

Option

● Torque saver (TSF/TST)

Product specifications

Compact

Standard

Table

Roller gear cam drive

Wide angle

Basic

Parallel cam drive

Linear Circular
Pico and
Pico drive

Option

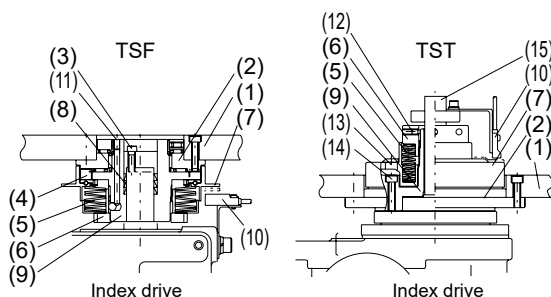
■ Features

1. High resetting accuracy.
2. High rotational rigidity.
3. Accurate release when overload is applied.
4. Release torque adjustable without steps.
5. One-point setting function equipped.
6. Overload detection available (combined with proximity switch)
7. High thrust rigidity and high radial rigidity.



■ Movement overview

The release torque is adjusted by changing the force of the (5) spring with the (6) adjusting nut. When overload exceeding the release torque is applied to the (1) table, the (4) roller held in the (2) drive plate groove comes out because of the force of the (5) spring cutting off the torque conveyed from the output shaft. The (7) pusher plate moves and can be detected with the (10) proximity switch. When the table is manually turned after removing the overload, it automatically returns to its original position.



(1) Table	(6) Adjust nut	(11) Lock pin
(2) Drive plate	(7) Pusher plate	(12) Set screw
(3) Hexagon socket head cap screw	(8) Taper ring	(13) Bolt through-hole
(4) Roller	(9) Drive boss	(14) Mounting bolt
(5) Spring	(10) Proximity switch	(15) Fixed shaft

When designing or making a selection

⚠ CAUTION

- 1 Confirm that the actual load torque of index drive $T_e \times 1.3$ is within the release torque adjusting range.
- 2 If an external load exists while index drive is stopped (dwelling), confirm that this is less than the release torque.
- 3 When index drive is stopped for emergency when the output is moving, take time to stop the system so that a torque saver is not released.
- 4 If backlash exists in the driving system or if rigidity is not sufficient, a load exceeding the calculation may be applied.
Select index drive and adjust the release torque of a torque saver, taking the load characteristics well into consideration.
- 5 When you select index drive, calculate the load conditions taking into consideration the moment of inertia of a torque saver itself as well as the table installed, workpiece, etc.
- 6 When you order index drive and a torque saver as a set, they can be delivered and assembled with customized specifications to enable installation depending on the size of the index drive the output shaft (TSF installation) and fixed shaft (TST installation).
When you order only a torque saver, note the output shaft and the fixed shaft specifications on the side of the torque saver which is to be installed.
- 7 When you install a torque saver exceeding the specification of the index number $n=12$ of index drive, you may not be able to adjust the proper release torque. Contact CKD when you select a model.

Installation and adjustment

⚠ CAUTION

● Release torque adjustment

The release torque of a torque saver is steplessly adjustable by turning the adjusting nut.

Adjust the release torque based on the release torque adjusting range for each characteristic value and the change in torque for 1 rotation of the adjusting nut. After adjustment, confirm that it is correctly adjusted using a torque gauge.

- (1) Calculate the actual load torque T_e of index drive.
- (2) Calculate the release torque T_{aj} . (generally, $T_{aj} = T_e \times 1.3$)
- (3) Loosen the lock pin at the end of the drive boss and the hexagon socket head cap screw at the side of the adjusting nut. (TSF5 to 18)
Loosen the hexagon socket head cap screw at the side of the adjusting nut. (TST6 to 11)
- (4) Screw in the adjusting nut based on the change in torque for 1 rotation of the adjusting nut.
- (5) Confirm that it is correctly adjusted using a torque gauge. (Readjust if necessary.)
- (6) Securely fix the adjusting nut.

Screw in the lock pin at the end of the drive boss and the hexagon socket head cap screw at the side of the adjusting nut. (TSF5 to 18)

Screw in the hexagon socket head cap screw at the side of the adjusting nut. (TST6 to 11)

Refer to the table below for tightening torque.

● Lock pin tightening torque

Series	TSF5	TSF6	TSF8	TSF11	TSF14	TSF18
Thread size	M4	M5	M5	M8	M8	M8
Tightening torque (N·m)	1.7	3.1	3.1	14	14	14

● Tightening torque of the hexagon socket head cap screw at the side of the adjusting nut.

