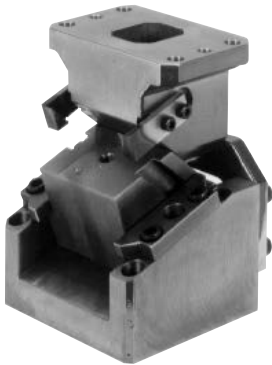


# SKCA [Overview]

## Product Information

- Mount face widths 52, 65, 100, 150, 200, 250, and 300 mm.
- Working angles from 0° to 20° in 5° increments for 65, 100, and 150 mm.
- Mount face widths of 52, 200, 250, and 300 mm are available with an angle of 0°.
- Gas Spring is available in 65, 100, 150, and 200 mm width and 0°.
- The Box-type holder provides high rigidity.



### Gas Spring Specifications

Mount Face		Working Angle	Travel	Working Force [kN (tonf)]		Spring Force N (kgf)
W	H			Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	
65	70	00	38	19.6 (2.0)	39.2 (4.0)	667 (69.1)
100	100	00	40	29.4 (3.0)	58.8 (6.0)	1111 (113.4)
150	100	00	40	58.8 (6.0)	88.2 (9.0)	2051 (209.3)
200	110	00	40	78.4 (8.0)	117.6 (12.0)	2733 (278.9)

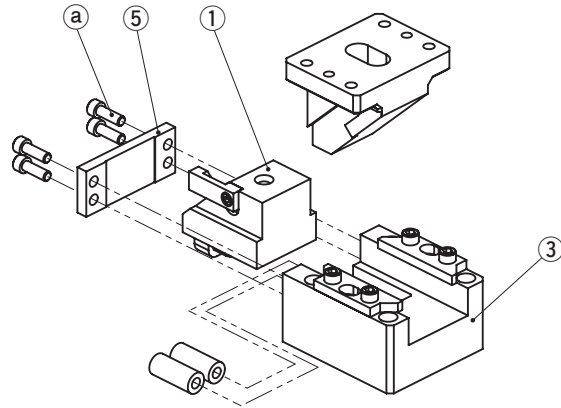
### Coil Spring Specifications

Mount Face		Working Angle	Travel	Working Force [kN (tonf)]	
W	H			Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes
52	65	00	25	14.7 ( 1.5)	29.4 ( 3.0)
			40		
			60		
65	70	00	40	19.6 ( 2.0)	39.2 ( 4.0)
			60		
		05	45		
			70		
		10	45		
			70		
100	90	15	45	39.2 ( 4.0)	78.4 ( 8.0)
			70		
		20	45		
			70		
		00	40		
			60		
150	100	05	45	64.7 ( 6.6)	98.0 (10.0)
			70		
		10	45		
			70		
		15	45		
			70		
200	110	20	45	78.4 ( 8.0)	117.6 (12.0)
			70		
		00	40		
			60		
		05	40		
			60		
300	130	00	40	117.6 (12.0)	176.4 (18.0)
			60		
			60		

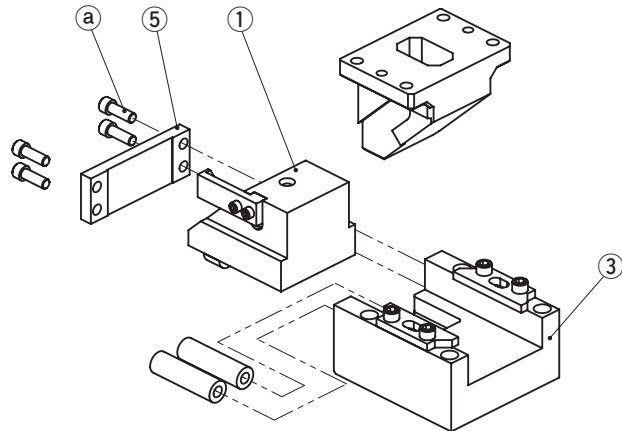
# SKCA [Overview]

## Product Information

### ■SKCA52, 65 Assembly Instructions



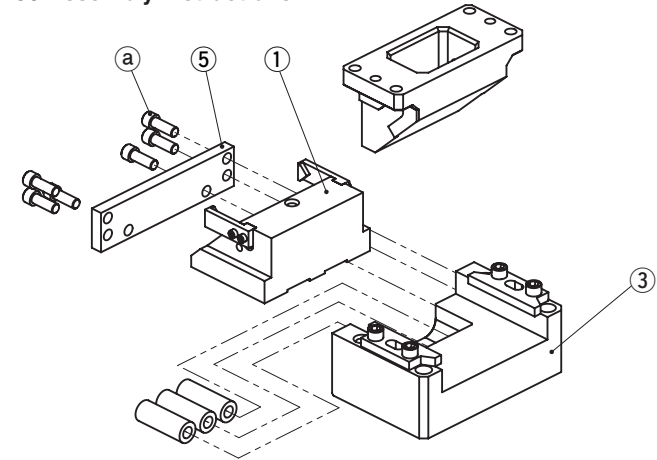
### ■SKCA100, 150 Assembly Instructions



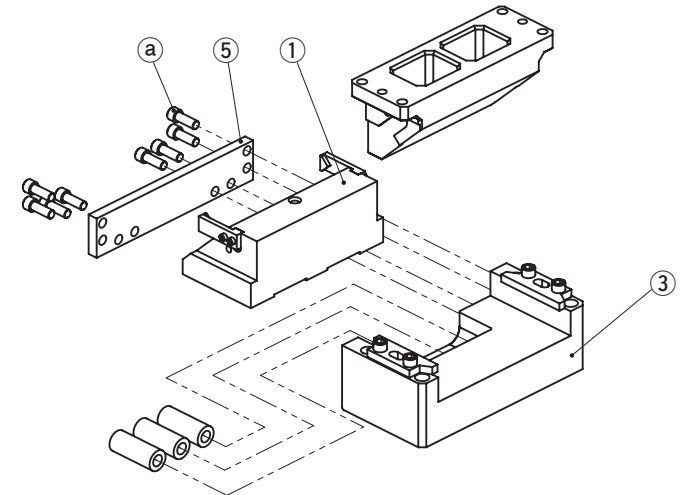
#### ● Disassembly

- 1) Remove Hexagon Socket Head Bolts (a), to pull out Stopper Plate (5).
- 2) Pull out and remove Cam Slider (1) from Cam Holder (3) to the rear.

### ■SKCA200, 250 Assembly Instructions



### ■SKCA300 Assembly Instructions



#### ● Assembly

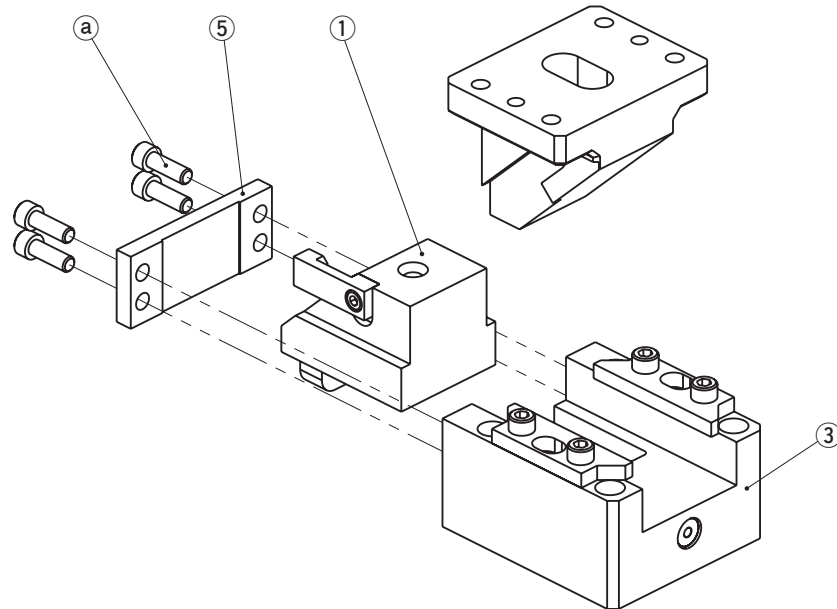
Assembly is the reverse procedure of disassembly.

