

**HIWIN®**

HIWIN TECHNOLOGIES CORP.



# ***Roller Screw***

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# Product Features

## ➤ Features

### High Load Capacity

About 1.5~2 times load capacity than general ball screw.

### Long Service Life

About 1.5~2 times service life than general ball screw.

### High Stiffness

About 1.5~2 times stiffness than general ball screw.

High  
Load Capacity

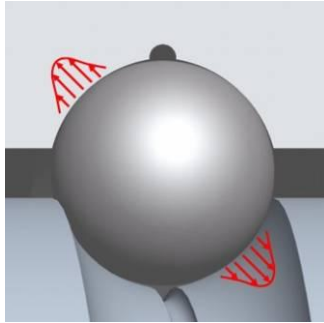
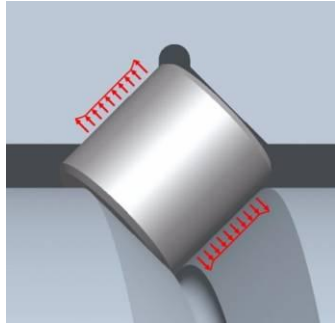


High  
Stiffness

Long  
Service Life

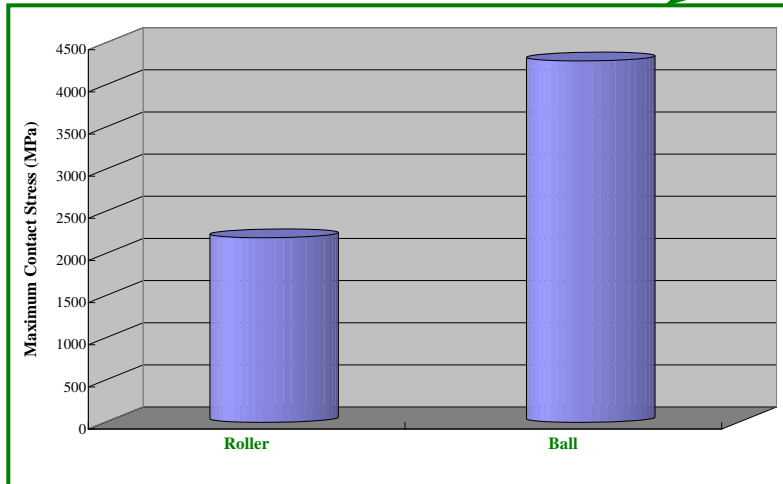
# Comparison

- Roller's contact stress and deformation (Hertz Contact Theory)

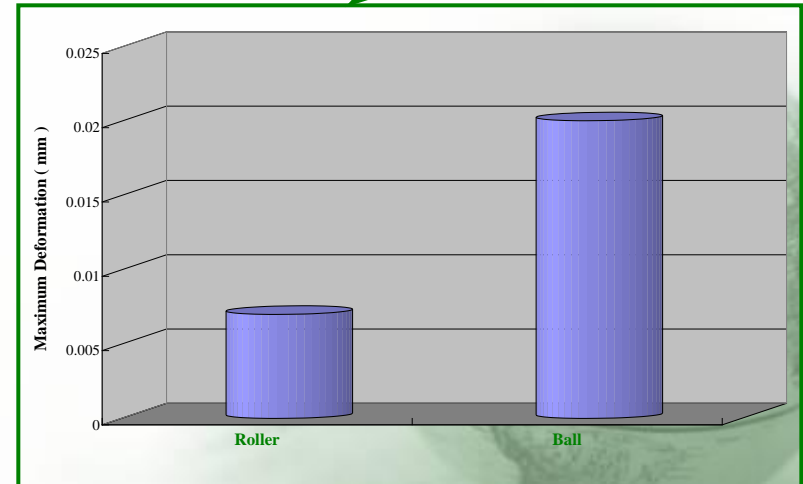


Maximum contact stress of ball is double of roller.

Maximum deformation of ball is triple of roller.



