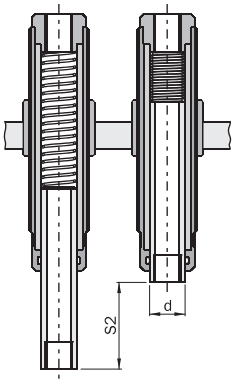
La force de réaction dépend de la compression (S) du ressort interne. Elle dépend aussi du diamètre du piston (d) et de la pression d'utilisation (p) dans le cas des suspensions télescopiques.
Utiliser la formule suivante pour le calcul.

Reaction force

The reaction force depends on the compression (S) of the internal spring. And also on the piston diameter (d) and operation pressure (p), in the case of telescopic suspensions.
Use the following formula for calculation.

$$R = R1 + K \cdot S + d^2 \cdot \frac{\pi}{40} \cdot p$$





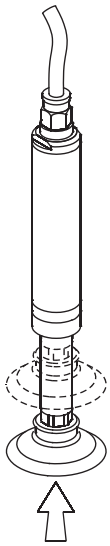
R [N]	Force de réaction *Reaction force*
R1 [N]	Force du ressort au début de la course *Spring force at the beginning*
K [N/mm]	Elasticité constante du ressort *Spring rate*
S [mm]	Course effectuée *Compression stroke*
d [mm]	Alésage *Piston bore*
p [bar]	Pression *Pressure*
R2 [N]	Force du ressort à la fin de la course *Spring force at the end-stroke*
S2 [mm]	Course maximum *Maximum stroke*
m [g]	Poids *Weight*

VSL **VSC** **VSR** **VSRT** **VSE** **VSET** **VVX** **VSRTG**

VSNG **VSNTG** **VSS** **VSD** **VSNF** **VSNTF** **VSRF** **VSRTF**

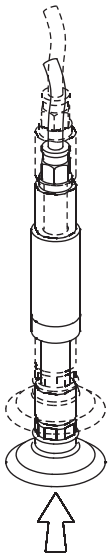
Suspensions télescopiques
Telescopic suspensions

- VSC
- VSL
- VSS



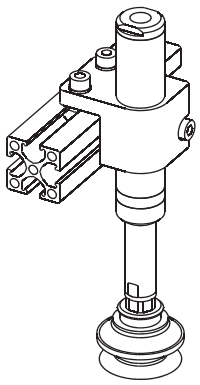
Suspensions à tige traversante
Through rod suspensions

- VSR
- VSRT
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSRTG
- VSNG
- VSNTG
- VSD



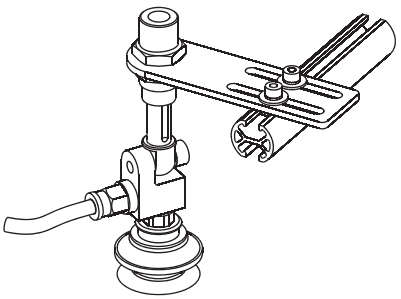
Suspensions avec corps lisse
Suspensions with smooth body

- VSL
- VSS
- VSR
- VSN
- VSE
- VVX
- VSNG
- VSD
- VSNF
- VSRF



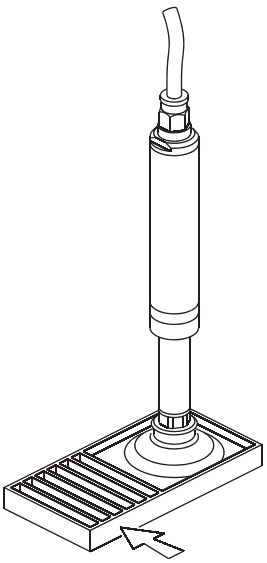
Suspensions avec corps taraudé
Suspensions with threaded body

- VSC
- VSRT
- VSNT
- VSET
- VSRTG
- VSNTG
- VSNTF
- VSRTF



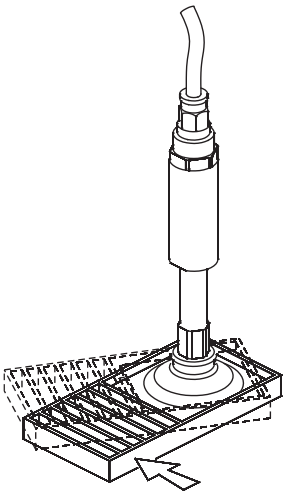
Suspensions anti-rotation
Non-rotative suspensions

- VSC
- VSL
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSNG
- VSNTG
- VSD
- VSNF
- VSNTF



