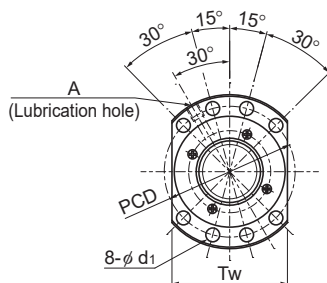


# SDAN-V

## With Preload/No Preload

DN value	SDAN-V (Caged Ball)	160,000
	SDAN-VX (Full-Ball)	130,000



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	No. of loaded circuits Rows X turns	Basic load rating				Rigidity	
						SDAN-V (Caged Ball)		SDAN-VX (Full-Ball)		SDAN-V (Caged Ball)	SDAN-VX (Full-Ball)
						Ca kN	C <sub>0a</sub> kN	Ca kN	C <sub>0a</sub> kN	K N/μm	K N/μm
SDAN 4510V-5	45	10	46	39.4	1×5	68.7	139.4	65.4	146.5	1,434	1,499
SDAN 4510VA-5	45	10	46.75	40.2	1×5	69.2	142.2	65.9	149	1,457	1,519
SDAN 4512V-5	45	12	46	39.4	1×5	68.6	139.4	65.4	146.7	1,433	1,500
SDAN 4512VA-5	45	12	46.75	40.2	1×5	69.2	142.2	65.9	149.2	1,457	1,519
SDAN 4516V-5	45	16	46	39.4	1×5	68.5	140.7	65.3	147	1,444	1,501
SDAN 4516VA-5	45	16	46.75	40.2	1×5	69	142.2	65.8	149.5	1,455	1,521
SDAN 4520V-5	45	20	46	39.4	1×5	68.4	140.7	65.1	147.5	1,442	1,504
SDAN 4520VA-5	45	20	46.75	40.2	1×5	68.9	143.6	65.6	150	1,465	1,524
SDAN 5010V-5	50	10	51	44.4	1×5	72	155.2	68.6	163.2	1,559	1,630
SDAN 5010VA-5	50	10	51.75	45.2	1×5	72.5	158.1	69	165.7	1,582	1,650
SDAN 5012V-5	50	12	51	44.4	1×5	72	155.2	68.5	163.3	1,559	1,631
SDAN 5012VA-5	50	12	51.75	45.2	1×5	72.4	158.1	69	165.9	1,582	1,651
SDAN 5016V-5	50	16	51	44.4	1×5	71.9	156.6	68.4	163.7	1,570	1,633
SDAN 5016VA-5	50	16	51.75	45.2	1×5	72.3	158.1	68.9	166.2	1,580	1,652
SDAN 5020V-5	50	20	51	44.4	1×5	71.7	156.6	68.3	164.2	1,568	1,635
SDAN 5020VA-5	50	20	51.75	45.2	1×5	72.2	159.4	68.8	166.7	1,591	1,654
SDAN 5025V-4	50	25	51	44.4	1×4	58.2	123.6	55.5	129.8	1,249	1,304
SDAN 5025VA-4	50	25	51.75	45.2	1×4	58.6	125.1	55.8	131.7	1,260	1,319
SDAN 5030V-4	50	30	51	44.4	1×4	58	117.5	55.3	122.6	1,258	1,307
SDAN 5030VA-4	50	30	51.75	45.2	1×4	58.4	118.9	55.7	124.5	1,269	1,322
SDAN 5040V-3	50	40	51	44.4	1×3	43.9	86.5	41.8	90.7	934	974
SDAN 5040VA-3	50	40	51.75	45.2	1×3	44.2	87.9	42.1	92	946	985

### Model number coding

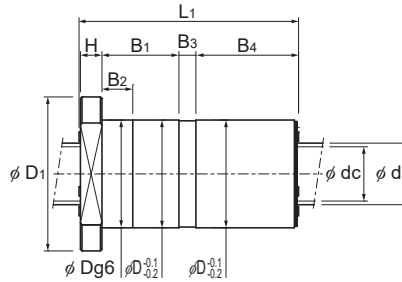
**SDAN4510V X -5 TT G0 +830L C5**

Model No.      Number of turns      Overall screw shaft length (in mm)      Accuracy symbol (\*2)

Full-ball type code (No code for caged ball type)

Contamination protection accessory symbol (\*1)      Symbol for clearance in the axial direction (G0 for all SDAN-V variations)

(\*1) See **A15-354**. (\*2) See **A15-12**.



