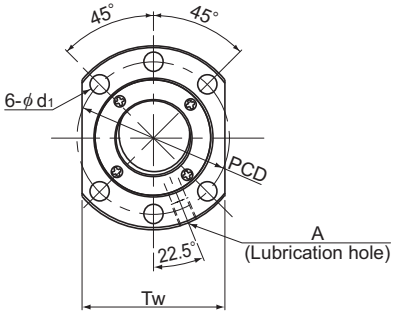
SDA-V/SDA-VZ
With Preload/No Preload

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



Model No.	Screw shaft outer diameter	Lead	Ball center-to-center diameter	Screw shaft thread minor diameter	No. of loaded circuits	Basic load rating				Rigidity	
						SDA-V (Caged Ball)		SDA-VZ (Full-Ball)		SDA-V (Caged Ball)	SDA-VZ (Full-Ball)
						Ca	C0a	Ca	C0a	K	K
	d	Ph	dp	dc	Rows × turns	kN	kN	kN	kN	N/μm	N/μm
SDA 2004V-4	20	4	20.5	18.1	1×4	8.8	14.7	8.3	16.2	239	260
SDA 2005V-3	20	5	20.75	17.1	1×3	11.7	17.7	11.1	18.9	200	213
SDA 2006V-4	20	6	20.75	17.1	1×4	15.3	24.1	14.5	25.9	269	287
SDA 2010V-3	20	10	20.75	17.1	1×3	11.6	17.7	11	19	200	213
SDA 2010V-6	20	10	20.75	17.1	2×3	21	35.3	20	38.1	386	413
SDA 2020V-3	20	20	20.75	17.1	1×3	11.4	17.2	10.8	18.5	203	217
SDA 2020V-6	20	20	20.75	17.1	2×3	20.6	34.5	19.6	37	394	420
SDA 2030V-2	20	30	20.75	17.1	1×2	7.4	11.5	7	12.3	135	143
SDA 2040V-2	20	40	20.75	17.1	1×2	7.1	9.7	6.8	10.4	137	147
SDA 2505V-3	25	5	25.75	22.1	1×3	12.9	22	12.3	23.7	237	254
SDA 2510V-3	25	10	25.75	22.1	1×3	12.8	22	12.2	23.8	237	254
SDA 2520V-3	25	20	25.75	22.1	1×3	12.7	21.3	12.1	22.9	241	257
SDA 2525V-3	25	25	25.75	22.1	1×3	12.5	21.6	11.9	23.3	243	259
SDA 2530V-2	25	30	25.75	22.1	1×2	8.3	13.9	7.9	14.9	158	168
SDA 2530V-4	25	30	25.75	22.1	2×2	15.1	27.8	14.4	29.8	305	325
SDA 2550V-2	25	50	25.75	22.1	1×2	7.8	12.1	7.5	13.1	163	176

Model number coding

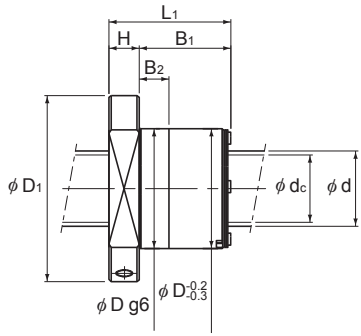
SDA2005V Z -3 TT G0 +830L C5

- SDA2005V: Model No.
- Z: Full-ball type code (No code for caged ball 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)
- +830L: Overall screw shaft length (in mm)
- C5: Accuracy symbol (*3)

(*1) See **A15-334**. (*2) See **A15-19**. (*3) See **A15-12**.

Download data by searching for the corresponding model number on the Technical Support site. https://tech.thk.com

Positioning, ISO 3408 compliant



Unit: mm

Nut dimensions										Screw shaft inertial moment/mm	Nut mass	Shaft mass	Permissible rotational speed	
Outer diameter	Flange diameter	Overall length							Lubrication hole				SDA-V (Caged Ball)	SDA-VZ (Full-Ball)
D	D1	L1	H	B1	B2	PCD	d1	Tw	A	kg·m²/mm	kg	kg/m	min⁻¹	min⁻¹
32	58	27	10	17	14.5	47	6.6	44	M6	1.23×10⁻⁷	0.17	2.27	5000	4870
36	58	27	10	17	13.5	47	6.6	44	M6	1.23×10⁻⁷	0.18	2.21	5000	4810
36	58	35	10	25	22.2	47	6.6	44	M6	1.23×10⁻⁷	0.22	2.23	5000	4810
36	58	40	10	30	27	47	6.6	44	M6	1.23×10⁻⁷	0.25	2.34	5000	4810
36	58	40	10	30	27	47	6.6	44	M6	1.23×10⁻⁷	0.25	2.18	5000	4810
36	58	67	10	57	20	47	6.6	44	M6	1.23×10⁻⁷	0.39	2.4	5000	4810
36	58	67	10	57	20	47	6.6	44	M6	1.23×10⁻⁷	0.38	2.31	5000	4810
36	58	66	10	56	20	47	6.6	44	M6	1.23×10⁻⁷	0.38	2.42	5000	4810
36	58	84	10	74	20	47	6.6	44	M6	1.23×10⁻⁷	0.47	2.43	5000	4810
40	62	27	10	17	13.5	51	6.6	48	M6	3.01×10⁻⁷	0.2	3.53	5000	3880
40	62	40	10	30	27	51	6.6	48	M6	3.01×10⁻⁷	0.28	3.7	5000	3880
40	62	67	10	57	20	51	6.6	48	M6	3.01×10⁻⁷	0.42	3.78	5000	3880
40	62	82	10	72	20	51	6.6	48	M6	3.01×10⁻⁷	0.5	3.79	5000	3880
40	62	66	10	56	20	51	6.6	48	M6	3.01×10⁻⁷	0.41	3.8	5000	3880
40	62	66	10	56	20	51	6.6	48	M6	3.01×10⁻⁷	0.41	3.71	5000	3880
40	62	102	10	92	20	51	6.6	48	M6	3.01×10⁻⁷	0.61	3.83	5000	3880

Axial Clearance

Unit: mm

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

Note)The overall length of the nut will increase when equipping the QZ lubricating device. See **A15-344** 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⇒A15-333