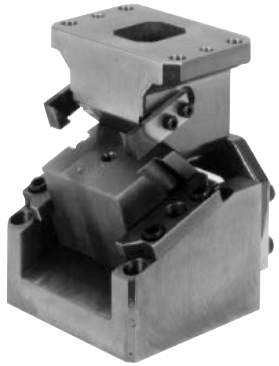
SKCA [Overview]

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.



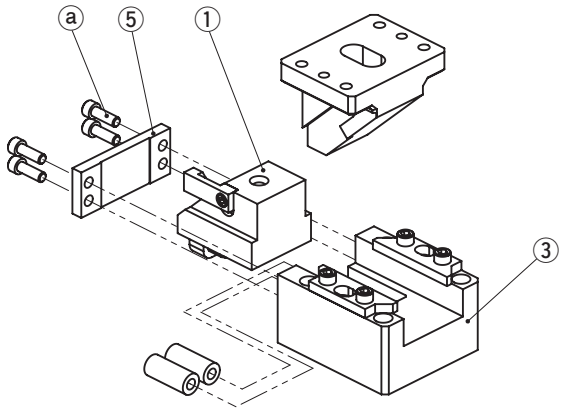
■Gas Spring Specifications

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)

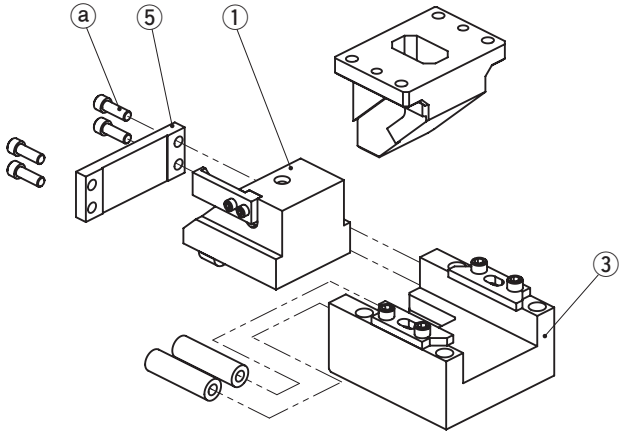
■Coil Spring Specifications

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		
		15	45		
			70		
		20	45		
			70		
100	100	00	40	29.4 (3.0)	58.8 (6.0)
			60		
			80		
	90	05	45	39.2 (4.0)	78.4 (8.0)
			70		
		10	45		
			70		
		15	45		
			70		
		20	45		
			70		
150	100	00	40	58.8 (6.0)	88.2 (9.0)
			60		
		05	45	64.7 (6.6)	98.0 (10.0)
			70		
		10	45		
			70		
		15	45		
			70		
		20	45		
			70		
200	110	00	40	78.4 (8.0)	117.6 (12.0)
			60		
250	130	00	40	98.0 (10.0)	147.0 (15.0)
			60		
300		00	40	117.6 (12.0)	176.4 (18.0)
			60		

■SKCA52, 65 Assembly Instructions



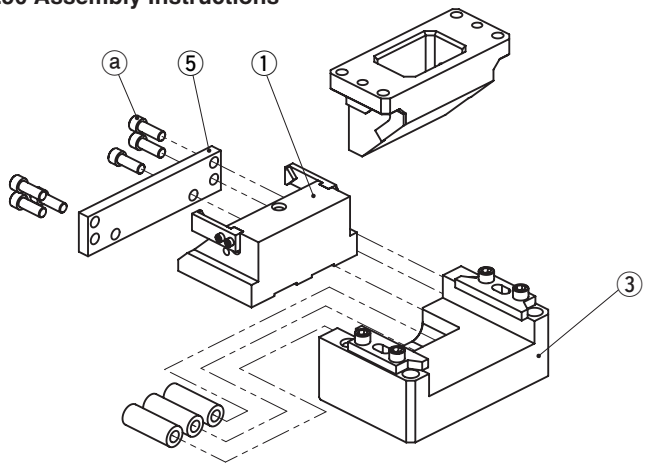
■SKCA100, 150 Assembly Instructions



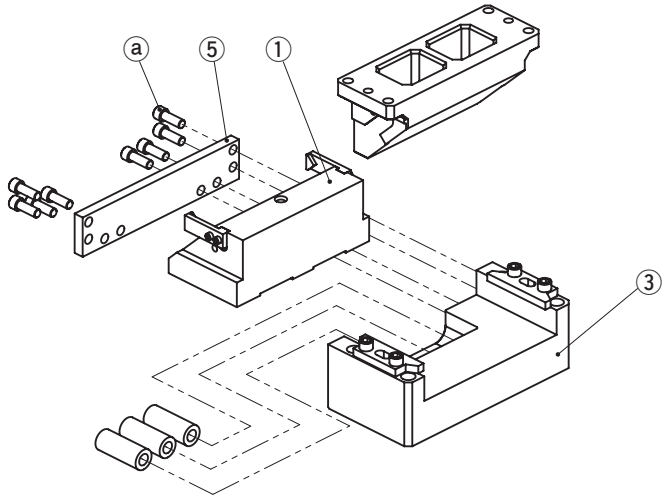
● Disassembly

1) Remove Hexagon Socket Head Bolts (ⓐ), 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