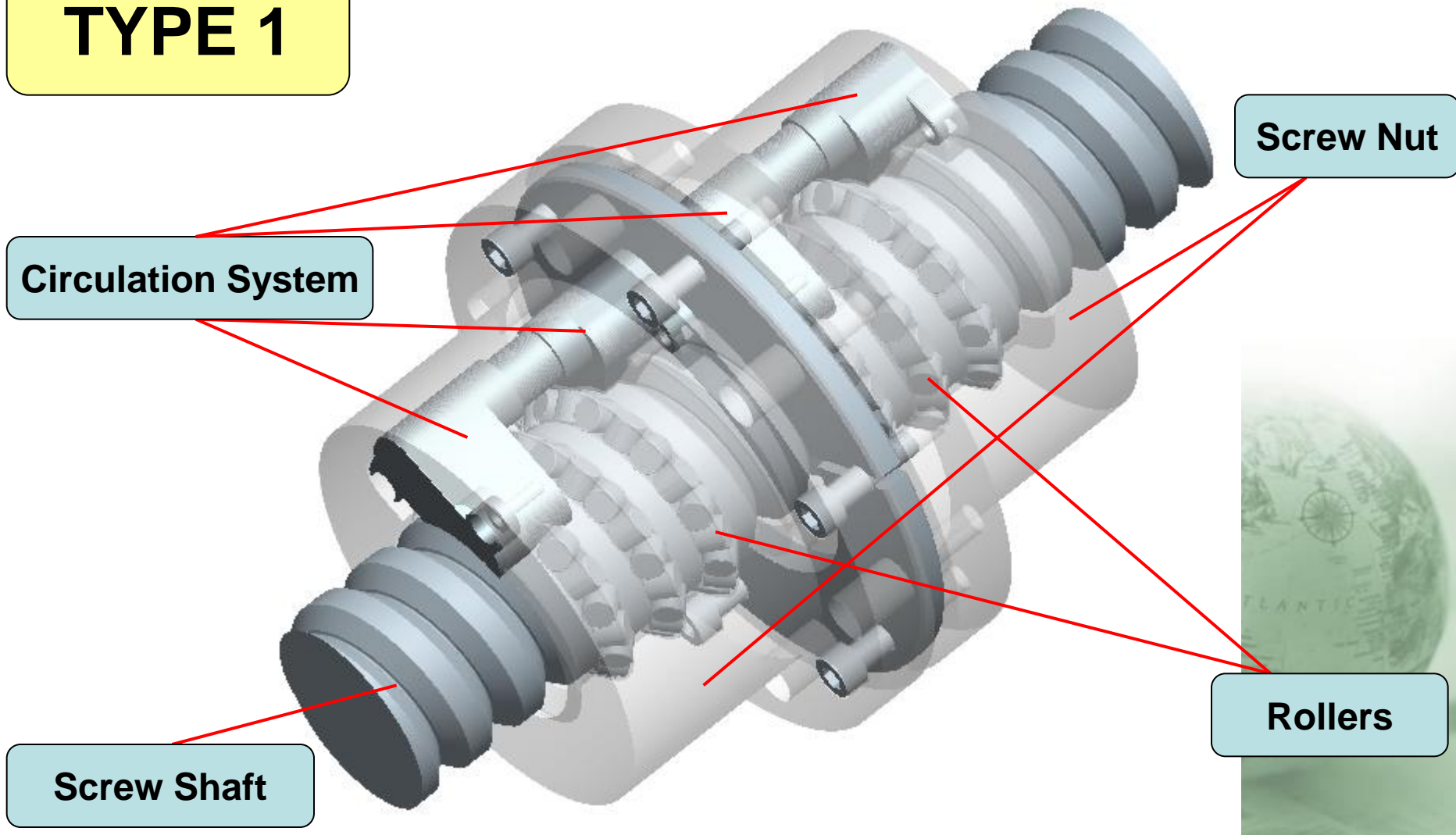
Maximum Contact Stress Comparison



Maximum Deformation Comparison

# ***Roller Screw***

## **TYPE 1**



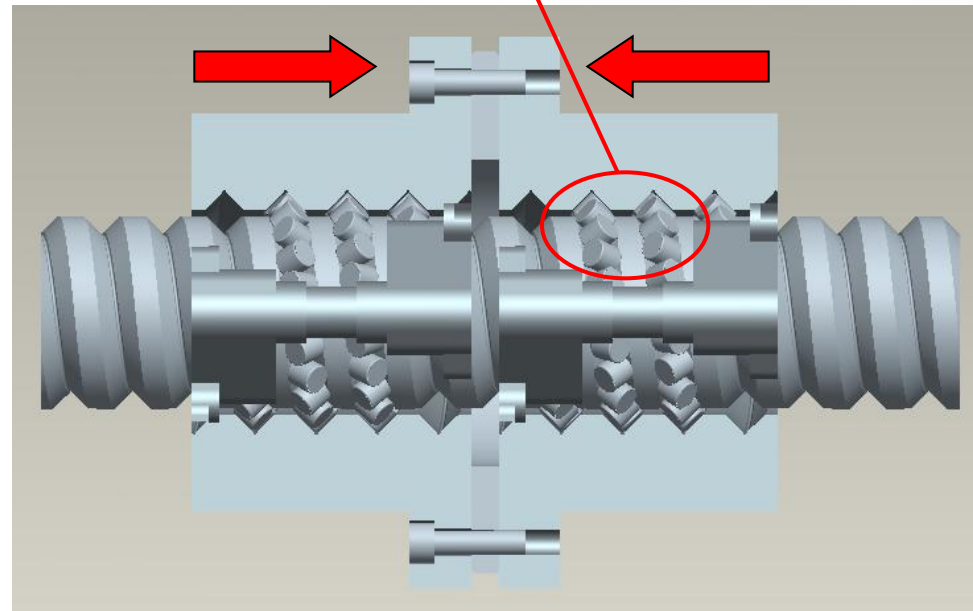
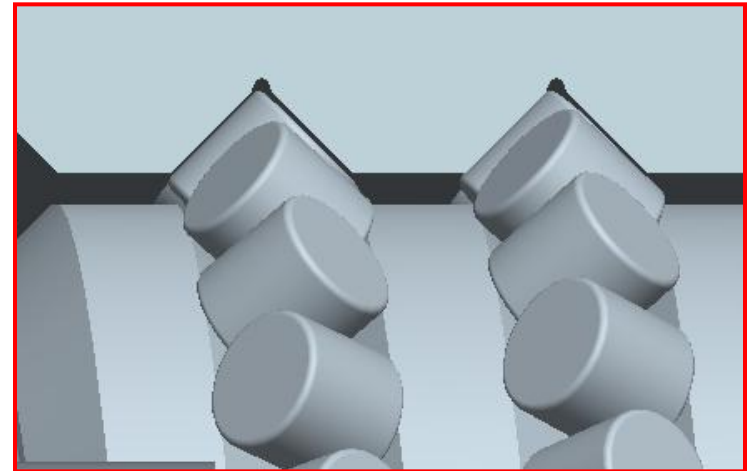
# ***Roller Screw***

- **Features**

- Each nut have a forward-motion load roller group and a backward-motion load roller group. Two groups rollers are separated from each other within the nut.
- The load capacity for the roller screw in the forward direction is the same as the backward direction.
- This type of roller screw can satisfy the requirement of high stiffness and precision position.