- Ensure that all parts are clean, particularly the sliding components to which a small amount of lubricant is applied and is then placed in position.
- Take care that the respective tolerances are observed when assembling Cam Slider and Cam Holder, which also should be identified by the same serial number.
- Make sure that all bolts are tighten to the recommended torque after assembly and disassembly.

# SKCA [Overview]

## Product Information

### ■SKCA65, 100, 150 Assembly Instructions (Gas Spring)



#### ● Disassembly

- 1) Remove Hexagon Socket Head Bolts (a), to pull out Stopper Plate (5).
- 2) Pull out and remove Cam Slider (1) from Cam Holder (3) to the rear.

#### ● Assembly

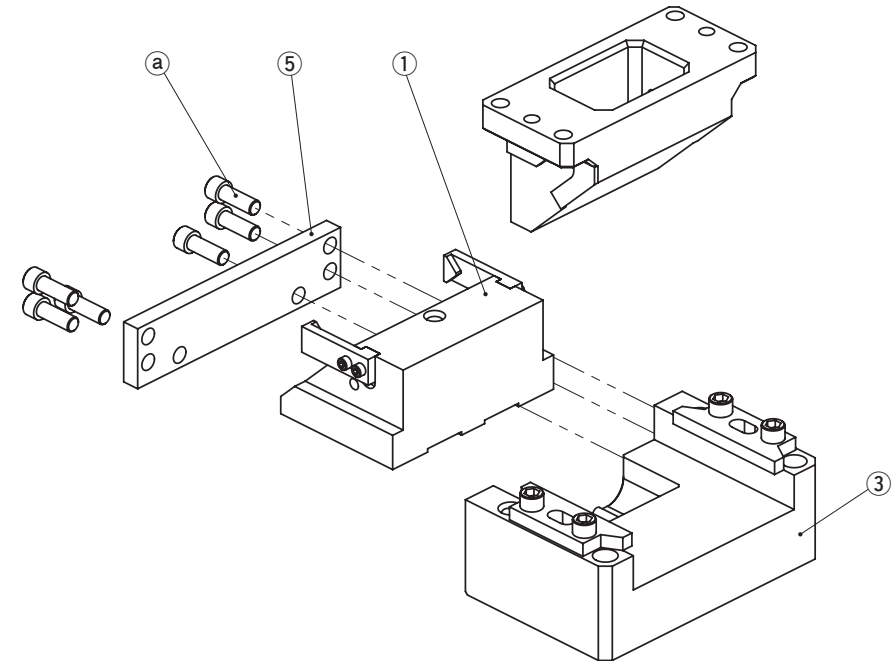
Assembly is the reverse procedure of disassembly.

- Ensure that all parts are clean, particularly the sliding components to which a small amount of lubricant is applied and is then placed in position.
- Take care that the respective tolerances are observed when assembling Cam Slider and Cam Holder, which also should be identified by the same serial number.
- Make sure that all bolts are tighten to the recommended torque after assembly and disassembly.

#### ⚠ Gas Spring

Please contact your local sales representative if you prefer to use a gas spring not specified in our catalog. For use and maintenance of gas spring, please contact the manufacturer directly.

### ■SKCA200 Assembly Instructions (Gas Spring)



#### ● Disassembly

- 1) Remove Hexagon Socket Head Bolts (a), to pull out Stopper Plate (5).
- 2) Pull out and remove Cam Slider (1) from Cam Holder (3) to the rear.

#### ● Assembly

Assembly is the reverse procedure of disassembly.

- Ensure that all parts are clean, particularly the sliding components to which a small amount of lubricant is applied and is then placed in position.
- Take care that the respective tolerances are observed when assembling Cam Slider and Cam Holder, which also should be identified by the same serial number.
- Make sure that all bolts are tighten to the recommended torque after assembly and disassembly.

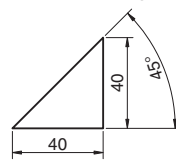
#### ⚠ Gas Spring

Please contact your local sales representative if you prefer to use a gas spring not specified in our catalog. For use and maintenance of gas spring, please contact the manufacturer directly.

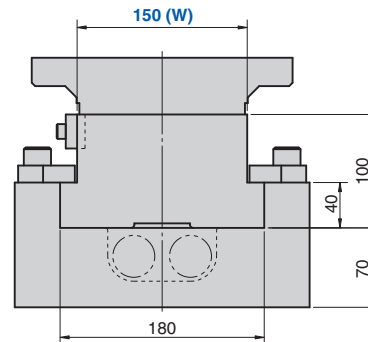
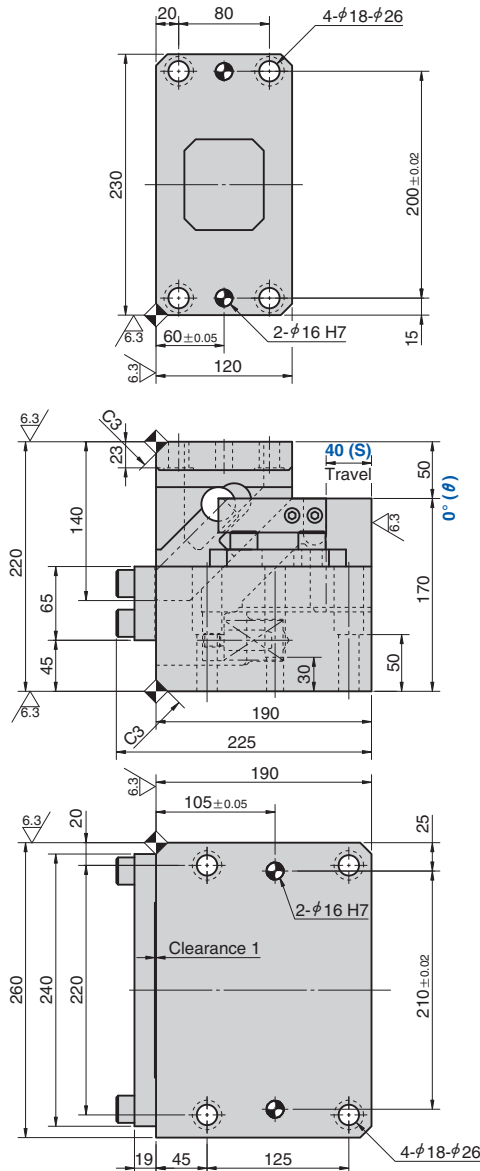
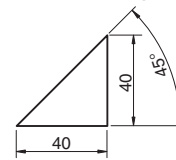
SKCA150-00-40



● Cam Diagram  
(Coil Spring)



(Gas Spring)



Working Force [kN (tonf)]	Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S	Spring Type PS
			Initial Load	Final Load							
58.8 (6.0)	88.2 (9.0)	306.9 (31.4)	1841.3 (188.2)	2051 (209.3)	14.3	63.0	SKCA	150	00	40	No Code (Coil Spring) NISO
											GK NGK GD NGD GS NGS

No Code: Coil Spring GK: Gas Spring (KALLER) GD: Gas Spring (DADCO) GS: Gas Spring (SDT) NGK/NGD/NGS: Without Gas Spring NISO: Without Coil Spring Parts for spring assembly are included.



Order

Catalog No.	W	θ	S	PS	Option
SKCA	150	00	40	GK	
SKCA	150	00	40	NGK	
SKCA	150	00	40	GK	NF



Option

Option Code	Specification
NF	Nitrogen gas not charged.



Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Specification

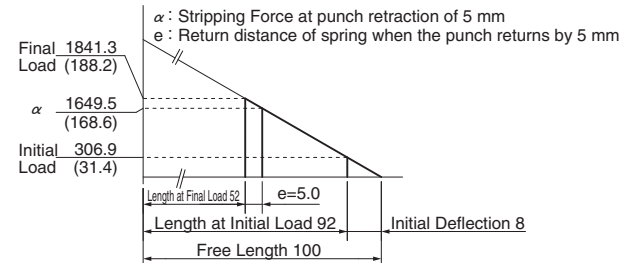
No.	PS	Spring Model	Qty	Remark
8	No Code	TF35-100	2	Coil Spring 19.18 N/mm (1.96 kgf/mm)
	GK	M2-50-Red	1	Gas Spring (KALLER)
	GD	C.180.050.BK.135	1	Gas Spring (DADCO)
	GS	SFNA.150.50	1	Gas Spring (SDT)

Gas filling pressure: 13.5 MPa

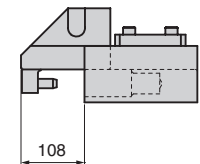
Life expectancy of Coil Spring is approximately 300,000 strokes.

### Spring Diagram

• Spring Model TF35-100 (2 pieces)

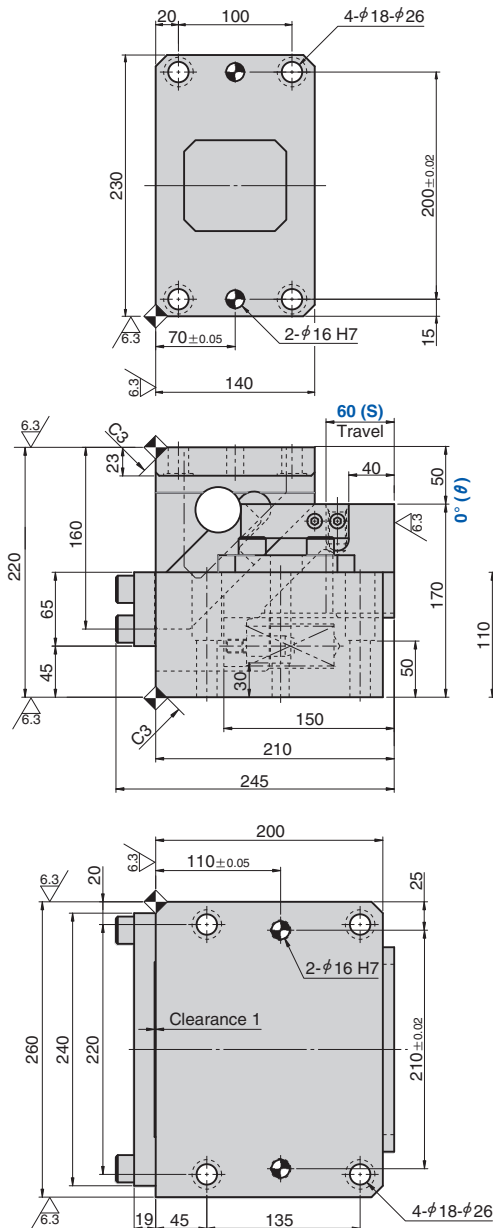


### Rear Removal Space

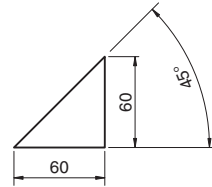


Refer to page 1033, 1034 for Table of Components.

SKCA150-00-60



● Cam Diagram



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
58.8 (6.0)	88.2 (9.0)	332.5 (33.8)	1867.3 (189.8)	14.3	69.0	SKCA	150	00	60



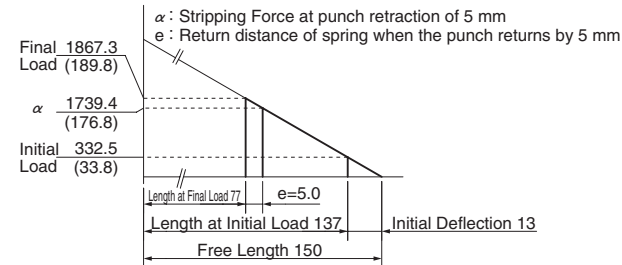
Catalog No.	W	θ	S
SKCA	150	00	60



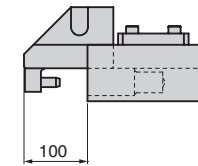
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

- Spring Model TF35-150 (2 pieces)
- Spring constant 12.79 N/mm (1.30 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.

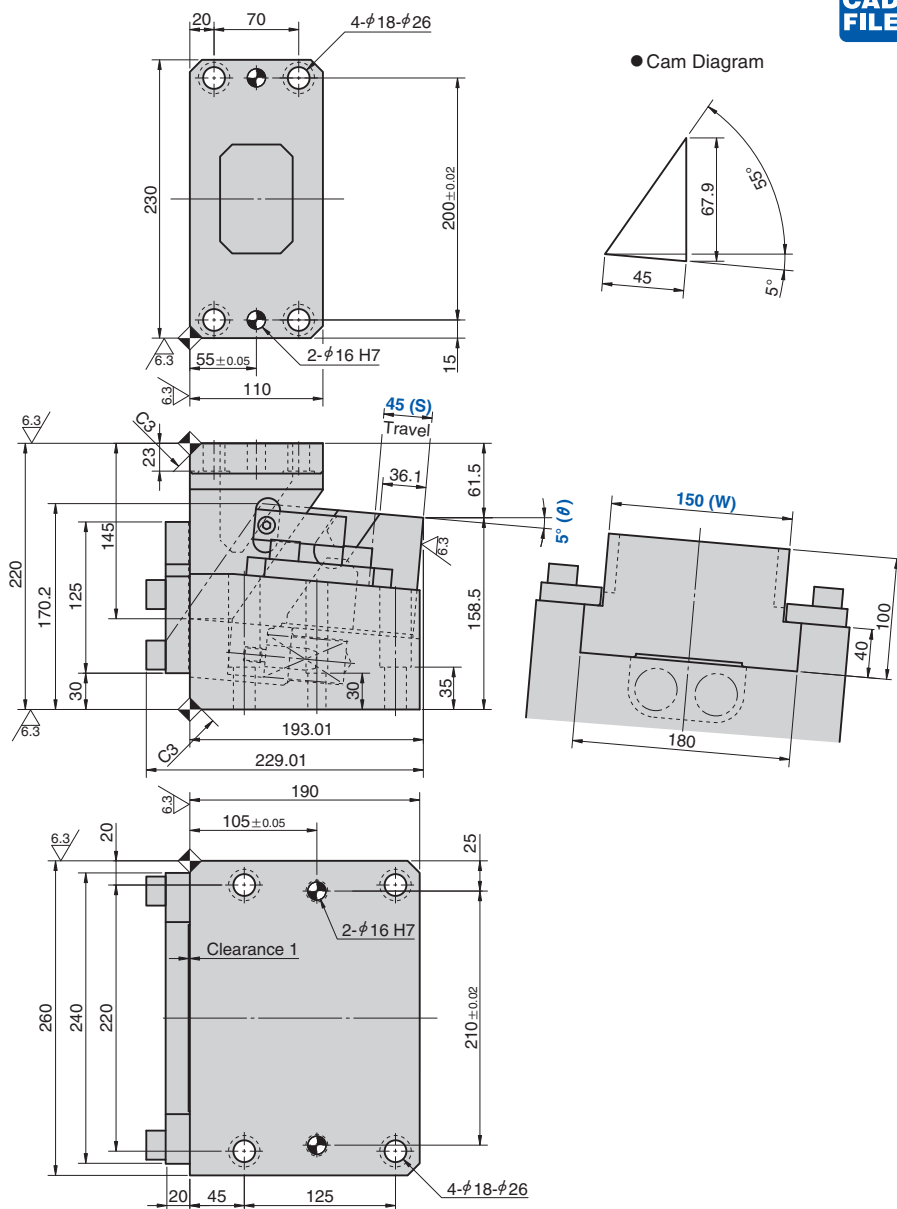


### Rear Removal Space



Refer to page 1033 for Table of Components.