Series	TST6	TST8	TST11
Thread size	M5	M6	M6
Tightening torque (N·m)	3.1	5.9	5.9

● Tightening torque of the hexagon socket head cap screw at the side of the adjusting nut

Series	TSF5	TSF6	TSF8	TSF11	TSF14	TSF18
Thread size	M4	M4	M5	M5	M5	M6
Tightening torque (N·m)	3.7	3.7	7.5	7.5	7.5	13

Product specifications

Compact

Standard

Table

Wide angle

Basic

Parallel cam drive

Pick and Place drive
Linear
Circular

Option

Option

● Torque saver (TSF/TST)

Installation & adjustment

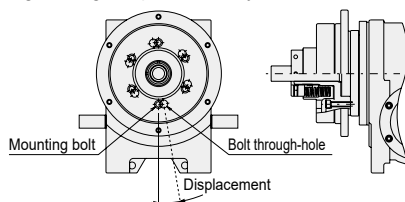
⚠ CAUTION

[CAUTION]

1. The release torque is set at min. within the adjusting range for delivery unless specified.
Adjust the release torque when installed on the unit.
(It is set at the center in the adjusting range when discrete TSF/TST is shipped.)
2. After adjustment of the release torque, confirm that it is correctly adjusted using a torque gauge.
3. When the adjusting nut is tightened exceeding the max. tightening torque T, it may not release when overload is applied.
(TST)

When you adjust the release torque, the pressure plate may rotate together with the adjusting nut because of the spring force to hide the through hole for the mounting bolt.

Mark the through hole position for assembly and disassembly as a guide.



■ Installation

- 1 Be sure to securely fix a torque saver and the table.
- 2 When release detection switch is installed
The detection distance of the proximity switch may vary depending on temperature and voltage. Confirm that the release of a torque saver is correctly detected after installation.
- 3 When you install a table at the spigot section of a torque saver, surface runout may increase if you forcibly pound it with a hammer.

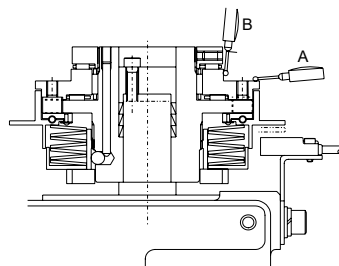
- 4 When you install a table to a torque saver, be sure to check the alignment. If eccentricity is significant, indexing error may increase.

Runout of drive plate after installation (TSF)

A: End surface runout 0.04 or less.

B: Radial runout 0.04 or less.

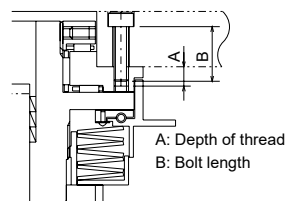
When you install a taper ring, the inner ring should face downward and the outer ring should face upward. To ensure sufficient transmission torque, apply oil (machine oil acceptable) to the taper ring and tighten as indicated.



	M4	M5	M4	M5	M6	M8
Tightening bolt	Hexagon socket set screw	Hexagon socket set screw	Hexagon socket head cap screw	Hexagon socket head cap screw	Hexagon socket head cap screw	Hexagon socket head cap screw
Tightening torque (N·m)	2.16	4.21	3.72	7.5	12.7	34.3

- 5 Tap depth of the drive plate (TSF)
When you install a table to the drive plate of a torque saver (TSF), check the tap depth indicated below.

If a bolt longer than the depth is used, internal components may become damaged and it may not release properly.



Series	TSF2	TSF3	TSF4	TSF5	TSF6	TSF8	TSF11	TSF14	TSF18
Depth of thread	4-M4 depth 4	4-M4 depth 4	4-M5 depth 4.5	6-M6 depth 7	6-M6 depth 9	6-M8 depth 10	6-M10 depth 15	6-M12 depth 16	6-M16 depth 22

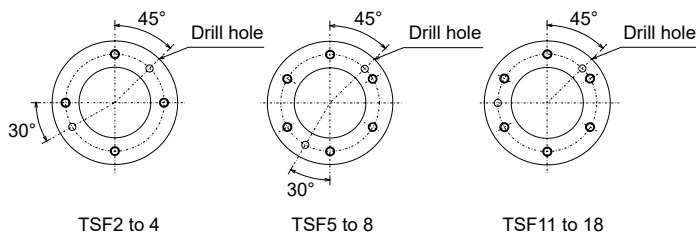
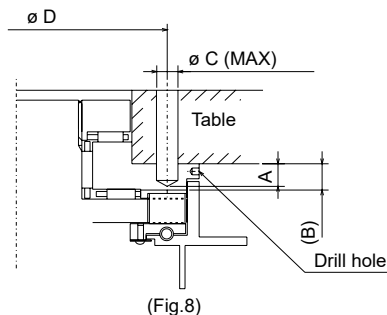
Installation & adjustment

⚠ CAUTION

- 6** Do not use the products in the environment where water or oil may be splashed over the unit. (no condensation) CKD products are not water-proof nor splash-proof. If water or oil is splashed, the torque saver may malfunction or become damaged. Provide countermeasures such as a cover.
- 7** Grease is applied to the torque saver. Grease may seep out while in use. Conduct periodic inspection and provide countermeasures such as an oil drip pan if this may cause a product defect.
- 8** Do not use the products in an environment where explosion or corrosion may occur.
- 9** Machining the dwell pin hole (TSF2 to 18)
When driving dwell pins to fix the table, observe dimensions indicated in the following table and figures.