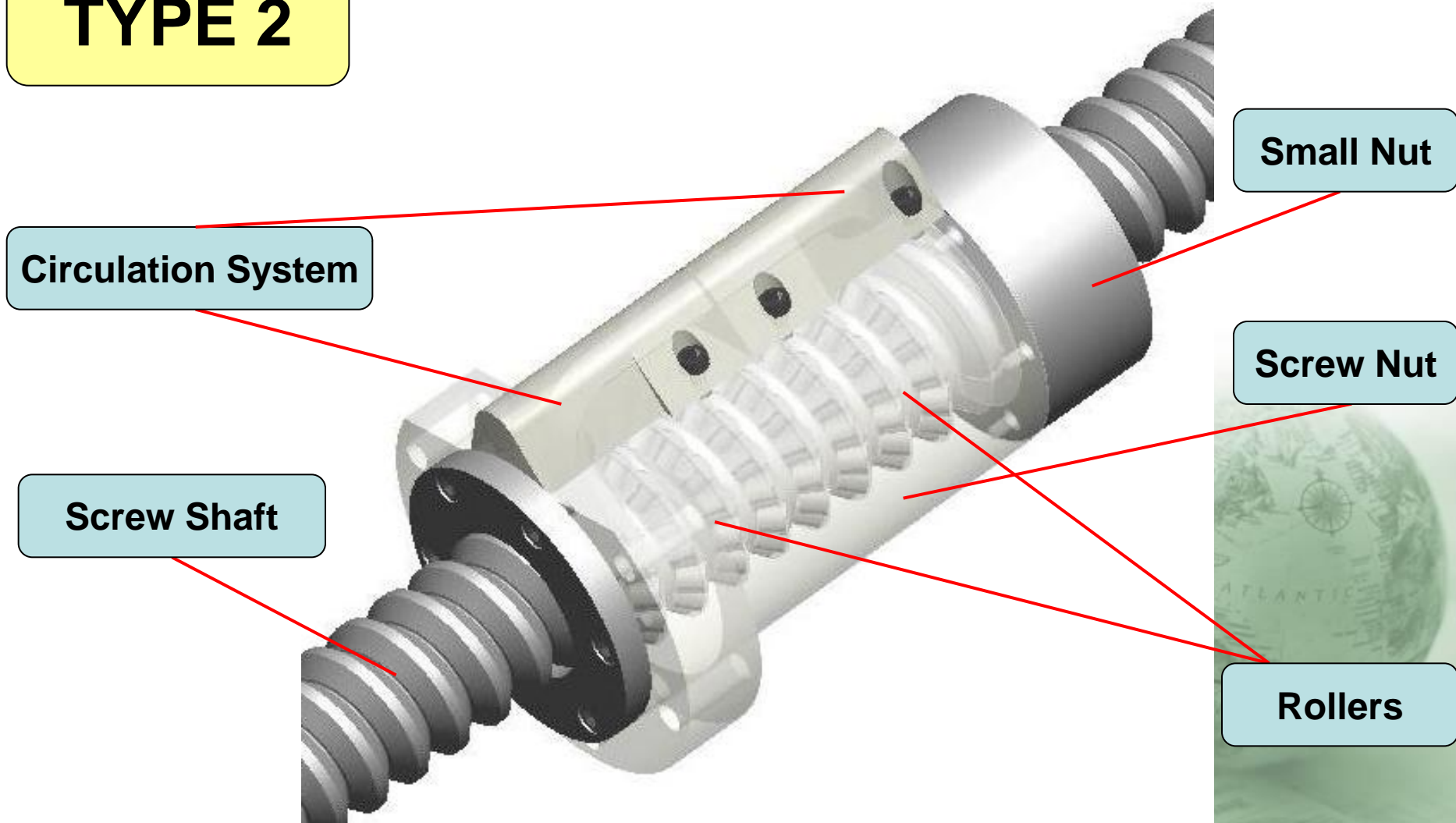
- **Application**

- CNC machinery 、 Precision machine Tools 、 Industrial Machinery.



# ***Roller Screw***

## **TYPE 2**





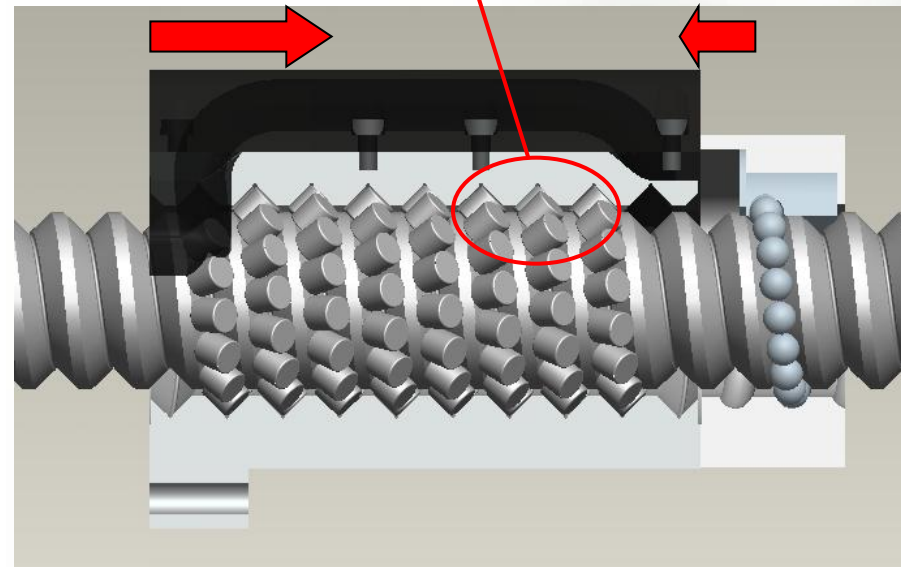
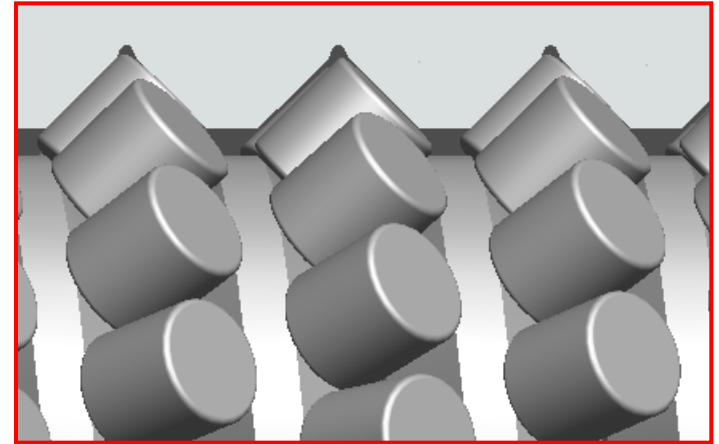
# ***Roller Screw***