SKCA150-05-45



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	429.5 (43.7)	1810.1 (184.1)	16.0	62.0	SKCA	150	05	45



Order

Catalog No.	W	θ	S
SKCA	150	05	45

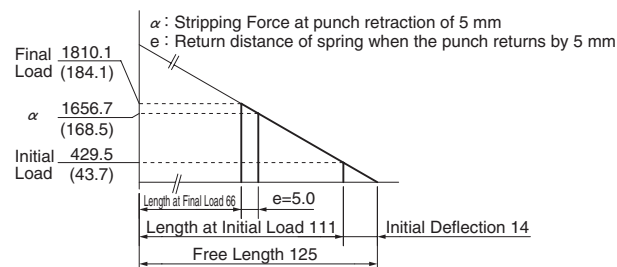


Option

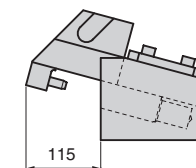
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

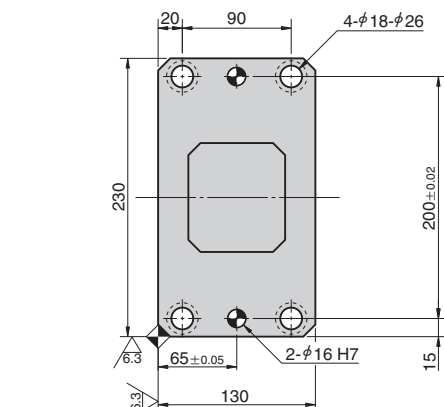
- Spring Model TF35-125 (2 pieces)
- Spring constant 15.34 N/mm (1.56 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



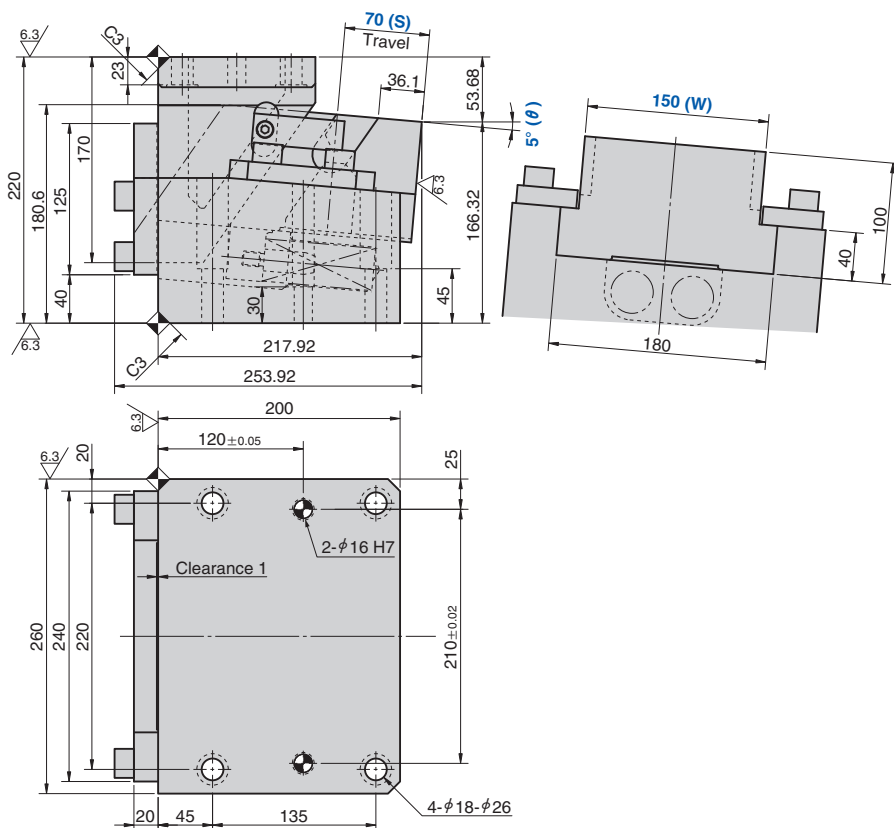
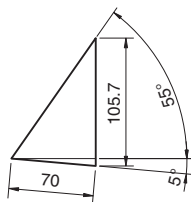
### Rear Removal Space



SKCA150-05-70



● Cam Diagram



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	306.9 (31.4)	1841.3 (188.2)	16.0	73.0	SKCA	150	05	70



Order

Catalog No.	W	θ	S
SKCA	150	05	70

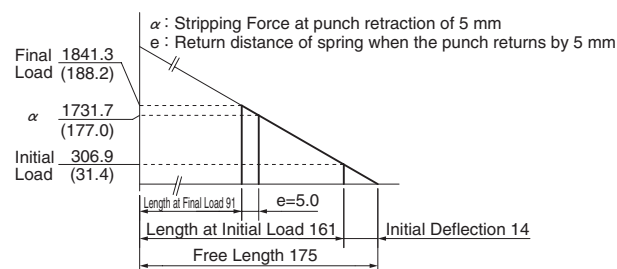


Option

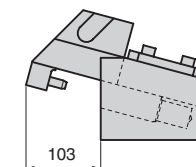
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

- Spring Model TF35-175 (2 pieces)
- Spring constant 10.96 N/mm (1.12 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.

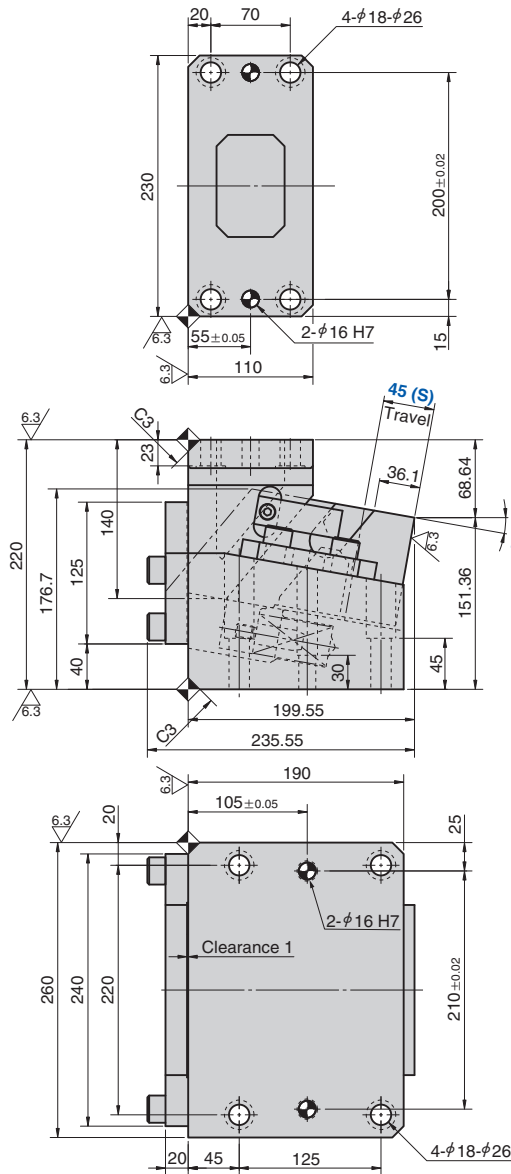


### Rear Removal Space

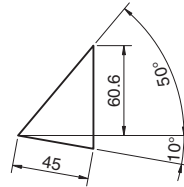


Refer to page 1033 for Table of Components.