Positioning pin hole dimensions

Symbol Model No.	A	B	C	D
TSF2,3	4.0 or less	(5.0)	4	42
TSF4	4.5 or less	(5.5)	5	55
TSF5	7 or less	(8.0)	6	75
TSF6	9 or less	(10)	6	100
TSF8	10 or less	(11)	8	120
TSF11	14 or less	(16)	10	150
TSF14	16 or less	(18)	12	180
TSF18	18 or less	(24)	16	215



Operation and maintenance

⚠ CAUTION

- 1** Lubrication with grease
Loosen the adjusting nut and apply grease to the rollers every 2,000 to 3,000 hours.
Note: Use lithium-based grease.
- 2** Do not maintenance or inspect the units while power is being supplied.
It may start moving suddenly due to an error or control circuit failure resulting in injury.
- 3** Be sure to make index drive start and stop within the dwell interval.
If the input shaft is started or stopped other than the dwell interval, load torque exceeding the design value may apply causing a torque saver to release resulting in the table to overrun, which may cause serious injury to person(s) or damage to the unit or surrounding equipment.

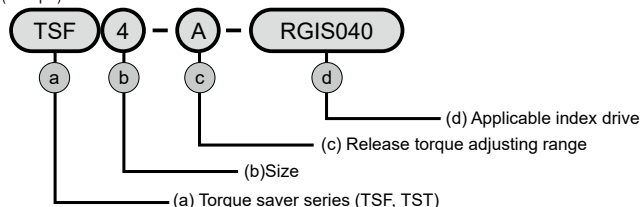
Option

● Torque saver (TSF2 to 18, TST6 to 11)



■ How to order (When ordering order without mounting a torque saver on index drives.)

(example)



(d) For applicable index drive, refer to the table below.

● Standard (Roller gear cam)

Main model No.	Torque saver
RGIS	025 TSF2
	032 TSF3
	032 TSF4
	040 TSF4
	040 TSF5
	050 TSF5
	050 TSF6
	063 TSF6
	080 TSF8
	110 TSF11
	140 TSF14
	180 TSF18

* The adjusting range of release torque of TSF4*-RGIS032 is either C or D.

● Wide angle (Roller gear cam)

Main model No.	Torque saver
RGIL	063 TSF4
	063 TSF5
	080 TSF5
	110 TSF6
	140 TSF8
	180 TSF11
	250 TSF14

(CAUTION)

* When ordering only a torque saver, confirm the model number of index drive to be installed.

Applicable index drive indicated on TSF name plate is unified with "RGIS****" by the shaft bore. Actual index drive to be installed may differ.

* When ordering only a torque saver by itself, confirm the output shaft specification (the fixed shaft specification for TST) of the index to be mounted.

* For the specification of index number n=12 or more, suitable release torque may not be adjusted when a torque saver is installed.

Contact CKD when selecting select a model.

● Standard (Parallel cam)

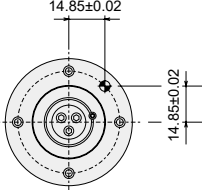
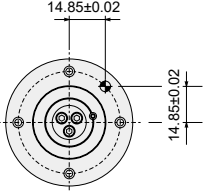
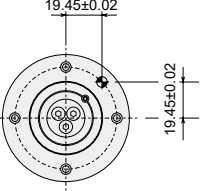
Main model No.	Torque saver
PCIS	040 TSF4
	050 TSF5
	063 TSF5
	063 TSF6
	080 TSF6
	100 TSF8
	125 TSF11
	160 TSF14
	200 TSF18
	(250) (TSF18)

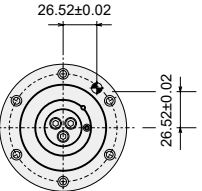
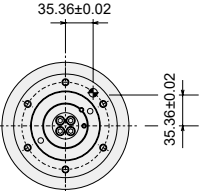
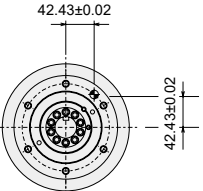
Index in parentheses () has the output shaft diameter different from standard.

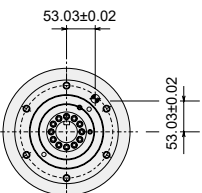
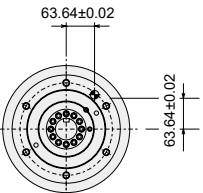
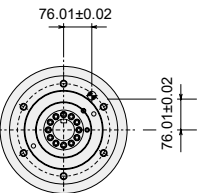
● Table type (Roller gear cam)

Main model No.	Torque saver
RGIT	063 TST6
	080 TST8
	110 TST11

TSF positioning pin hole dimensions (custom order)

Size	TSF2	TSF3	TSF4
Pitch			
Standard bore	ø 4H7 depth 3 P.C.D.42	ø 4H7 depth 3 P.C.D.42	ø 5H7 depth 3 P.C.D.55