## • Features

- A plurality of rollers to be arranged between nut and shaft in the same direction in order to endure the major axial load. The load in opposite direction will be applied on the balls between small nut and shaft.
- The roller screw could only endure the axial load in one direction.
- This type of roller screw can satisfy the requirement of heavy load.

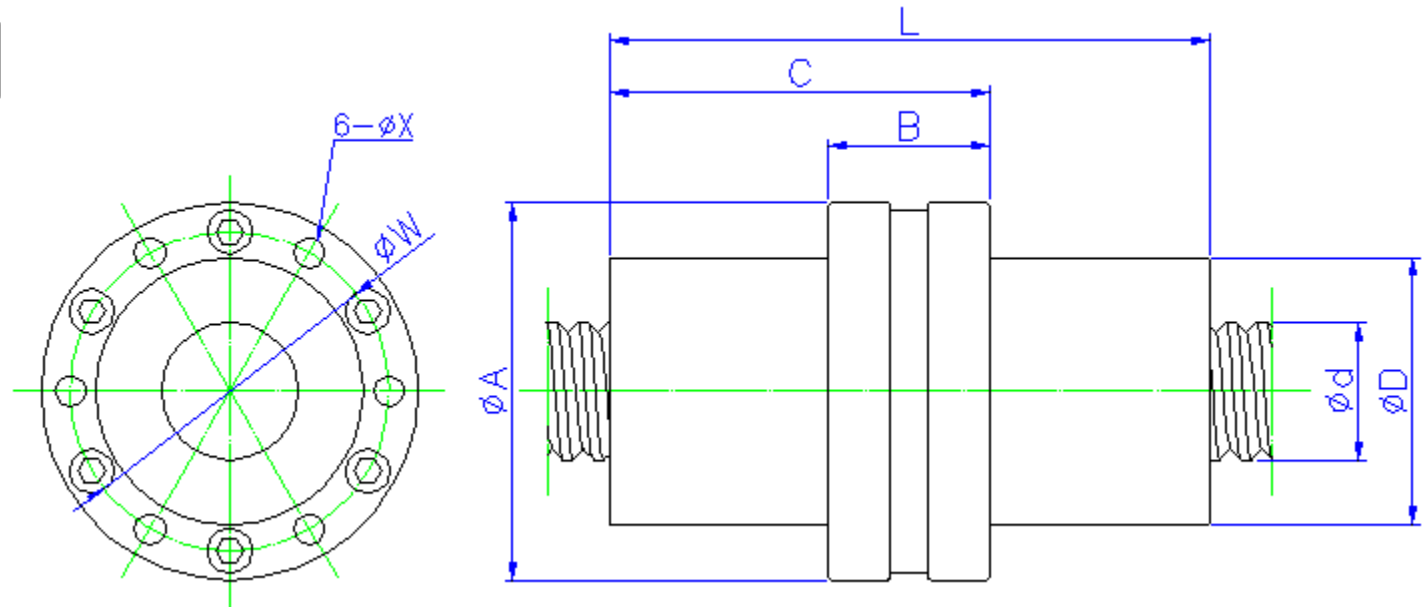
## • Application

- All electric molding machine 、 Die casting molding machine.