### SKCA150-10-45



● Cam Diagram



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	$\theta$	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	429.5 (43.7)	1810.1 (184.1)	16.0	63.0	SKCA	150	10	45



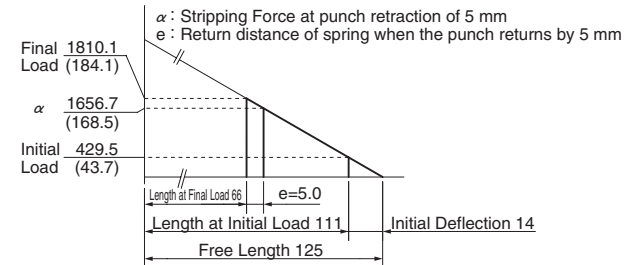
Catalog No.	W	$\theta$	S
SKCA	150	10	45



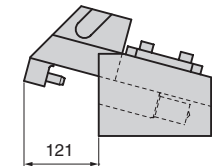
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

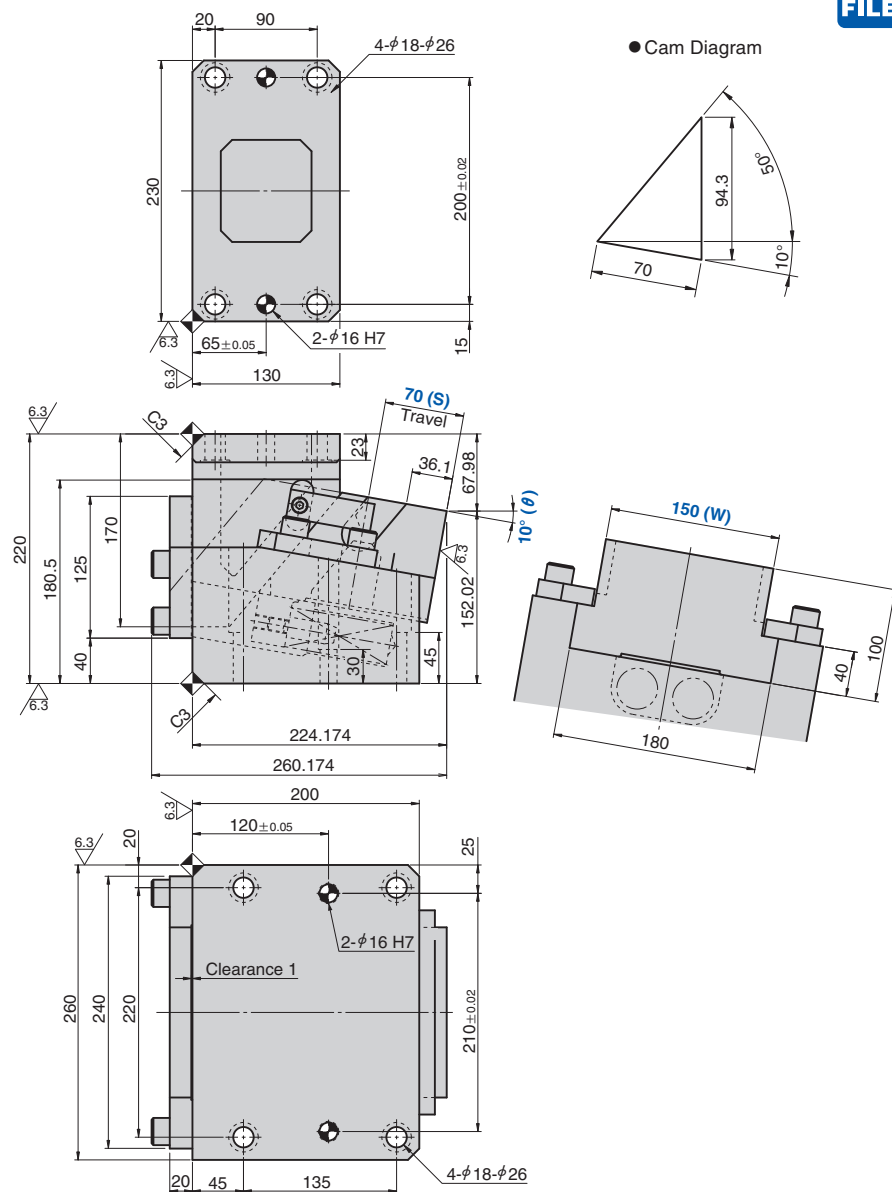
- Spring Model TF35-125 (2 pieces)
- Spring constant 15.34 N/mm (1.56 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



### Rear Removal Space



SKCA150-10-70



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	$\theta$	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	306.9 (31.4)	1841.3 (188.2)	16.0	73.0	SKCA	150	10	70



Order

Catalog No.	W	$\theta$	S
SKCA	150	10	70

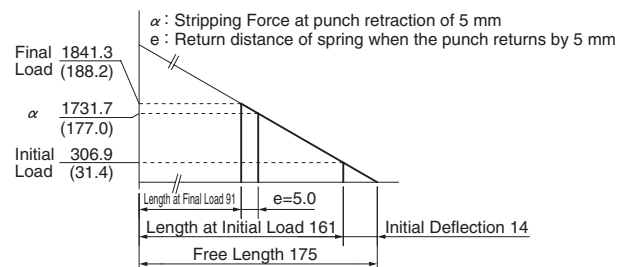


Option

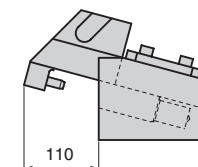
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

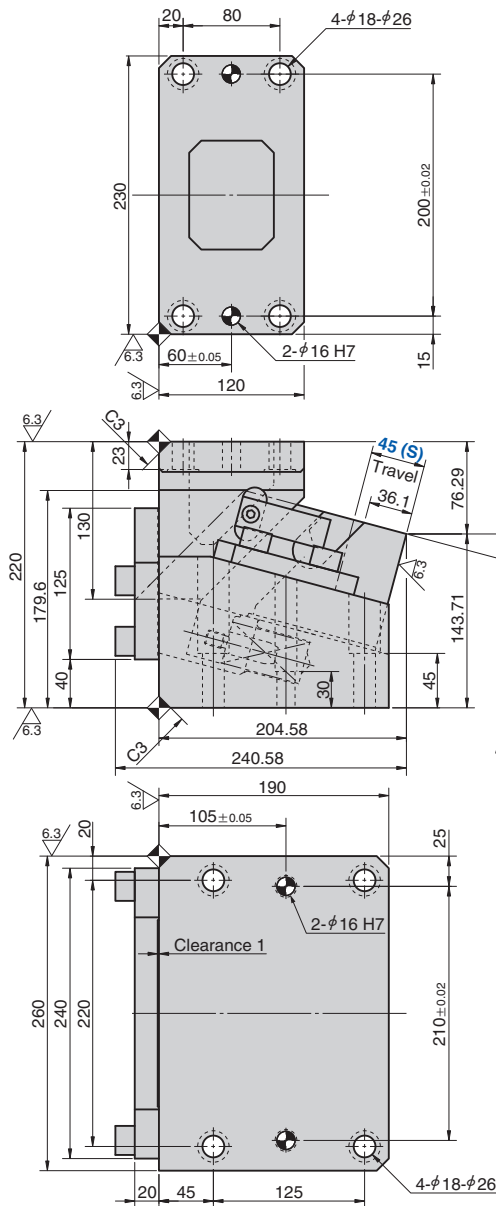
- Spring Model TF35-175 (2 pieces)
- Spring constant 10.96 N/mm (1.12 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