Size	TSF5	TSF6	TSF8
Pitch			
Standard bore	ø 6H7 depth 5 P.C.D.75	ø 6H7 depth 7 P.C.D.100	ø 8H7 depth 7 P.C.D.120

Size	TSF11	TSF14	TSF18
Pitch			
Standard bore	ø 10H7 depth 11 P.C.D.150	ø 12H7 depth 12 P.C.D.180	ø 16H7 depth 13 P.C.D.215

Product specifications

Compact	Standard
Table	Wide angle
Basic	

Parallel cam drive

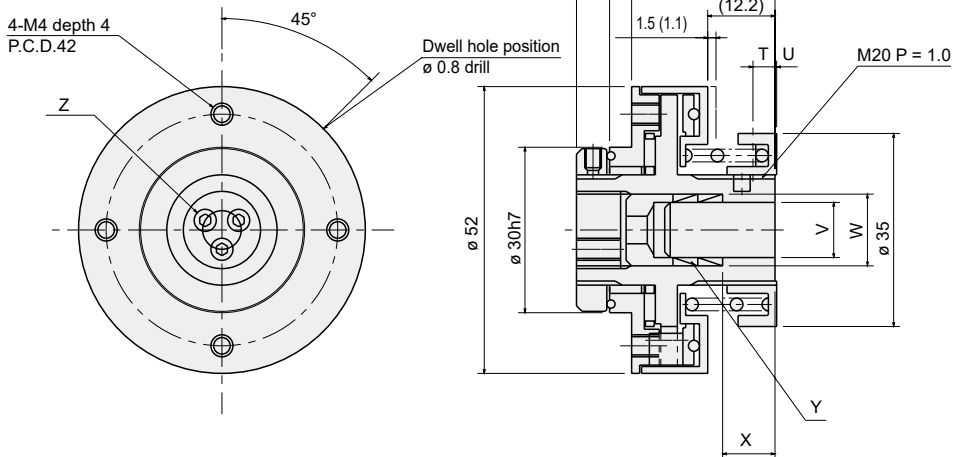
Pick and Place drive
Linear
Circular

Option



Product specifications

TSF2



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)		Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF2	A	0.39 to 0.88	294	98.1	4.91	6.47×10^{-5}	0.24	0.26	3.5	0.5
	B	0.54 to 1.37						0.39	3.9	0.1
	C	1.18 to 3.43						0.98	3.5	0.5
	D	1.96 to 5.89						1.47	3.9	0.1

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 025	$\varnothing 10^{+0.02}_0$	$\varnothing 13H7$	9.5	2-10 × 13 (S)	3-M4 Hexagon socket set screw	-

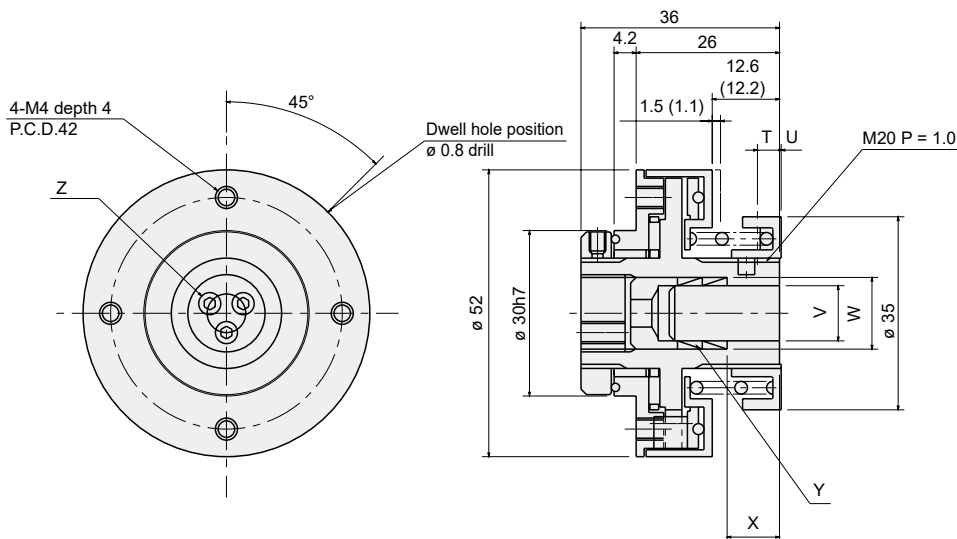
U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.