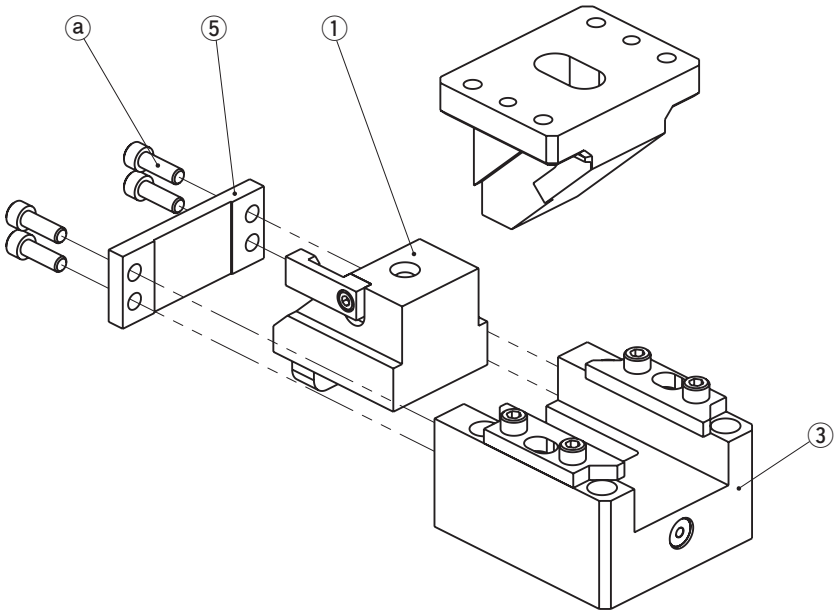


● Assembly

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.

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



● Disassembly

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

● Assembly

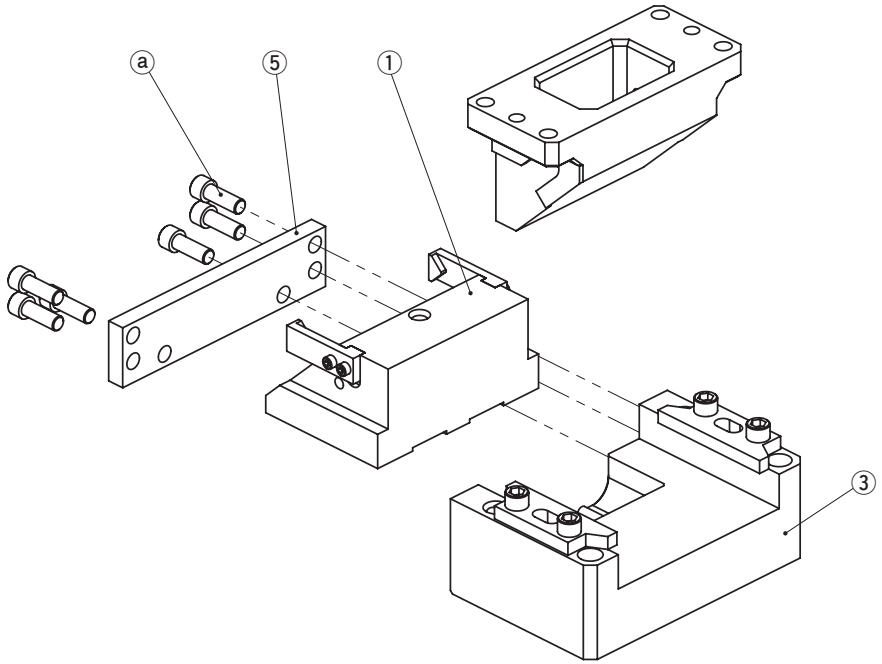
Assembly is the reverse procedure of disassembly.