## Roller Screw

### TYPE 1

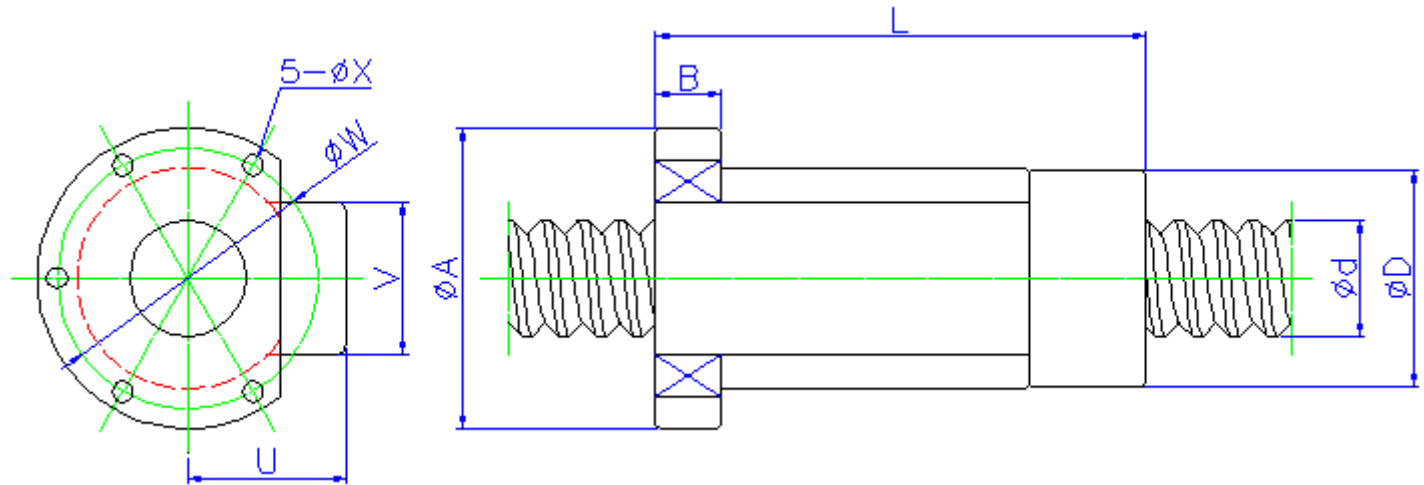


Specification	Shaft diameter	Lead	Roller diameter	Loaded circuits	Basic load rating		Nut dimension						
					C(kN)	Co(kN)	D	A	B	C	L	W	X
32-10K6	32	10	5	6	72 (65)	406 (171)	70	102	47	111	175	85	9
36-10K6	36	10	5	6	77 (69)	467 (194)	74	106	47	111	175	89	9
40-10K6	40	10	5	6	80 (73)	508 (217)	78	110	47	111	175	93	9
45-10K6	45	10	5	6	84 (78)	569 (252)	83	115	47	111	175	98	9
50-10K6	50	10	5	6	90 (81)	651 (275)	88	120	47	111	175	103	9



# Roller Screw

# TYPE 2



Specification	Shaft diameter	Lead	Roller diameter	Loaded circuits	Basic load rating		Nut dimension							
					C(kN)	Co(kN)	D	A	B	L	W	X	MAX U	MAX V
50-16K8	50	16	10	8	349 (306)	1772 (818)	95	129	28	210	112	9	68	66
63-16K8	63	16	10	8	392 (343)	2220 (1050)	105	139	28	210	122	9	72	76
80-16K8	80	16	10	8	435 (382)	2778 (1340)	120	154	32	210	137	9	80	92
63-20K8	63	20	13	8	539 (457)	2808 (1320)	117	157	32	265	137	11	83	81
80-20K8	80	20	13	8	612 (511)	3564 (1690)	130	170	32	265	150	11	90	96
100-20K8	100	20	13	8	686 (571)	4507 (2140)	145	185	32	265	165	11	97	113
80-25K8	80	25	16	8	781 (663)	4255 (2020)	145	185	40	330	165	11	102	100
100-25K8	100	25	16	8	887 (734)	5399 (2550)	159	199	40	330	179	11	108	118