TSF3



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia ($\text{kg} \cdot \text{m}^2$)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF3	A 0.39 to 0.88	294	98.1	4.91	6.47×10^{-5}	0.24	0.26	3.5	0.5
	B 0.54 to 1.37						0.39	3.9	0.1
	C 1.18 to 3.43						0.98	3.5	0.5
	D 1.96 to 5.89						1.47	3.9	0.1

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 032	$\varnothing 12^{+0.02}_0$	$\varnothing 15\text{H7}$	9.5	2-12 × 15 (S)	3-M5 Hexagon socket set screw	-

U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

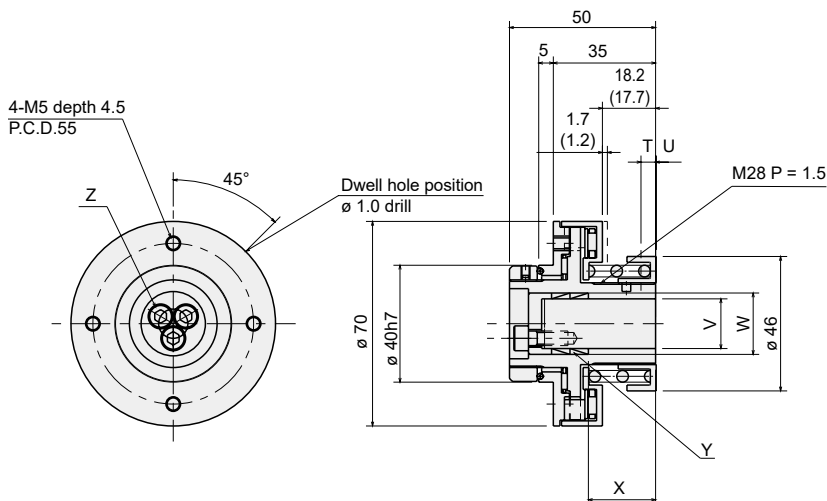
Option

● Torque saver (TSF)



Product specifications

TSF4



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF4	A 1.47 to 4.91	392	196	9.81	2.65×10^{-4}	0.56	1.47	5.3	0.7
	B 1.96 to 7.85						2.94	5.8	0.2
	C 2.94 to 12.8						3.24	5.3	0.7
	D 5.40 to 21.6						5.89	5.8	0.2

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 032	$\phi 12^{+0.02}_0$	$\phi 15H7$	9.5	2-12 × 15 (S)	3-M5 Hexagon socket set screw	-
RG*S 040	$\phi 17^{+0.02}_0$	$\phi 21H7$	23	2-17 × 21 (S)	3-M5 Special hexagon socket head cap screw	3-M5 depth 10 (P.C.D.9)
RG*L 063	$\phi 17^{+0.02}_0$	$\phi 21H7$	23	2-17 × 21 (S)	3-M5 Special hexagon socket head cap screw	3-M5 depth 10 (P.C.D.9)
PC*S 040	$\phi 14^{+0.02}_0$	$\phi 18H7$	14	2-14 × 18 (S)	4-M4 Hexagon socket head cap screw	-

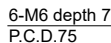
U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

* The adjusting range of release torque of TSF4-□-RGIS032 is either C or D.

TSF5



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)		Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF5	A	2.94 to 7.85	7850	3430	147	1.01×10^{-3}	1.34	1.18	10.3	1.7
	B	3.92 to 11.8						2.26	11.0	1.0
	C	9.81 to 29.4						4.91	9.3	2.7
	D	19.6 to 58.9						9.81	10.0	2.0

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 040	$\varnothing 17^{+0.02}_0$	$\varnothing 21H7$	23	2-17 × 21 (S)	3-M5 Special hexagon socket head cap screw	3-M5 depth 10 (P.C.D.9)
RG*S 050	$\varnothing 20^{+0.02}_0$	$\varnothing 25H7$	18	3-20 × 25 (S)	3-M5 Hexagon socket head cap screw	3-M5 depth 12 (P.C.D.12)
RG*L 063	$\varnothing 17^{+0.02}_0$	$\varnothing 21H7$	23	2-17 × 21 (S)	3-M5 Hexagon socket head cap screw	3-M5 depth 10 (P.C.D.9)
RG*L 080	$\varnothing 20^{+0.02}_0$	$\varnothing 25H7$	18	3-20 × 25 (S)	3-M5 Hexagon socket head cap screw	3-M5 depth 12 (P.C.D.12)
PC*S 050	$\varnothing 16^{+0.02}_0$	$\varnothing 20H7$	18	2-16 × 20 (S)	3-M5 Hexagon socket head cap screw	-
PC*S 063	$\varnothing 20^{+0.02}_0$	$\varnothing 25H7$	18	3-20 × 25 (S)	3-M5 Hexagon socket head cap screw	3-M5 depth 12 (P.C.D.12)