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

● Assembly

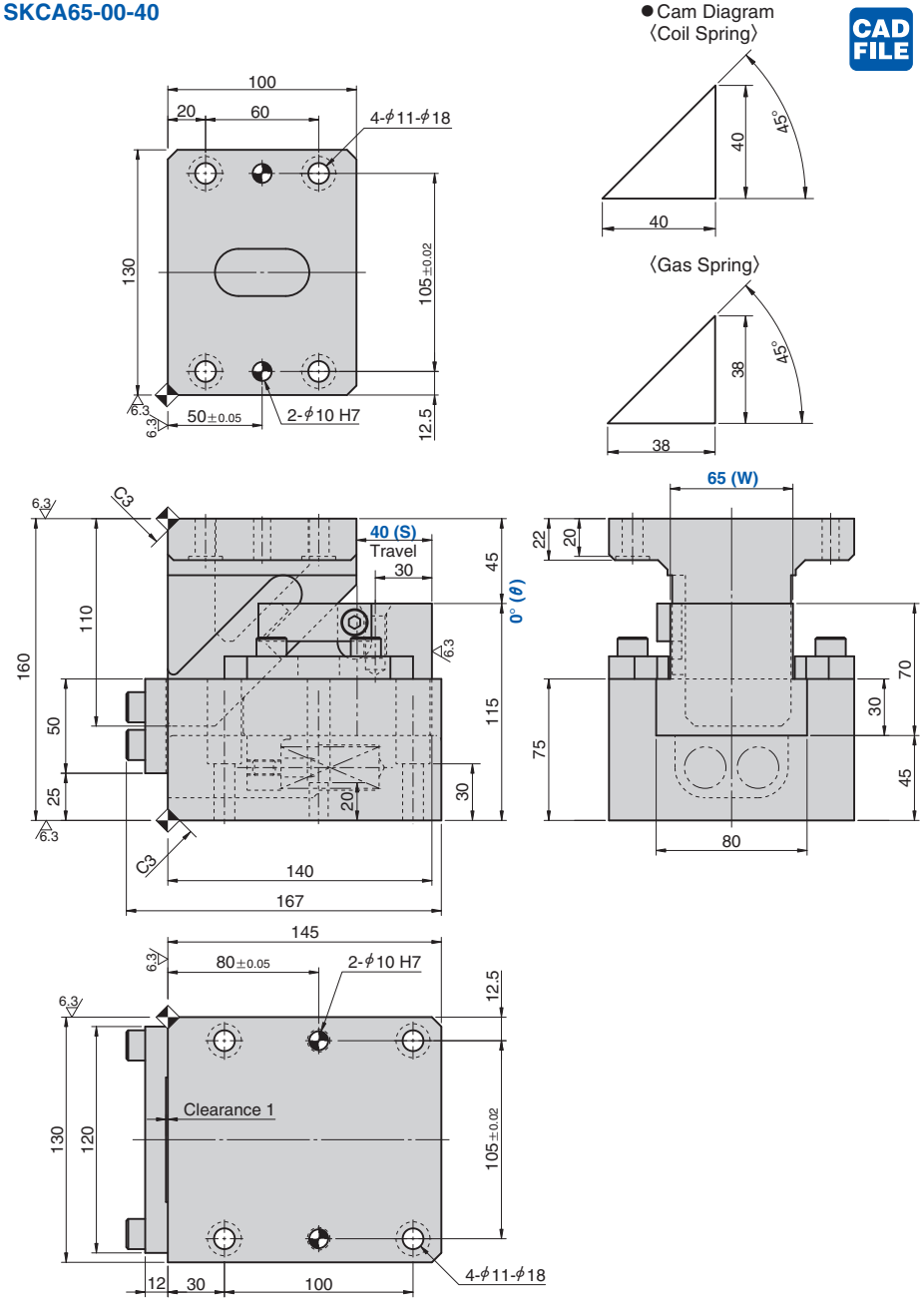
Assembly is the reverse procedure of disassembly.

- 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.

SKCA65-00-40



Refer to page 987, 988 for Table of Components.

Working Force [kN (tonf)]		Spring Force N (kgf)		Total Weight kg	Catalog No.	W	θ	Travel S	Spring Type PS
Standard Working Force 1,000,000 strokes	Allowable Working Force 300,000 strokes	Initial Load	Final Load						
19.6 (2.0)	39.2 (4.0)	125.4 (12.8)	752.6 (76.8)	15.5	SKCA	65	00	40	No Code (Coil Spring) NISO
		—	677 (69.1)					40 (38)	GK NGK GD NGD GS NGS

Gas Spring travel is 38mm.
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	65	–	00	–	40	–	GK		
SKCA	65	–	00	–	40	–	NGK		
SKCA	65	–	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.

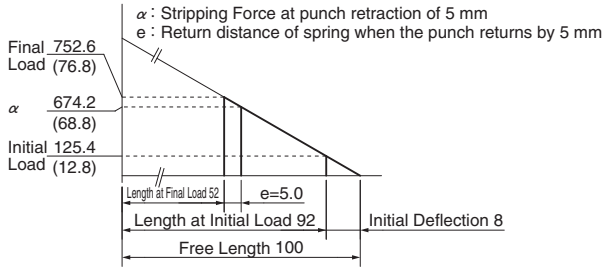
■Spring Specification

No.	PS	Spring Model	Qty	Remark
8	No Code	TF22-100	2	Coil Spring 7.84 N/mm (0.80 kgf/mm)
	GK	R19-38.1-Blue	1	Gas Spring (KALLER)
	GD	C.090.038.BK.100	1	Gas Spring (DADCO)
	GS	SFL.50.38	1	Gas Spring (SDT)

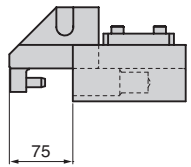
Gas filling pressure: 10 MPa
Life expectancy of Coil Spring is approximately 300,000 strokes.