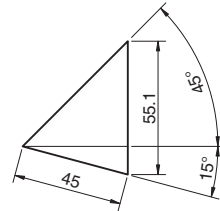
### Rear Removal Space



### SKCA150-15-45



● Cam Diagram



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	429.5 (43.7)	1810.1 (184.1)	16.0	65.0	SKCA	150	15	45



Order

Catalog No.	W	θ	S
SKCA	150	15	45



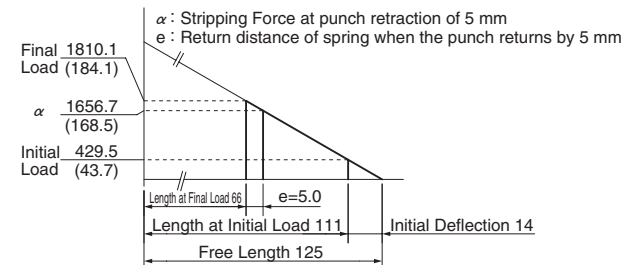
Option



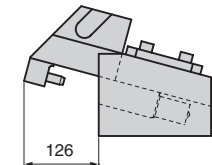
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

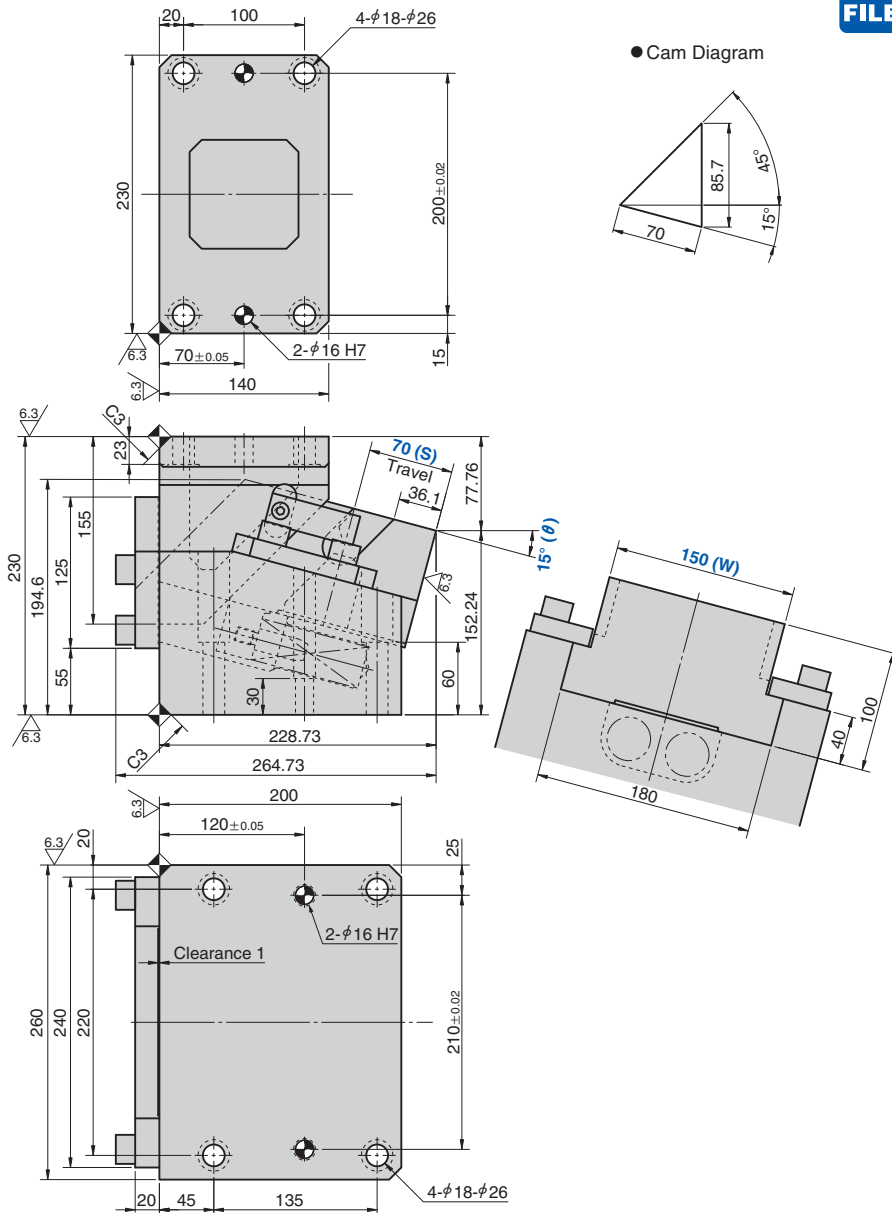
- Spring Model TF35-125 (2 pieces)
- Spring constant 15.34 N/mm (1.56 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



### Rear Removal Space



### SKCA150-15-70



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	306.9 (31.4)	1841.3 (188.2)	16.0	77.0	SKCA	150	15	70



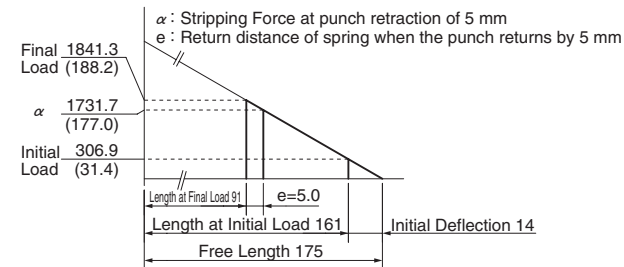
Catalog No.	W	θ	S
SKCA	150	15	70



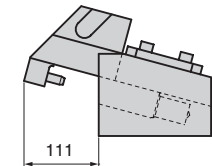
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

#### Spring Diagram

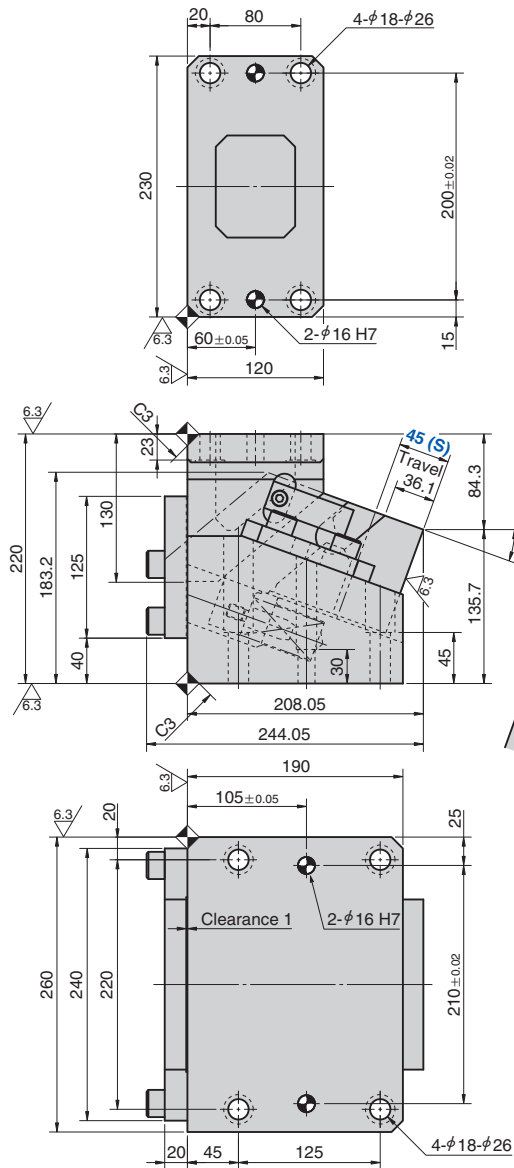
- Spring Model TF35-175 (2 pieces)
- Spring constant 10.96 N/mm (1.12 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



