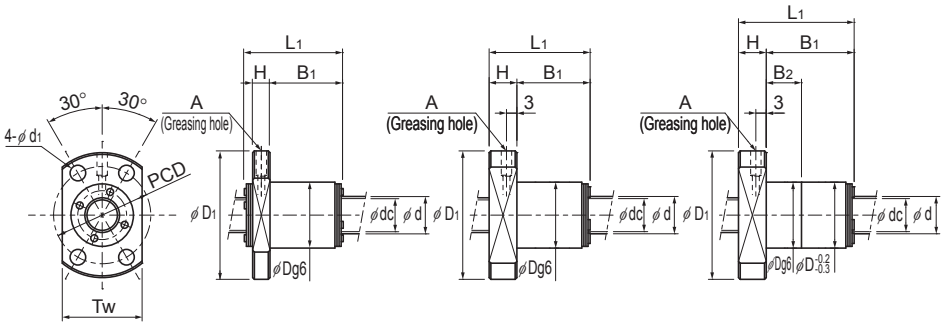
SDA-V/SDA-VZ
With Preload/No Preload

DN value	SDA-V (With Retainer)	160000
	SDA-VZ (Full-Ball)	100000



SDA1004VZ/ 1005VZ/1010VZ

SDA1205VZ/1210VZ

SDA1220VZ/1230VZ

Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Screw shaft Thread minor diameter dc	No. of loaded circuits Rows × turns	Basic load rating SDA-V (With Retainer) Ca kN	Basic load rating SDA-V (With Retainer) C0a kN	Basic load rating SDA-VZ (Full-Ball) Ca kN	Basic load rating SDA-VZ (Full-Ball) C0a kN	Rigidity SDA-V (With Retainer) K N/μm	Rigidity SDA-VZ (Full-Ball) K N/μm
✻ SDA 1004VZ-4	10	4	10.4	8.77	1×4	—	—	3.54	5.42	—	143
✻ SDA 1005VZ-4	10	5	10.4	8.77	1×4	—	—	3.53	5.44	—	143
✻ SDA 1010VZ-3	10	10	10.4	8.77	1×3	—	—	2.63	3.86	—	108
✻ SDA 1205VZ-3	12	5	12.5	10.1	1×3	—	—	4.99	7.02	—	128
✻ SDA 1210VZ-2	12	10	12.5	10.1	1×2	—	—	3.31	4.25	—	83
✻ SDA 1220VZ-2	12	20	12.5	10.1	1×2	—	—	3.13	4.63	—	87
✻ SDA 1230VZ-2	12	30	12.5	10.1	1×2	—	—	2.92	4.14	—	91
SDA 1405V-4	14	5	14.5	12.1	1×4	7.4	10.1	7.1	11.3	178	196
SDA 1505V-3	15	5	15.5	13.1	1×3	5.9	7.9	5.6	8.8	140	153
SDA 1510V-3	15	10	15.5	13.1	1×3	5.8	7.6	5.5	8.4	141	154
SDA 1520V-4	15	20	15.5	13.1	2×2	6.8	10.1	6.5	11.2	181	198
SDA 1530V-4	15	30	15.5	13.1	2×2	6.5	8.8	6.2	9.7	188	205
SDA 1605V-3	16	5	16.5	14.1	1×3	6	8.4	5.8	9.4	147	162
SDA 1610V-3	16	10	16.5	14.1	1×3	6	8.1	5.7	9	148	163
SDA 1616V-3	16	16	16.5	14.1	1×3	5.9	8.4	5.6	9.2	151	165

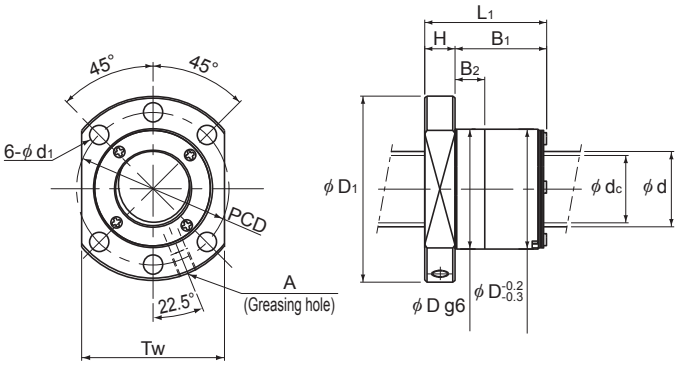
Note) Models marked with an asterisk (✻) in the dimension table are only compatible with Model SDA-VZ (full-ball type).

