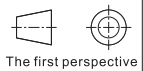
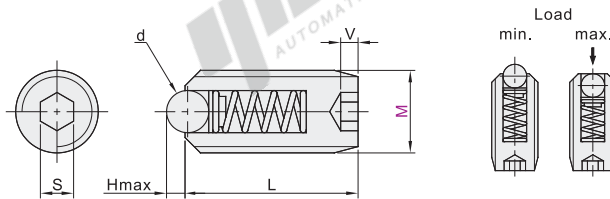


Stainless Steel Type, Metal Ball&Plastic Ball ▶ Stainless Steel Long Type, Metal Ball ▶

Ball Plungers

Stainless Steel Type

Code	Type	Load	Body Material	Ball Material	Ball Hardness	Spring Material	Operating Temperature
ZAF01	Stainless Steel Type	Ultra Light Load	SUS304	SUS440C	56HRC~	SUS631J1	-30~260°C
ZAF02		Light Load					
ZAF03		Heavy Load					
ZAF04		Extra Heavy Load					
ZAF21	Plastic Ball	Ultra Light Load	Polyacetal				-30~80°C
ZAF22		Light Load					
ZAF23		Heavy Load					
ZAF24		Extra Heavy Load					



Part Number		Metal Ball		Plastic Ball		L	V	S	Load(N)										
Code	M	d	H	d	H				Ultra Light Load	Light Load(ZAF02)	Light Load(ZAF22)	Heavy Load	Extra Heavy Load						
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.				
Metal Ball ZAF01 ZAF02 ZAF03 ZAF04	Plastic Ball ZAF21 ZAF22 ZAF23 ZAF24	3	1.5	0.7	—	—	7	1	1.5	0.3	0.64	1	2	—	—	1.5	2.9	2.2	5
		4	2	0.8	2.4	0.8	9	1.5	2	0.5	1.7	1.8	5	1.9	5	3.8	9.9	2.5	12.5
		5	2.5	0.95		0.95	12	2	2.5	0.9	3.22	3.2	9.9	2.8	9.9	4.8	19.7	11.2	24.1
		6	3	1.3		1.3	13	2.5	3	1.5	4.95	5	15.4	4.8	14.8	9.7	29.5	17.7	33.4
		8	5	1.8	4	1.8	15		4	2.3	6.46	5.4	19.2	6.8	19.7	12.6	39.3	21.4	45.3
		10	6	2.2	4.8	2.2	16		5	2.9	8.2	8.8	24.2	8.7	24.6	18.5	49.1	23.5	60.7
		12	8	2.8	7.1	2.8	20	3	6	3.4	9.78	10.4	29.4	9.7	29.5	19.5	58.9	24.1	63.7
		16	10	4	9.5	4	25		8	5.6	15.9	14.8	49	15.6	49.1	29.3	98.1	43.6	116.3

❗ Plastic ball are not for M3.

❗ Thread-locking adhesive not applied.

$Kgf=N \times 0.101972$



Part Number	M	d
ZAF01	3	1.5
ZAF02	4	2
ZAF03	5	2.5

ZAF01 — M4



Discount price
Per 1~29 30~
Price 100% Additional quotation



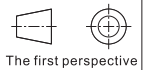
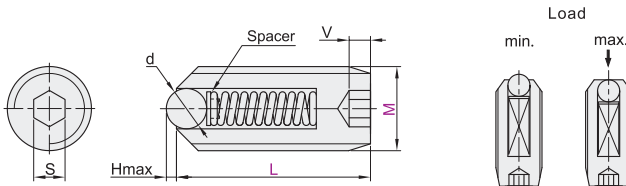
ZAF04/21/24



The Remaining

Stainless Steel Long Type

Code	Type	Load	Body Material	Ball Material	Ball Hardness	Spring Material	Spacer Material	Operating Temperature
ZAD31	Stainless Steel Long Type	Ultra Light Load	SUS304	SUS440C	55HRC~	SUS631J1	SUS304	-30~140°C
ZAD32		Light Load						
ZAD33		Heavy Load						
ZAD34		Extra Heavy Load						



Part Number		L	d	H	V	S	Load(N)							
							Ultra Light Load ZAD31		Light Load ZAD32		Heavy Load ZAD33		Extra Heavy Load ZAD34	
Code	M						min.	max.	min.	max.	min.	max.	min.	max.
Metal Ball ZAD31 ZAD32 ZAD33 ZAD34	3	20 30	1.5	0.5	1	1.5	0.4	0.75	1.1	2.1	1.6	3	2.3	5.1
	4	20 30	2.4	0.7	1.5	2	0.7	1.72	2	5	4	9.9	2.6	12.6
	5	30 40	3	0.8	2	2.5	1.2	3.31	3.4	9.9	5	19.7	11.3	24.2
	6	30 40	3.5	1.2	2.5	3	1.8	5.06	5.2	15.4	9.9	29.5	17.8	33.5
	8	40 50	5	2		4	2.6	6.66	5.6	19.2	12.8	39.3	21.5	45.4
	10	40 50	6	2.5	5	3.3	8.1	9	24.2	18.7	49.1	23.6	60.1	
	12	50 60	8	3	3	6	3.6	9.9	10.6	29.4	19.7	58.9	24.2	63.8
	16	50 60	10	4		8	6.2	15.7	15	49	29.5	98.1	43.7	116.4

❗ M3 and M4 have no slits for a screwdriver on the tip. It can be installed only by using an allen wrench.

$Kgf=N \times 0.101972$

❗ Min. load is the initial load, and max. load is the one when the tip is fully compressed.



Part Number	M	L
ZAD31	3	20 30
ZAD32	4	20 30

ZAD31 — M4 — L20



Discount price
Per 1~29 30~
Price 100% Additional quotation



12