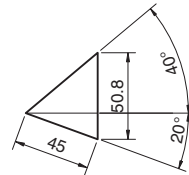
#### Rear Removal Space



### SKCA150-20-45



● Cam Diagram



Working Force [kN (tonf)]	Spring Force N (kgf)	Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load				
64.7 (6.6)	98.0 (10.0)	429.5 (43.7)	1810.1 (184.1)	SKCA	150	20	45



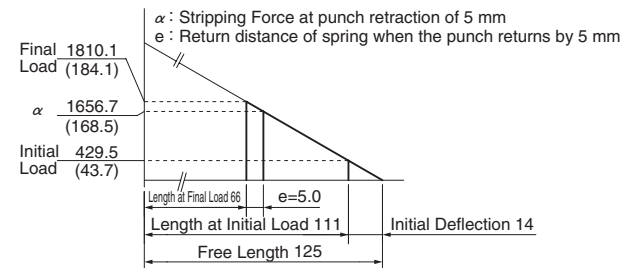
Catalog No.	W	θ	S
SKCA	150	20	45



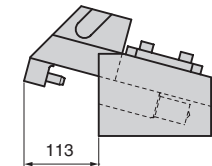
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

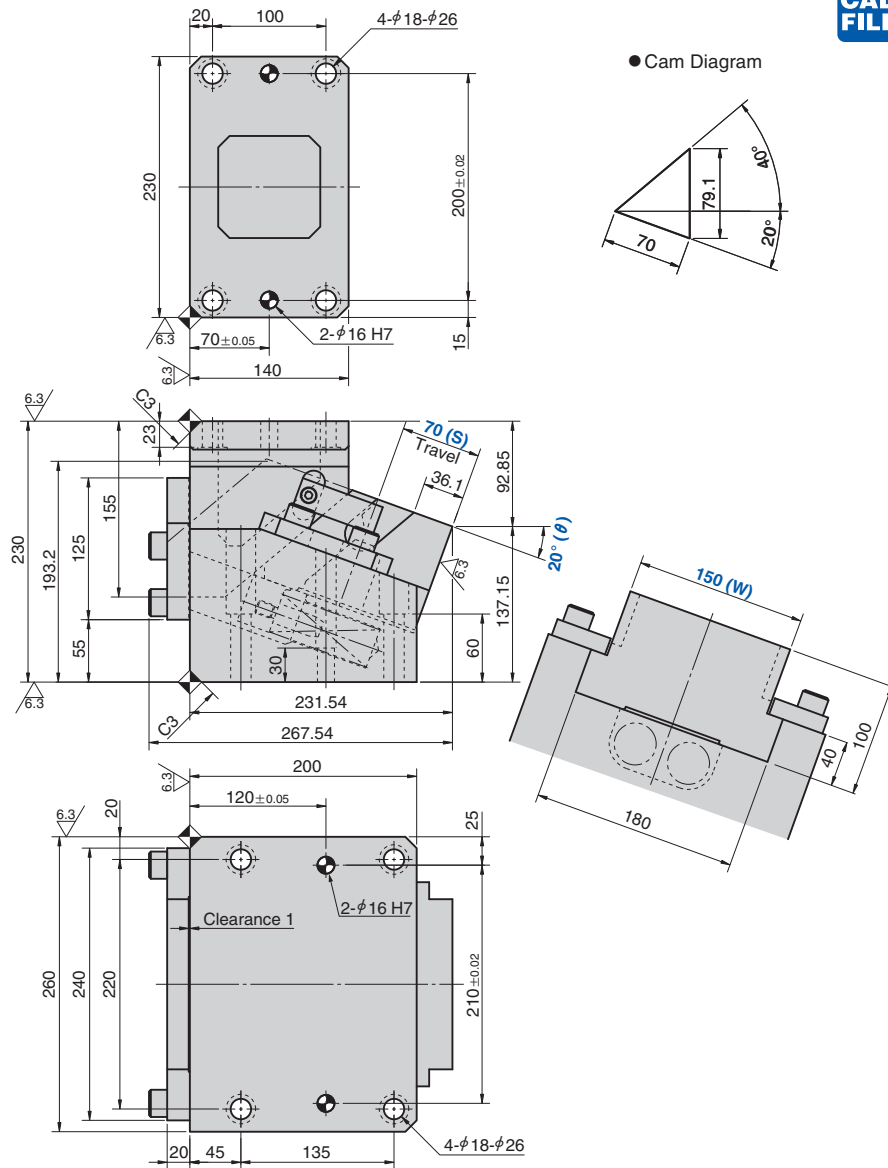
- Spring Model TF35-125 (2 pieces)
- Spring constant 15.34 N/mm (1.56 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



### Rear Removal Space



### SKCA150-20-70



Working Force [kN (tonf)]		Spring Force N (kgf)		Cam Slider Weight kg	Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
64.7 (6.6)	98.0 (10.0)	306.9 (31.4)	1841.3 (188.2)	16.0	75.0	SKCA	150	20	70



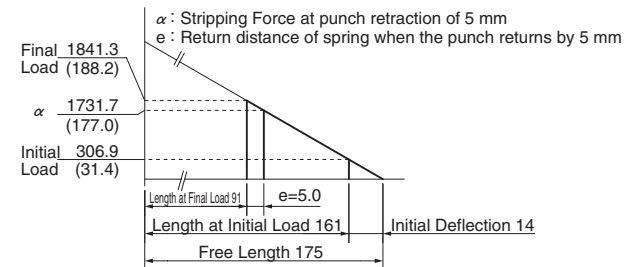
Catalog No.	W	θ	S
SKCA	150	20	70



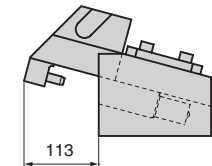
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

### Spring Diagram

- Spring Model TF35-175 (2 pieces)
- Spring constant 10.96 N/mm (1.12 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