Unit: mm

Nut dimensions													Screw shaft inertial moment/mm <sup>2</sup>	Nut mass/kg	Shaft mass/kg/m	Permissible rotational speed	
Outer diameter/D	Flange diameter/D <sub>1</sub>	Overall length/L <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	PCD	d <sub>1</sub>	T <sub>w</sub>	Lubrication hole/A	SDAN-V (Caged Ball)				SDAN-VX (Full-Ball)	
												kg·m <sup>2</sup> /mm				min <sup>-1</sup>	min <sup>-1</sup>
70	105	135	16	45	20	11	62	88	11	80	M8×1	3.16×10 <sup>-6</sup>	2.47	11.16	3,470	2,820	
75	110	135	16	45	20	11	62	93	11	85	M8×1	3.16×10 <sup>-6</sup>	3.05	11.4	3,420	2,780	
70	105	158	16	54	20	15.6	72	88	11	80	M8×1	3.16×10 <sup>-6</sup>	2.84	11.38	3,470	2,820	
75	110	158	16	54	20	15.6	72	93	11	85	M8×1	3.16×10 <sup>-6</sup>	3.5	11.58	3,420	2,780	
70	105	189	16	73	20	8.8	90	88	11	80	M8×1	3.16×10 <sup>-6</sup>	3.36	11.67	3,470	2,820	
75	110	189	16	73	20	8.8	90	93	11	85	M8×1	3.16×10 <sup>-6</sup>	4.15	11.82	3,420	2,780	
70	105	232	16	92	20	14	109	88	11	80	M8×1	3.16×10 <sup>-6</sup>	4.03	11.84	3,470	2,820	
75	110	232	16	92	20	14	109	93	11	85	M8×1	3.16×10 <sup>-6</sup>	5	11.96	3,420	2,780	
75	110	135	16	45	20	11	62	93	11	85	M8×1	4.82×10 <sup>-6</sup>	2.69	13.93	3,130	2,540	
82	118	135	16	45	20	11	62	100	11	92	M8×1	4.82×10 <sup>-6</sup>	3.58	14.2	3,090	2,510	
75	110	158	16	54	20	15.6	72	93	11	85	M8×1	4.82×10 <sup>-6</sup>	3.08	14.19	3,130	2,540	
82	118	158	16	54	20	15.6	72	100	11	92	M8×1	4.82×10 <sup>-6</sup>	4.12	14.41	3,090	2,510	
75	110	189	16	73	20	8.8	90	93	11	85	M8×1	4.82×10 <sup>-6</sup>	3.65	14.5	3,130	2,540	
82	118	189	16	73	20	8.8	90	100	11	92	M8×1	4.82×10 <sup>-6</sup>	4.89	14.67	3,090	2,510	
75	110	232	16	92	20	14	109	93	11	85	M8×1	4.82×10 <sup>-6</sup>	4.39	14.69	3,130	2,540	
82	118	232	16	92	20	14	109	100	11	92	M8×1	4.82×10 <sup>-6</sup>	5.89	14.83	3,090	2,510	
75	110	235	16	90	20	20.5	108	93	11	85	M8×1	4.82×10 <sup>-6</sup>	4.41	14.82	3,130	2,540	
82	118	235	16	90	20	20.5	108	100	11	92	M8×1	4.82×10 <sup>-6</sup>	5.93	14.95	3,090	2,510	
75	110	265	16	110	20	10.7	128	93	11	85	M8×1	4.82×10 <sup>-6</sup>	4.96	14.92	3,130	2,540	
82	118	265	16	110	20	10.6	128	100	11	92	M8×1	4.82×10 <sup>-6</sup>	6.67	15.03	3,090	2,510	
75	110	268	16	108	20	17.5	126	93	11	85	M8×1	4.82×10 <sup>-6</sup>	4.98	15.06	3,130	2,540	
82	118	269	16	108	20	17.3	126	100	11	92	M8×1	4.82×10 <sup>-6</sup>	6.72	15.13	3,090	2,510	

Axial Clearance

Unit: mm

Clearance symbol	G0
Axial clearance	0 or less

Note: L<sub>1</sub> and B<sub>i</sub> dimensions in the dimensional table are those when a thin film seal has been installed.

At least one end of the shaft must accommodate the insertion of the nut onto the ball screw threads for assembly. Please contact THK if this impacts your desired system design.

The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation under an axial load equal to 3 times the applied preload, which itself is 10% 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 in the table as the actual value.

If the axial load (Fa) is not 10% of Ca, the rigidity value (Kn) is obtained from the following formula.

$$K_N = K \left( \frac{F_{a0}}{0.1C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table