■Spring Diagram

・Spring Model TF22-100 (2 pieces)

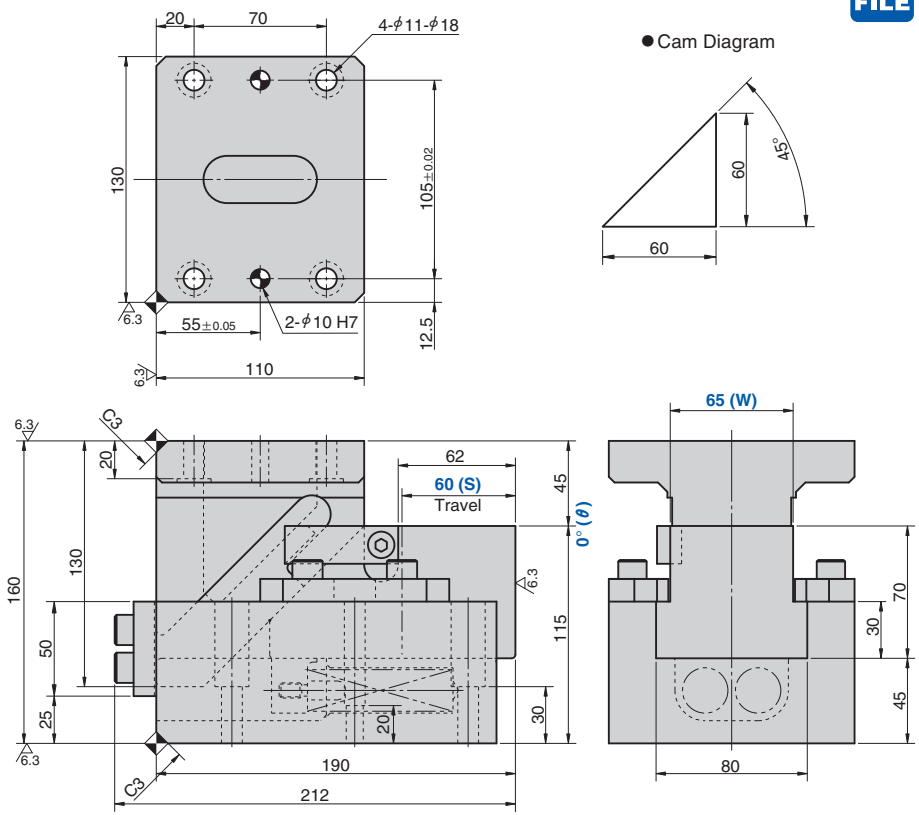


■Rear Removal Space



SKCA65-00-60

CAD FILE



Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	136.0 (13.8)	763.6 (77.4)	21.0	SKCA	65	00	60

Order

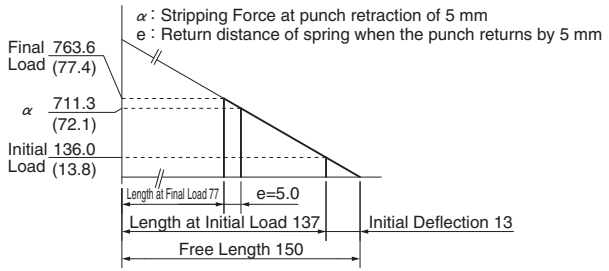
Catalog No.	W	–	θ	–	S
SKCA	65	–	00	–	60

Option

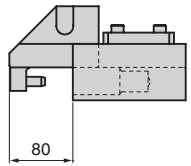
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF22-150 (2 pieces)
- Spring constant 5.23 N/mm (0.53 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



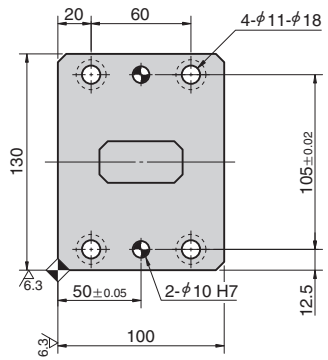
■Rear Removal Space



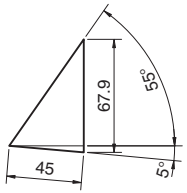
Refer to page 987 for Table of Components.

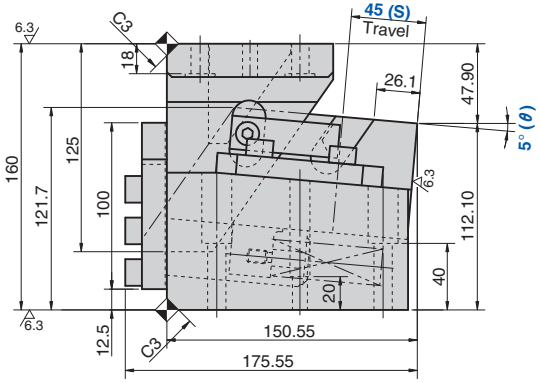
SKCA65-05-45

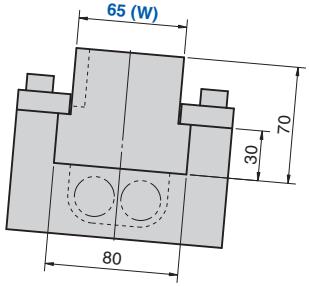
CAD FILE

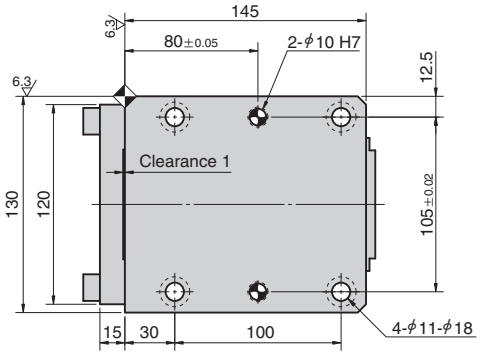


● Cam Diagram









Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	175.8 (17.9)	741.0 (75.5)	19.0	SKCA	65	05	45