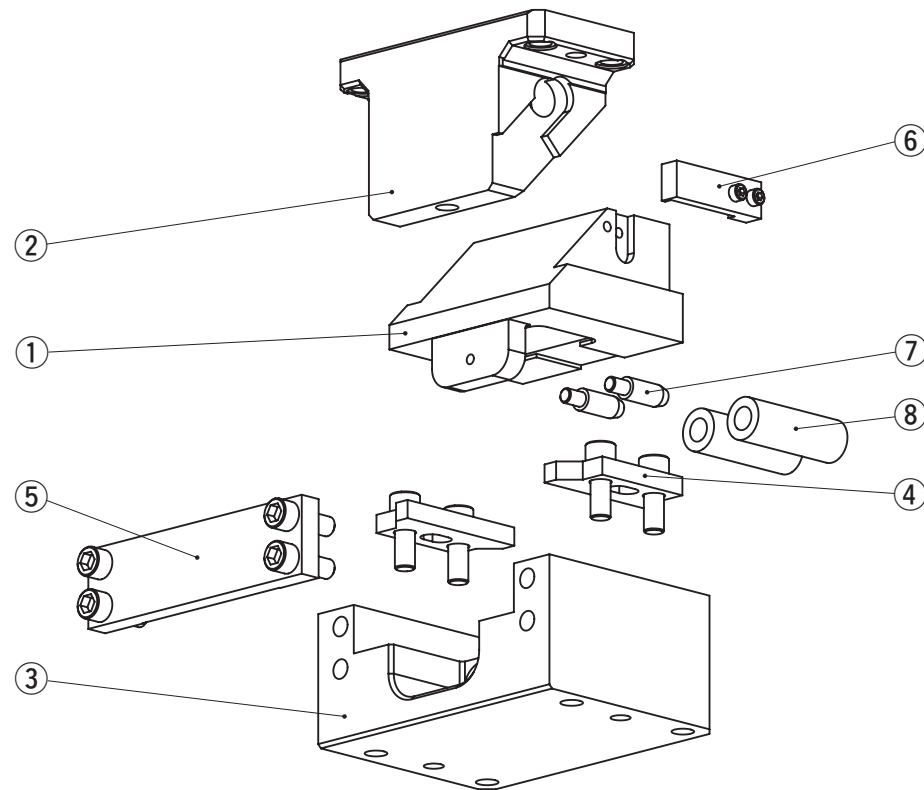
### Rear Removal Space



# SKCA [Table of Components]

## Die Mounted Cam Unit

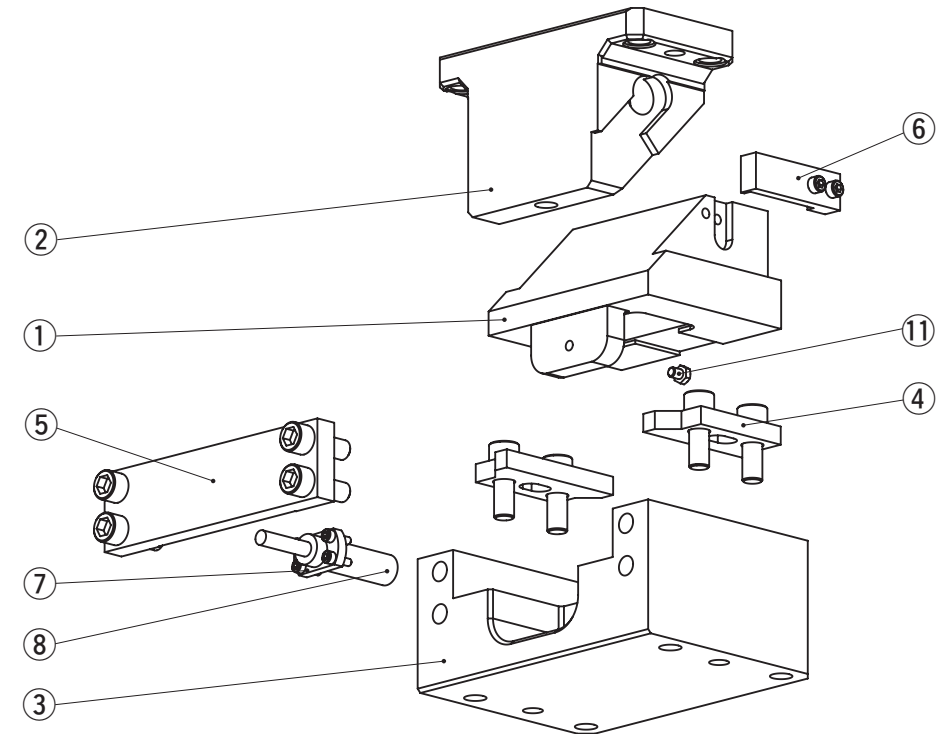
SKCA150 (Coil Spring)



No.	Description	Qty	Material and Remark
1	Cam Slider	1	Cast Iron with Graphite
2	Cam Driver	1	Cast Iron with Graphite
3	Cam Holder	1	Cast Iron
4	Upper Plate	2	Copper Powder Sintered
5	Stopper Plate	1	Steel
6	Positive Return Follower	1	Steel
7	Spring Guide Pin	2	φ18x60
8	Coil Spring	2	TF35-100 40st
8	Coil Spring	2	TF35-125 45st
8	Coil Spring	2	TF35-150 60st
8	Coil Spring	2	TF35-175 70st

Bolts, nuts, dowels, and washers for assembly are not indicated.

SKCA150 (Gas Spring)



No.	Description	Qty	Material and Remark
1	Cam Slider	1	Cast Iron with Graphite
2	Cam Driver	1	Cast Iron with Graphite
3	Cam Holder	1	Cast Iron
4	Upper Plate	2	Copper Powder Sintered
5	Stopper Plate	1	Steel
6	Positive Return Follower	1	Steel
7	Mounting Plate	1	Gas Spring specification only
8	Spring	—	Refer to the Spring Specification.
11	Stop Pin	1	Gas Spring specification only

Bolts, nuts, dowels, and washers for assembly are not indicated.

# Cam Units [Overview]

## Additional Machining

### Information

#### ■ Tapped Hole and Dowel Hole (Prepared Hole, Finish) Machining for Retainer Mounting

##### Instruction method for machining

Indicate the tapped hole diameter and the dowel hole (or prepared hole) diameter with the XY coordinates.

##### To indicate the coordinates

- The origin is positioned at the upper left corner of the mount face. (However, machining uses our machining datum as the reference.)

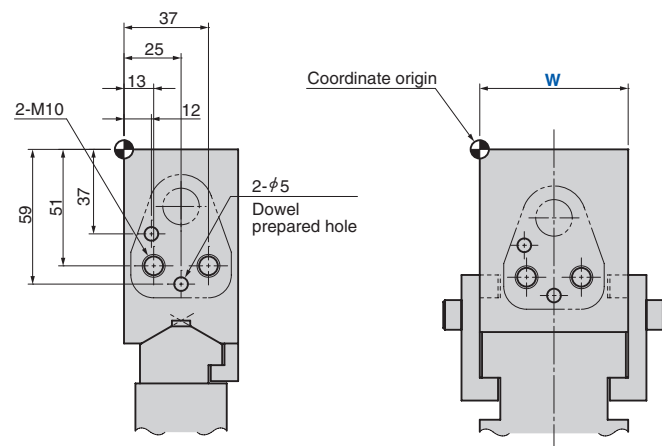
- Indication symbol

—M...Tapped hole, —N...Dowel prepared hole, —K...Dowel finish hole

##### Machining standard

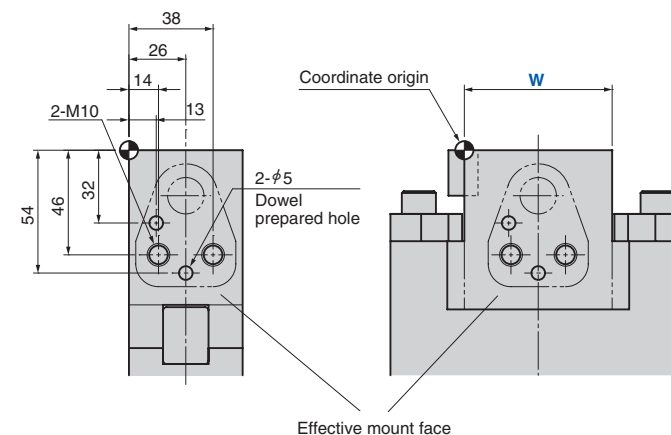
- Tapped holes and dowel prepared holes are machined to general tolerances.
- The hole depth is 2.5 times the diameter for both tapped holes and dowel holes. The dowel pilot hole is processed for 2 times the diameter.
- The dowel hole spacing is machined to the tolerance of  $\pm 0.02$ . The hole tolerance is H7.

〈Example of Aerial Cam Unit〉



Order	Catalog No.	W	θ	Additional Machining
	SACE	52	00	— M10 — X (13.0) — Y (−51.0) — M10 — X (37.0) — Y (−51.0) — K5.0 — X (12.0) — Y (−37.0) — K5.0 — X (25.0) — Y (−59.0)

〈Example of Die Mounted Cam Unit〉



Catalog No.	W	θ	S	Additional Machining
CMSD	52	00	55	— M10 — X (14.0) — Y (−46.0) — M10 — X (38.0) — Y (−46.0) — K5.0 — X (13.0) — Y (−32.0) — K5.0 — X (26.0) — Y (−54.0)

#### ■ Other machining

Please give instructions on a separate drawing for drilling or cutting other than tapped holes and dowel holes.