U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

Roller gear cam drive

Parallel cam drive

Pick and Place drive	Circular	
	Linear	

Option



TSF6

Product specifications

Compact

Standard

Table

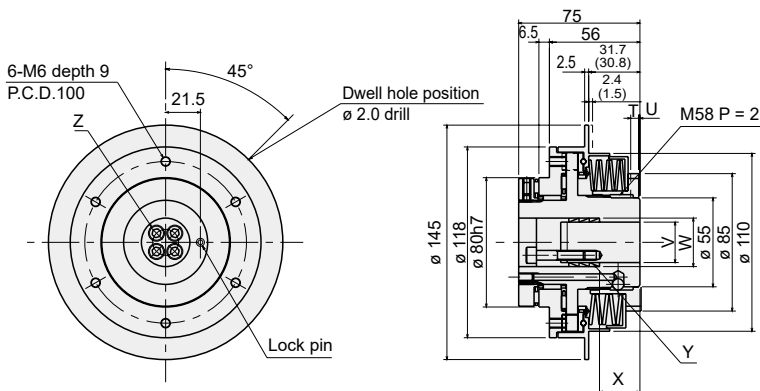
de angle

Basic

Parallel cam drive

near Circular

Option



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)		Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF6	A	9.81 to 29.4	9810	6870	196	5.47 × 10 ⁻³	3.7	14.7	5.4	1.6
	B	19.6 to 58.9						26.5	6.3	0.7
	C	39.2 to 118						39.2	5.8	0.2
	D	58.9 to 177						70.6	6.7	-0.7

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 050	$\varnothing 20^{+0.02}_0$	$\varnothing 25H7$	18	3-20 × 25 (S)	3-M5 Hexagon socket set screw	3-M5 depth 12 (P.C.D. 12)
RG*S 063	$\varnothing 25H6$	$\varnothing 30H7$	25	3-25 × 30 (S)	4-M6 Hexagon socket set screw	4-M6 depth 18 (P.C.D. 16)
RG*L 110	$\varnothing 25H6$	$\varnothing 30H7$	25	3-25 × 30 (S)	4-M6 Hexagon socket set screw	4-M6 depth 18 (P.C.D. 16)
PC*S 063	$\varnothing 20^{+0.02}_0$	$\varnothing 25H7$	18	3-20 × 25 (S)	3-M5 Hexagon socket set screw	3-M5 depth 12 (P.C.D. 12)
PC*S 080	$\varnothing 25H6$	$\varnothing 30H7$	25	3-25 × 30 (S)	4-M6 Hexagon socket set screw	4-M6 depth 18 (P.C.D. 16)

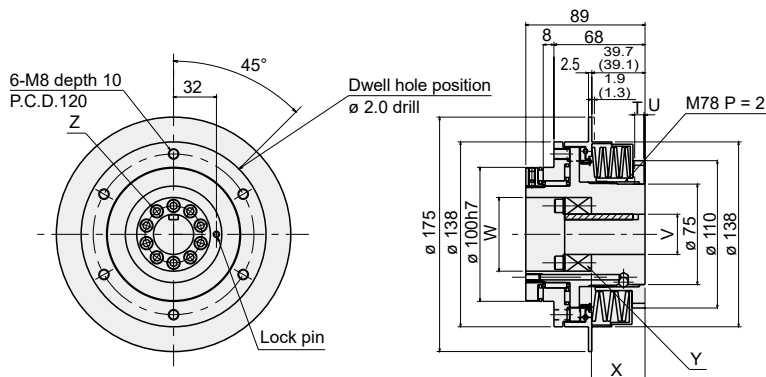
U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.



TSF8



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF8	A 29.4 to 88.3	14700	9810	392	1.42×10^{-2}	6.6	19.6	9.9	0.6
	B 49.1 to 147						37.3	10.5	0
	C 88.3 to 294						74.6	10.1	-0.1
	D 147 to 441						98.1	10.7	-0.7

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 080	ø 30H6	ø 55H7	40	1-30 × 55	10-M6 Hexagon socket head cap screw	-
RG*L 140	ø 30H6	ø 55H7	40	1-30 × 55	10-M6 Hexagon socket head cap screw	-
PC*S 100	ø 30H6	ø 55H7	40	1-30 × 55	10-M6 Hexagon socket head cap screw	-

U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

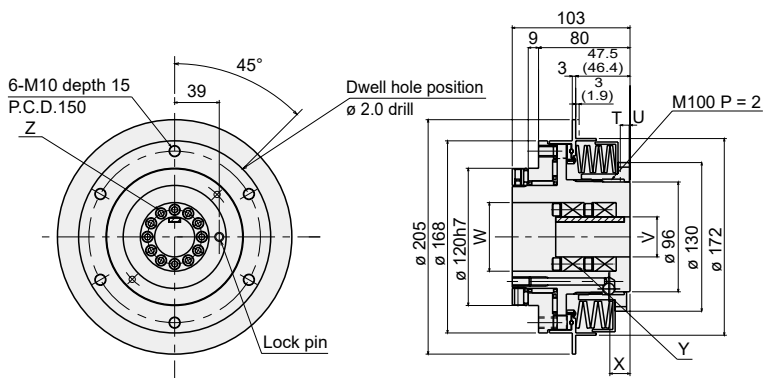
Option

● Torque saver (TSF)



Product specifications

TSF11



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF11	A 68.7 to 196	21600	14700	687	3.74×10^{-2}	11.8	19.6	13.4	0.6
	B 88.3 to 294						108	14.5	-0.5
	C 216 to 589						128	11.9	-1.9
	D 294 to 1180						275	13.0	-3.0

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 110	ø 35H6	ø 60H7	40 16.5	1-35 × 60 2- "	12-M6 Hexagon socket head cap screw	-
RG*L 180	ø 35H6	ø 60H7	40 16.5	1-35 × 60 2- "	12-M6 Hexagon socket head cap screw	-
PC*S 125	ø 35H6	ø 60H7	40 16.5	1-35 × 60 2- "	12-M6 Hexagon socket head cap screw	-

* The figures under X and Y in the above table indicate dimensions for the release torque of D.