Suspensions rotatives
Rotative suspensions

- VSS
- VSR
- VSRT
- VSRTG
- VSRF
- VSRTF

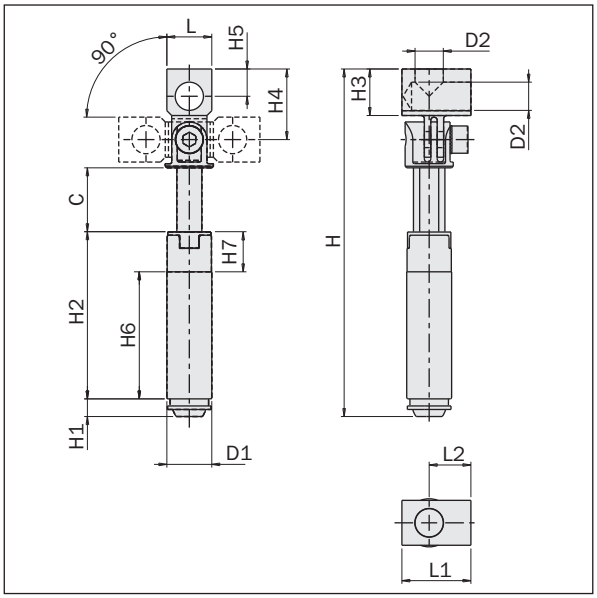


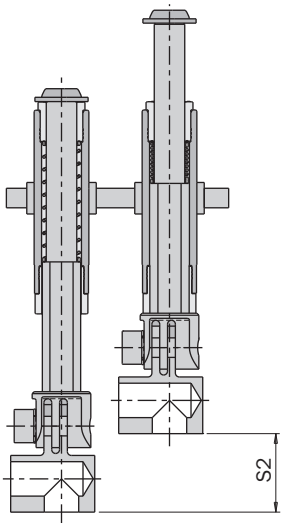
Suspensions anti-rotation avec joint angulaire intégré et corps lisse

- L'angle est réglable continuellement entre 0° and +/-90°.
- Alimentation externe.
- Corps et tige en aluminium anodisé.
- Tige anti-rotation avec capacité élevée de charge.
- Pression d'utilisation: -1 ÷ 8 bar.

Smooth-body non-rotative suspensions with integral elbow arms

- *It is possible to set continuously the angle between 0° and +/-90°.*
- *External air feeding.*
- *Body and rod in anodized aluminum.*
- *Non-rotative rod with high load capability.*
- *Pressure range: -1 ÷ 8 bar.*





		NEW	NEW	NEW	NEW	NEW	NEW	NEW	NEW
		VSE1010F05	VSE1025F05	VSE1420F18	VSE1435F18	VSE2025F18	VSE2025F14	VSE2050F18	VSE2050F14
H	[mm]	61.8	96.3	108.3	143.3	121.3	127.5	178.8	184.8
H1	[mm]	3.5	3.5	5.5	5.5	6.5	6.5	6.5	6.5
H2	[mm]	24.6	44.1	52.1	72.1	58.1	58.1	90.6	90.6
H3	[mm]	9	9	14.5	14.5	14.5	20.5	14.5	20.5
H4	[mm]	15	15	22	22	22	28	22	28
H5	[mm]	5.5	5.5	8.5	8.5	8.5	12	8.5	12
H6	[mm]	18.4	37.9	38.6	38.6	44.4	44.4	76.9	76.9
H7	[mm]	6.2*	6.2*	13.5*	13.5*	13.7*	13.7*	13.7*	13.7*
D1	[mm]	Ø10	Ø10	Ø14	Ø14	Ø20	Ø20	Ø20	Ø20
D2		M5	M5	G1/8"	G1/8"	G1/8"	G1/4"	G1/8"	G1/4"
L	[mm]	10	10	14	14	14	17	14	17
L1	[mm]	16	16	21.5	21.5	21.5	26	21.5	26
L2	[mm]	10.5	10.5	13	13	13	15	13	15
C	[mm]	10	25	20	35	25	25	50	50
S2	[mm]	10	25	20	35	25	25	50	50
d	[mm]	0	0	0	0	0	0	0	0
K	[N/mm]	0.106	0.138	0.268	0.150	0.275	0.275	0.141	0.141
R1	[N]	0.957	3.100	3.617	4.267	4.131	4.131	4.308	4.308
R2	[N]	2.020	6.545	8.975	9.507	11.02	11.02	11	11.37
m	[g]	15	20	45	55	70	90	105	120

*Non fixable
**Non-clampable*