

# Knuckle Joints

## Extra Short / Tool-Less Type

Feature: Extra Short Type that can be used in space saving applications.

**Knuckle Joints – Extra Short Type**

RoHS 10

Type	Material	Surface Treatment
NJCB	1045 Carbon Steel or Equivalent	Black Oxide
NJCM	1045 Carbon Steel or Equivalent	Electroless Nickel Plating
NJCS	304 Stainless Steel	—

Part Number Type	M-Pitch	A	B	d	F	W	P	T	P <sub>1</sub>	a	S	S <sub>1</sub>	(C)	d <sub>1</sub>	d <sub>2</sub>	H	Mass (g)
NJCB NJCM NJCS	3-0.5	18	10.5	5	11	19	13.5	5.5	8	0.3	4	5	11.6	2.8	4.5	3	21
	4-0.7	19	11.5		12	20.5	15	7.5	9.5			5.5	12.7				26
	5-0.8	20	12.5		13	25.5	18	10.5	13			6	13.9				36
	6-1.0	24	17	8	16	34	26	8	18		7	8.5	19.6	3.5	6.5	3.5	39
	8-1.0	30	20.5	10	20	38	29	9	20		8	10.5	24.3	4.5	8	4.5	82
	10-1.25	36	25	12	24	44	34	10	24		10	12.5	28.9	5.5	9.5	5.5	139
	12-1.25	42	28.5	14	28	52	40	12	28		11	14.5	33.5	5.5	9.5	5.5	230
	14-1.5	48	33	16	32	60	46	14	32		13	16	37	5.5	9.5	5.5	365
	16-1.5	54	36	18	36	68	52	16	36		14	18	41.6	5.5	9.5	5.5	542
	18-1.5																

**Part Number Example**

Part Number: NJCS10-1.25, NJCB18-1.5

**Features**

Compared with the conventional knuckle joints.

- Suitable for use in limited space.
- Supporting shaft is incorporated.
- A reduced number of component parts allows easy assembly.

**Conventional Knuckle Joint**

**Knuckle Joint Extra Short Type**

**Knuckle Joints – Tool-Less Type**

RoHS 10

Type Set	Material		Surface Treatment
	Main Body	Spring Pin	
NJUT	1045 Carbon Steel or Equivalent	304 Stainless Steel	Trivalent Chromate
NJUTS	304 Stainless Steel	304 Stainless Steel	—

**Set**

**Spring Pin Only**

Part Number Type	M	M x Pitch	D <sub>±0.1</sub>	B <sub>±0.2</sub>	U	A	L	L <sub>1</sub>	D <sub>1</sub>	E	X
Set NJUT NJUTS	4	M4 x 0.7	4.2	4.3	6	21	16	13	11	8.5	8
	5	M5 x 0.8	6.8	5.3	12	31	24	22	16	12.5	9
	6	M6 x 1.0	6.8								
	8	M8 x 1.25	8.3	20	52	42	38	26	21	14	
	10	M10 x 1.25	10.3								

Applicable M to Set	-0.03 D <sub>1</sub> -0.07	A <sub>1</sub>	B <sub>1</sub>	Y	L <sub>2</sub>	L <sub>3</sub>	H	F	G	S	R	C
4	4	9.5	5	3	18	13	4	3	3	6	4.5	1
5 or 6	6.5	14	7	4	28	18	6	4	5	6	6.5	1.5
8 or 10	10	20	10	6	48	28	8	4	6	10	11	2

**Part Number Example**

Part Number: NJUT6

**Features**

Quick assembly (removal) is possible.

# Knuckle Joints

## Fixed

**Knuckle Joints – Fixed**

RoHS 10

**T-Shaped NJT, NJTSS**

**U-Shaped NJTW, NJTWS**

**No.3A or 4A, No.1–No.4**

**No.5C or No.6C**

**No.3A or 4A, No.1–No.4**

**No.5C or No.6C**

Type	No.	Material	Surface Treatment
NJT	3A, 4A 1-4	1018 Carbon Steel or Equivalent	Nickel Plating (White)
NJTSS	3A, 4A 1-6C	304 Stainless Steel	Black Zinc Chromate for No.2 only
NJTWS	5C, 6C	60-40-18 Cast Iron	Amino-alkyd Enamel and Varnish
NJTWS	5C, 6C	60-40-18 Cast Iron	Amino-alkyd Enamel and Varnish

Material and accessory tolerance of NJT (NJTWS) 5C and 6C are 60-40-18 Cast Iron and De8, respectively.