Order

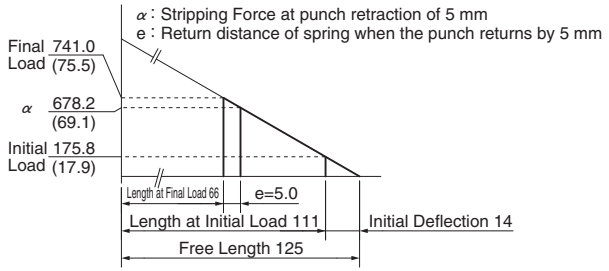
Catalog No.	W	–	θ	–	S
SKCA	65	–	05	–	45

Option

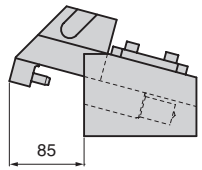
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF22-125 (2 pieces)
- Spring constant 6.28 N/mm (0.64 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



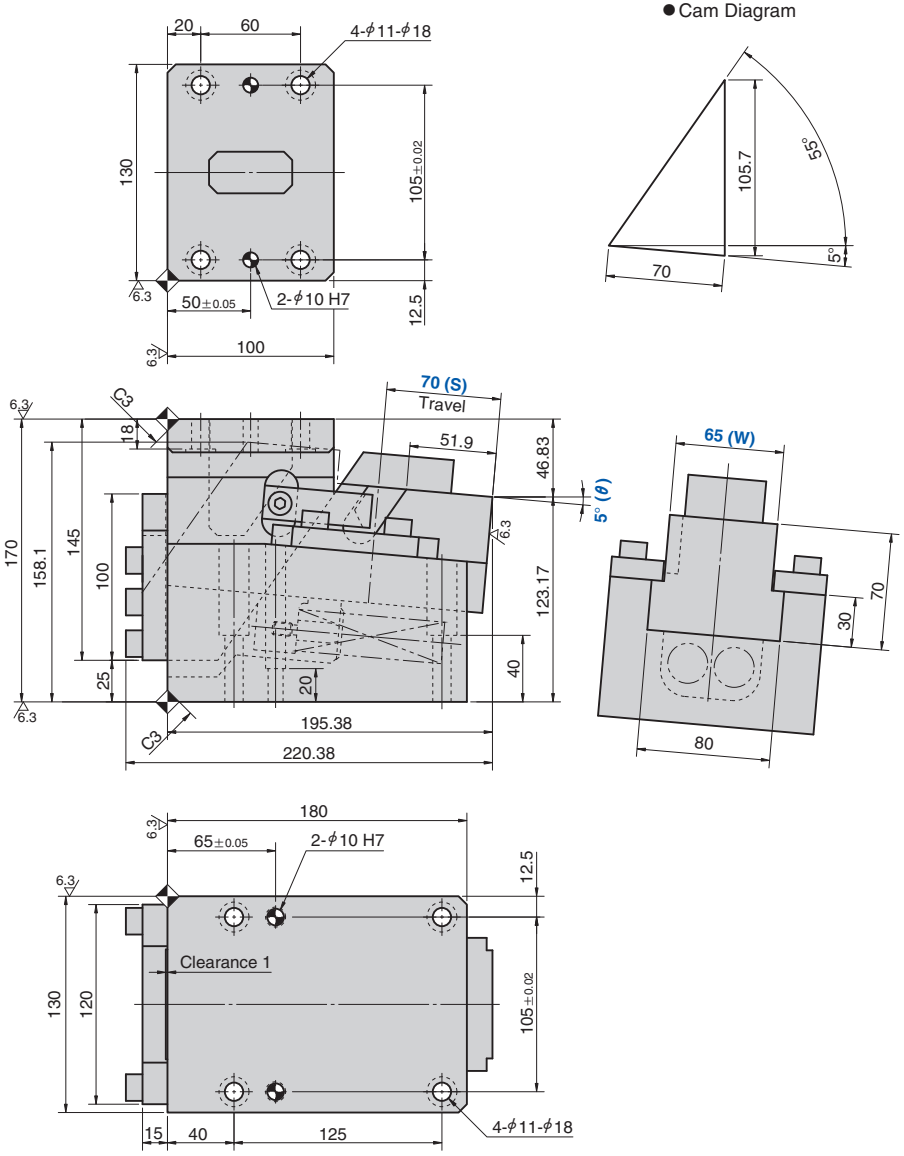
■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-05-70

CAD FILE



● Cam Diagram

Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	190.4 (19.4)	974.4 (99.2)	22.2	SKCA	65	05	70