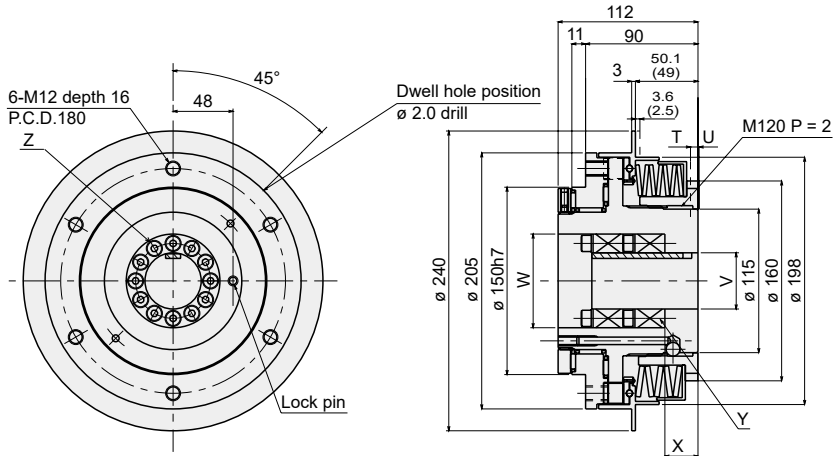
U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.



TSF14



Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF14	A 98.1 to 294	28400	23500	981	9.10×10^{-2}	19.8	98.1	12.0	2.0
	B 147 to 441						147	13.1	0.9
	C 392 to 1180						265	11.5	1.0
	D 589 to 1860						451	12.6	-0.1

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 140	ø 45H6	ø 75H7	60 26.5	1-45 × 75 2- "	12-M8 Hexagon socket head cap screw	-
RG*L 250	ø 45H6	ø 75H7	60 26.5	1-45 × 75 2- "	12-M8 Hexagon socket head cap screw	-
PC*S 160	ø 45H6	ø 75H7	60 26.5	1-45 × 75 2- "	12-M8 Hexagon socket head cap screw	-

* The figures under X and Y in the above table indicate dimensions for release torque of D.

U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

Option

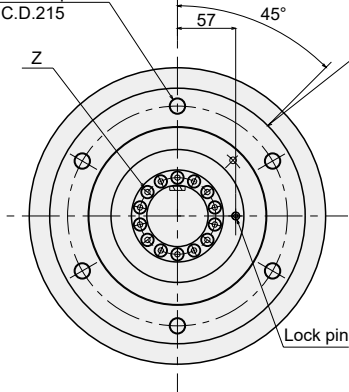
● Torque saver (TSF)



Product specifications

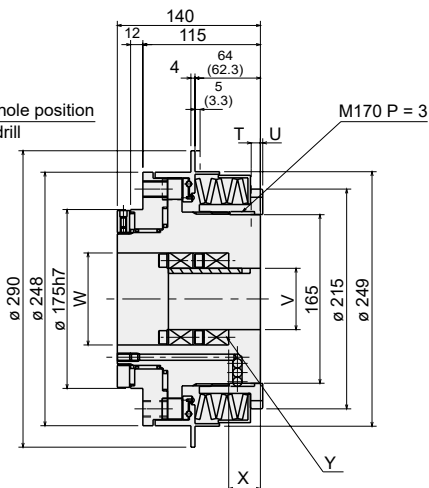
TSF18

6-M16 depth 22
P.C.D.215



Dwell hole position
ø 2.0 drill

Lock pin



M170 P = 3

Note. Dimensions in parentheses () are for models A and C.

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TSF18	A 294 to 1180	34300	30400	1470	0.282	39.1	392	13.5	4.0
	B 687 to 1770						814	15.2	2.3
	C 1180 to 2940						1040	15.8	4.2
	D 1960 to 4910						2940	17.5	2.5

Applicable index drive	V	W	X	Y	Z	Shaft end installation hole
RG*S 180	ø 60H6	ø 90H7	64.5 31	1-60 × 90 2- "	14-M8 Hexagon socket head cap screw	-
PC*S 200 (PC*S 250)	ø 60H6	ø 90H7	64.5 31	1-60 × 90 2- "	14-M8 Hexagon socket head cap screw	-

* The figures under X and Y in the above table indicate dimensions for the release torque of C and D.

U : Protrusion of adjusting nut when torque is 0 N·m

T : Max. clamping

Contact CKD for information on accuracy.