Part Number Type	No.	Applicable Cylinders Inner Diameter (mm)	A	ℓ	E	L	M	R	U	D <sub>H10</sub>	B	
											Tolerance	C
NJT NJTSS	3A	6	18.5	5	8	14	M3 x 0.5	5.5	5	4	+0.048	4
	4A	10					M4 x 0.7				0	
	1	12	21.5	6	10	16	M5 x 0.8	7	7	5	+0.048	5
	2	16	32	8	12	25	M6 x 1	8.5	14	5	0	6.4
	3	20	34	8.5	16		M8 x 1.25	11	11.5	8	+0.058	8
	4	25	41	10.5	20	30	M10 x 1.25	14	14	10	+0.058	10
5C	32 or 40	42	14	22	40	M14 x 1.5	12	20	18	0	18	
6C	50 or 63	56	18	28		M18 x 1.5	16	20	14	+0.070	22	

I.D. (mm) of an applicable cylinder is for a compact cylinder. In the selection, please also check M (diameter of a mounting screw).  
No. 3A & 4A is not available for NJTSS.

Part Number Type	No.	Applicable Cylinders Inner Diameter (mm)	A	ℓ	E	L	M	R	U	D <sub>H10</sub>	B		C	L <sub>1</sub>
											Tolerance	C		
NJTWS	3A	6	18.5	5	8	14	M3 x 0.5	5.5	5	4	+0.048	4	8	12
	4A	10					M4 x 0.7				0			
	1	12	21.5	6	10	16	M5 x 0.8	7	7	5	+0.048	5	+0.4	10
	2	16	28	11	12	21	M6 x 1	8	14	5	0	6.5	+0.2	12
	3	20	34	8.5	16	25	M8 x 1.25	11	11.5	8	+0.058	8	+0.4	16
	4	25	41	10.5	20	30	M10 x 1.25	14	14	10	+0.058	10	+0.4	20
5C	32 or 40	42	16	22	40	M14 x 1.5	12	20	18	0	18	+0.5	36	
6C	50 or 63	56	20	28		M18 x 1.5	16	20	14	+0.070	22	+0.5	44	

I.D. (mm) of an applicable cylinder is for a compact cylinder. In the selection, please also check M (diameter of a mounting screw).  
\* The knuckle joint pin and retaining ring (2 pcs.) are included in the package of NJT, NJTSS, NJTW and NJTWS.

**Part Number Example**

Part Number: NJT8, NJT3A, NJTW5C

**Accessories**

**Application Example**

No.	Applicable Cylinders Inner Diameter (mm)	D <sub>±0.03</sub> or D <sub>±0.06</sub>	L <sub>1</sub>	d	L	N	M	Retaining Ring
3A	6	-0.030	12	3.8	8.2	1.9	0.5	C Type for Shaft 4
4A	10	-0.060	14.6	4.8	10.2	2.2	0.7	C Type for Shaft 5
1	12	-0.030	16.6	7.6	16.2	2.4	0.9	C Type for Shaft 8
2	16	-0.076	21	9.6	20.2	2.7	1.15	C Type for Shaft 10
3	20	-0.040	25.6	9.6	36.2			C Type for Shaft 14
4	25	-0.076	41.6	13.4	44.2	3.2		
5C	32, 40	-0.050	50.6					
6C	50, 63	-0.093	50.6					

Material: 1045 Carbon Steel or Equivalent  
Material: 304 Stainless Steel

D tolerance of NJT (NJTWS) 5C and 6C is D<sub>±0.025</sub> (10<sub>±0.047</sub> 14<sub>±0.032</sub> -0.059).

D tolerance of NJTSS (NJTWS) 5C and 6C is D<sub>±0.025</sub> (above table).