Order

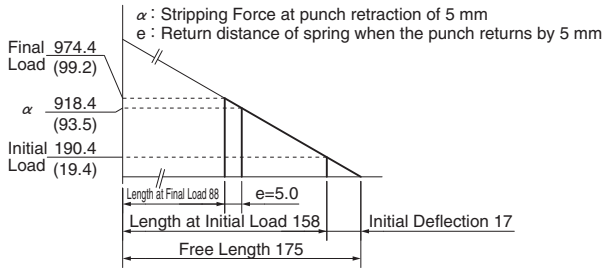
Catalog No.	W	–	θ	–	S
SKCA	65	–	05	–	70

Option

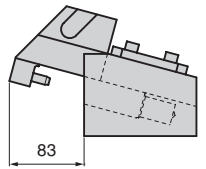
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF25-175 (2 pieces)
- Spring constant 5.60 N/mm (0.57 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



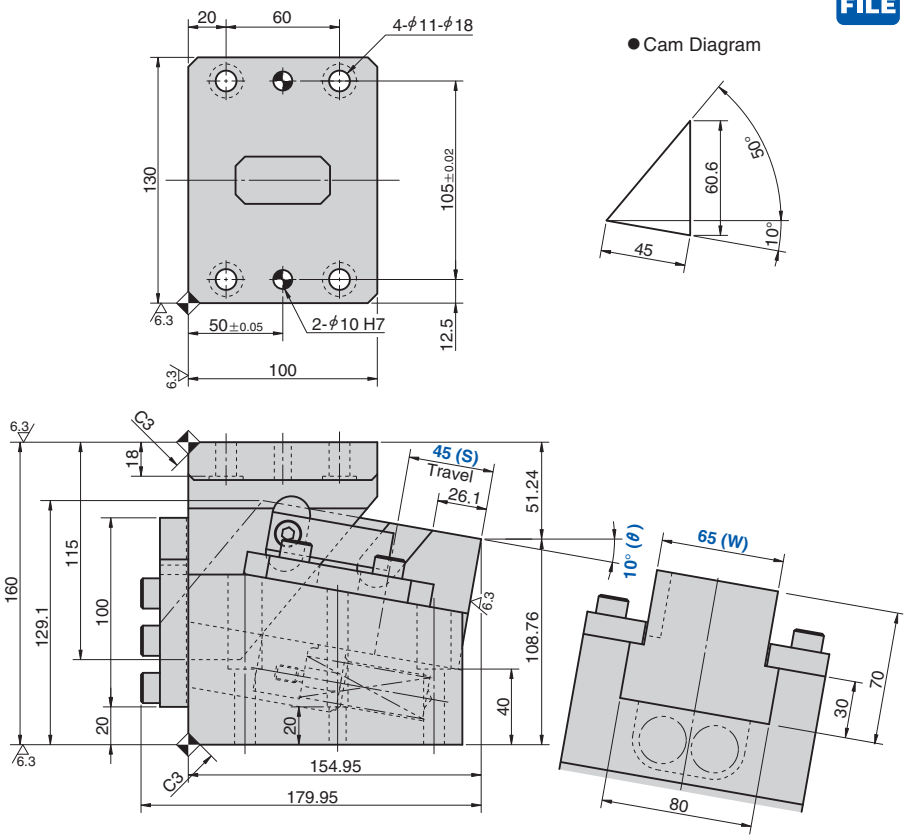
■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-10-45

CAD FILE



Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	175.8 (17.9)	741.0 (75.5)	19.6	SKCA	65	10	45

Order

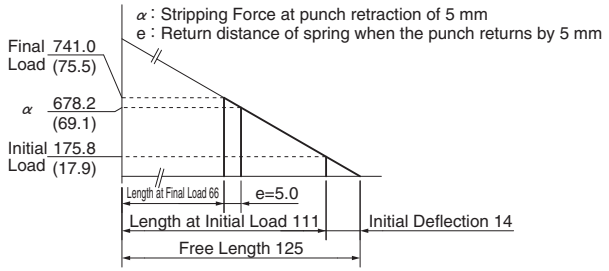
Catalog No.	W	–	θ	–	S
SKCA	65	–	10	–	45

Option

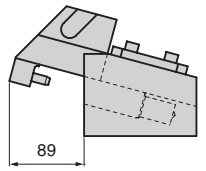
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF22-125 (2 pieces)
- Spring constant 6.28 N/mm (0.64 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.