Compact

Standard

Table

Wide angle

Basic

Roller gear cam drive

Parallel cam drive

Linear Circular
Pico and
Pico drive

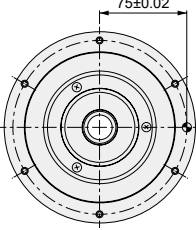
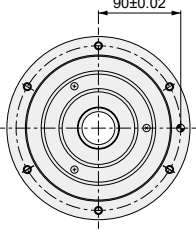
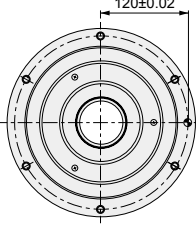
Option

Option	Pick and Place drive		Parallel cam drive		Roller gear cam drive		
	Linear	Circular	Basic	Wide angle	Table	Standard	Compact

Option

● Torque saver (TST)

■ TST positioning pin hole dimensions (custom order)

Size	TST6	TST8	TST11
Pitch			
Standard bore	ø 8H7 diameter Effective penetration 10 P.C.D.150	ø 8H7 diameter Effective penetration 13 P.C.D.180	ø 10H7 diameter Effective penetration 16 P.C.D.240

Product specifications

Compact

Standard

Table

Wide angle

Basic

Parallel cam drive

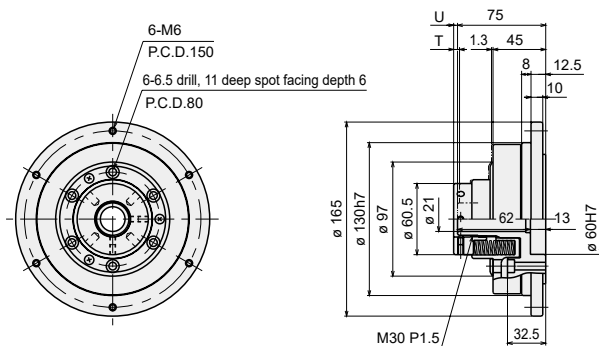
Linear
Pick and
Place drive

Option



■ Dimensions

● TST6



■ Characteristics

Model No.	Release torque adjusting range (N·m)		Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TST6	A	12 to 60	3600	1400	73	0.014	5.6	16.5	5.5	3.5
	B	40 to 130						45.9	4.2	3.5

T : Max. clamping of adjusting nut

U : Dimension when the spring clamping is zero

Contact CKD for information on accuracy.

Roller gear cam drive		
Table	Standard	Compact
Wide angle		

Parallel cam drive

Pick and Place drive	
Linear	Circular

Option

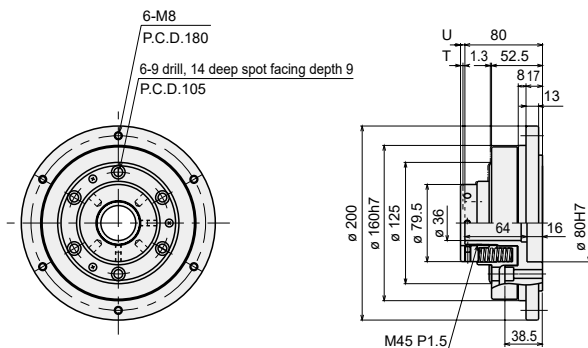
Option

● Torque saver (TST)



■ Dimensions

● TST8



■ Characteristics

Model No.	Release torque adjusting range (N·m)	Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TST8	A 30 to 90	5000	2000	130	0.037	9.0	36.2	3.7	4.5
	B 80 to 300						102.0	4.4	4.5

T : Max. clamping of adjusting nut

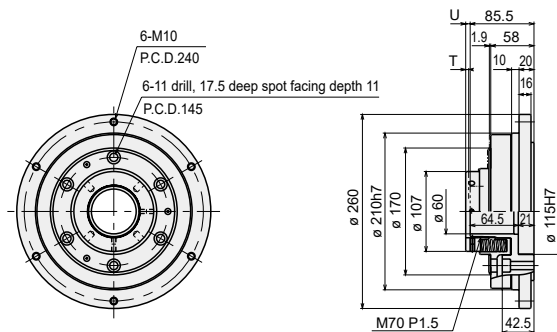
U : Dimension when the spring clamping is zero

Contact CKD for information on accuracy.



■ Dimensions

● TST11



■ Characteristics

Model No.	Release torque adjusting range (N·m)		Allowable thrust force (N)	Allowable radial force (N)	Allowable bending moment (N·m)	Moment of inertia (kg·m ²)	Weight (kg)	Change in torque per 1 rotation of adjusting nut (N·m)	T	U
TST11	A	100 to 350	9500	3800	330	0.123	16.6	88.5	5.9	6.0
	B	250 to 600						270.0	3.3	6.0

T : Max. clamping of adjusting nut

U : Dimension when the spring clamping is zero

Contact CKD for information on accuracy.

Compact

Standard

Table

Wide angle

Basic

Parallel cam drive

Pick and Place drive
Linear Circular

Option