Model number coding

SDA1510V Z -3 TT G0 +600L C5

- SDA1510V — Model No.
- Z — Full-Ball type code (No code for retainer type)
- -3 — Number of turns
- TT — Contamination protection accessory symbol (*1)
- G0 — Axial direction clearance code (*2) (Preloaded products: GO Clearance, Non-preloaded products: GT Clearance)
- +600L — Overall screw shaft length (in mm)
- C5 — Accuracy symbol (*3)

(*1) See A15-308. (*2) See A15-19. (*3) See A15-12.



SDA1405V/1505V/1510V/1520V/
1530V/1605V/1610V/1616V

Unit: mm

Nut dimensions										Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible Rotational Speed	
Outer diameter	Flange diameter	Overall length							Greasing hole				SDA-V (With Retainer)	SDA-VZ (Full-Ball)
D	D_1	L_1	H	B_1	B_2	PCD	d_1	T_W	A	kg•m²/mm	kg	kg/m	min⁻¹	min⁻¹
19	36	24	6	16	—	28	4.5	23	φ3	7.71×10^{-9}	0.047	0.577	—	5000
19	36	28	6	20	—	28	4.5	23	φ3	7.71×10^{-9}	0.052	0.585	—	5000
19	36	37	6	29	—	28	4.5	23	φ3	7.71×10^{-9}	0.066	0.600	—	5000
24	40	25	8	17	—	32	4.5	26	φ3	1.60×10^{-8}	0.07	0.80	—	5000
24	40	29	8	21	—	32	4.5	26	φ3	1.60×10^{-8}	0.08	0.84	—	5000
24	40	47	8	39	20	32	4.5	26	φ3	1.60×10^{-8}	0.13	0.86	—	5000
24	40	65	8	57	20	32	4.5	26	φ3	1.60×10^{-8}	0.17	0.87	—	5000
26	48	30	10	20	10	38	5.5	40	M6	2.96×10^{-8}	0.14	1.10	5000	5000
28	48	25	10	15	12.5	38	5.5	40	M6	3.90×10^{-8}	0.13	1.27	5000	5000
28	48	38	10	28	25.5	38	5.5	40	M6	3.90×10^{-8}	0.17	1.33	5000	5000
28	48	46	10	36	20	38	5.5	40	M6	3.90×10^{-8}	0.19	1.33	5000	5000
28	48	65	10	55	20	38	5.5	40	M6	3.90×10^{-8}	0.25	1.34	5000	5000
28	48	25	10	15	12.5	38	5.5	40	M6	5.05×10^{-8}	0.13	1.46	5000	5000
28	48	39	10	29	26.5	38	5.5	40	M6	5.05×10^{-8}	0.16	1.52	5000	5000
28	48	56	10	46	20	38	5.5	40	M6	5.05×10^{-8}	0.21	1.54	5000	5000

Axial Clearance

Unit: mm

Clearance symbol	G0	GT
Axial Clearance	0 or less	0 to 0.005

Note)See A**15-19** for the axial direction clearance for models SDA1205VZ to SDA1230VZ.
The overall length of the nut will increase when equipping the QZ lubricating device. See A**15-318** for further details.
It is not possible to chamfer both ends of the screw shaft. When designing your system this way, contact THK.

The rigidity values (K) in the table represent spring constants, each obtained from the load and the elastic deformation under an axial load equal to 30% of the basic axial dynamic load rating (Ca).
These values do not include the rigidity of the components related to mounting the ball screw nut. Therefore, it is normally appropriate to regard roughly 80% of the rigidity value (K) in the table as the actual value.
If the axial load (Fa) is not 0.3 Ca, the rigidity value (K_N) is obtained from the following equation.

$$K_N = K\left(\frac{Fa}{0.3Ca}\right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table.

Options⇒A15-307