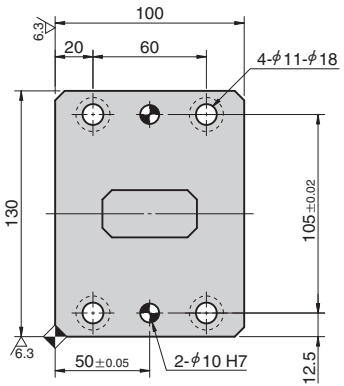


■Rear Removal Space

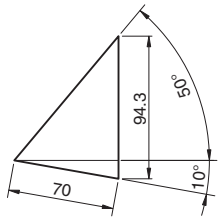


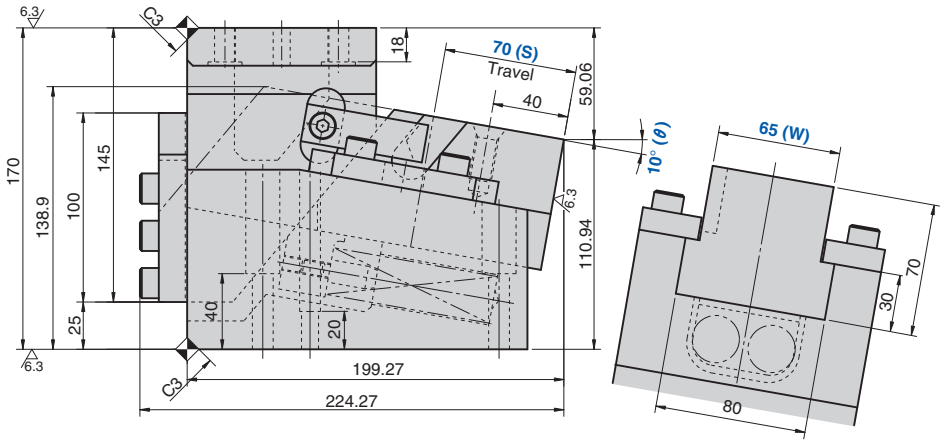
Refer to page 987 for Table of Components.

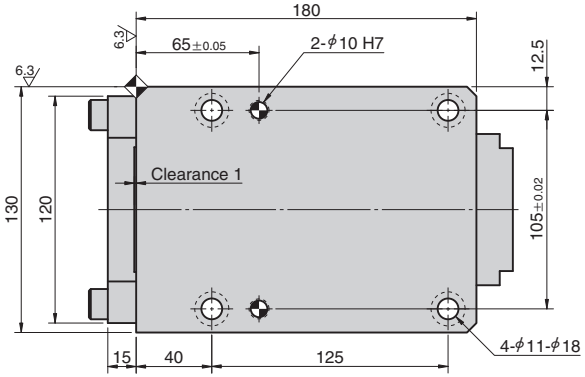
SKCA65-10-70



● Cam Diagram







Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	190.4 (19.4)	974.4 (99.2)	20.5	SKCA	65	10	70

Order

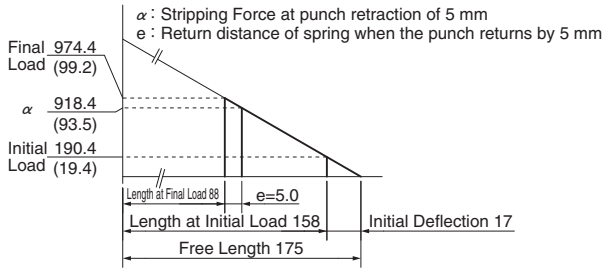
Catalog No.	W	–	θ	–	S
SKCA	65	–	10	–	70

Option

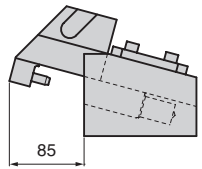
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF25-175 (2 pieces)
- Spring constant 5.60 N/mm (0.57 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



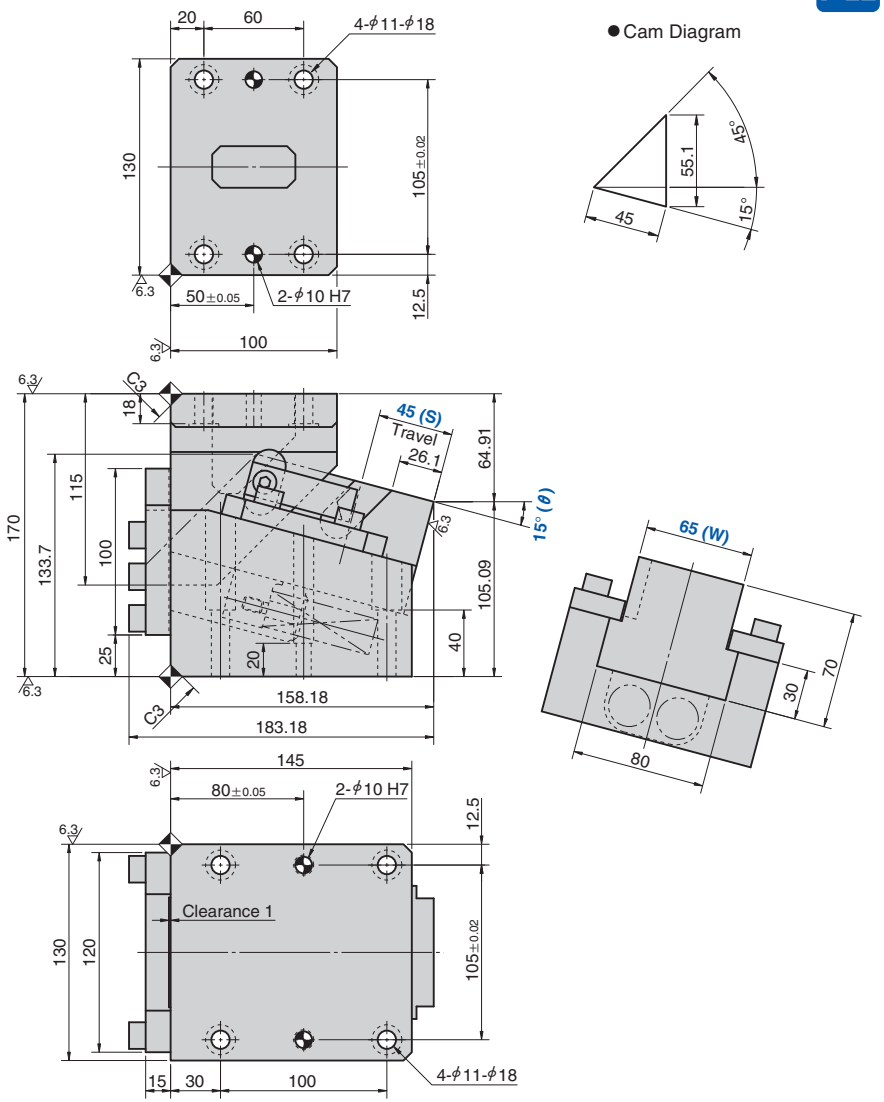
■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-15-45

