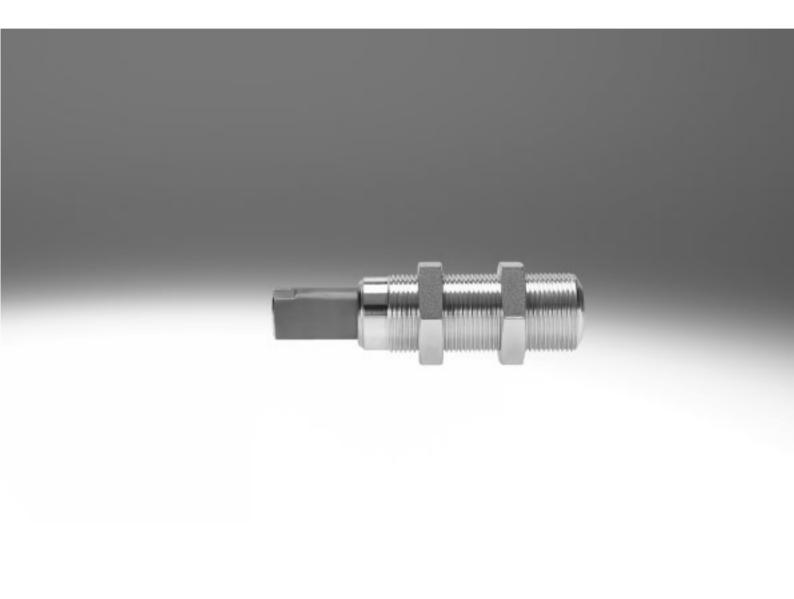
### **Compensating components**

# **FESTO**



### **Height compensator VAL** Technical data

**FESTO** 

#### Height compensator VAL

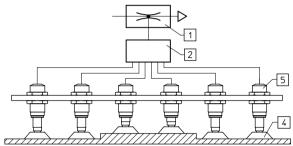
Accessory for suction cups with connection attachments VAS/VASB

→ Internet: vas



Gentle handling of the workpieces by compensating for any excess stroke of the handling device or for tolerance differences in the workpiece thickness.

- 1 Vacuum generator
- 2 Distributor
- 4 Suction cup
- 5 Height compensator



General technical data				
Vacuum port	M5	G1/8	G¹⁄4	
Suction cup mounting	M5	G½	G1/4	
Design	Vacuum port on top			
Mounting position	Any			
Suction cup holder height [mm]	5	10	20	
compensator				

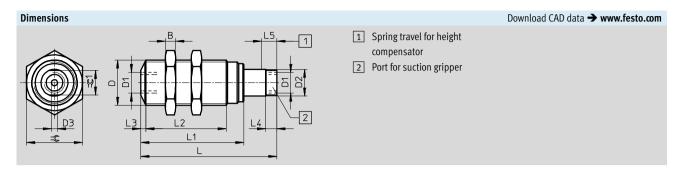
Operating and environmental conditions					
Operating pressure	[bar]	-0.95 +8			
Operating medium		Atmospheric air based on ISO 8573-1:2010 [7:-:-]			
Ambient temperature	[°C]	-10 +60			

Materials	
Housing, stem	Aluminium
Sleeve, bearing	POM
Hex nut	Galvanised steel
Seals	NBR
Note on materials	Free of copper and PTFE

2

## Height compensator VAL Technical data

**FESTO** 



Ordering data															
Vacuum port	В	D	D1	D2	D3	L	L1	L2	L3	L4	L5	=©	=© 1	Part No.	Туре
				Ø	Ø										
M5	5	M16x1	M5	8	2	46	35	25.5	2	4.5	5	19	7	151209	VAL-M5-5
G1/8	6	M22x1.5	G1/8	13	3	66	50	39	2.5	5.5	10	27	12	151210	VAL-1/8-10
0 / 6	"		. , .	_	-										

# Angle compensator ESWA Technical data

**FESTO** 

#### Angle compensator ESMA

Accessory for suction gripper ESG, mounted between suction cup holder and suction cup with connection attachments

→ Internet: esg



General technical data				
Pneumatic port	M4	M6	M10	
Suction cup mounting	M4	M6	M10	
Classification of suction cup holders	Size 3	Size 4	Size 5	
Design	Ball joint			
Angle compensator +/- [°]	15			
Mounting position	Any			
Type of mounting	With male thread			

Operating and environmental conditions						
Operating pressure	[bar]	-0.95 +4				
Ambient temperature	[°C]	0 +60				
Corrosion resistance class CF	RC <sup>1)</sup>	1				

1) Corrosion resistance class CRC 1 to Festo standard FN 940070 Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive

Materials	
Housing	Aluminium, nickel-plated brass
Seals	NBR
Note on materials	RoHS-compliant



Ordering data							
Allocation of suction cup holders	D1	D2	L1	L2	Weight	Part No.	Туре
	Ø				[g]		
Size 3	15	M4	23	4	9	191205	ESWA-3
C: /	20	NA.C	20 5	6	19	191206	ESWA-4
Size 4	20	M6	28.5	0	19	191200	ESWA-4