CAD FILE



● Cam Diagram

Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	175.8 (17.9)	741.0 (75.5)	22.3	SKCA	65	15	45

Order

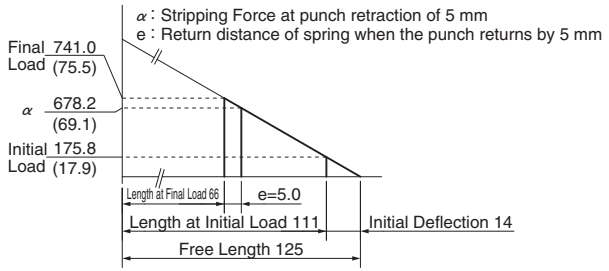
Catalog No.	W	–	θ	–	S
SKCA	65	–	15	–	45

Option

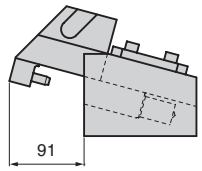
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF22-125 (2 pieces)
- Spring constant 6.28 N/mm (0.64 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



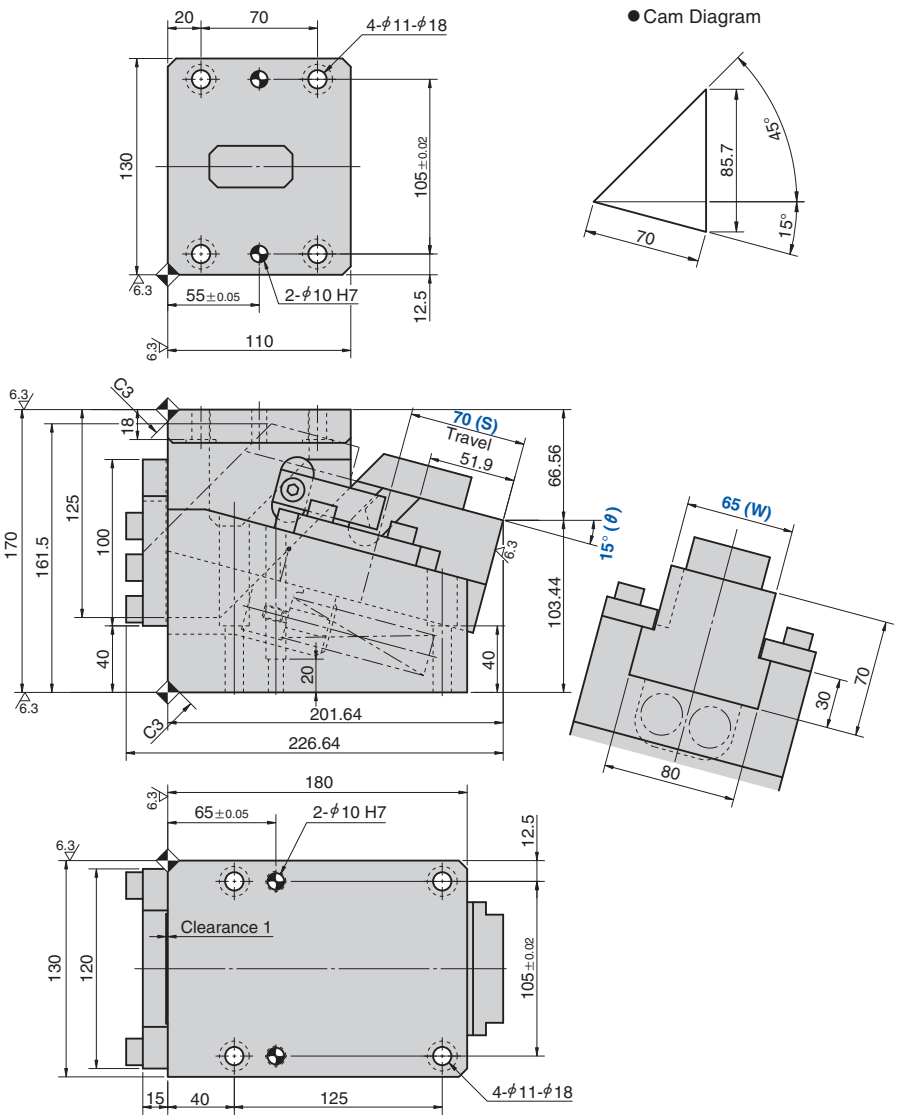
■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-15-70

CAD FILE



Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	190.4 (19.4)	974.4 (99.2)	22.3	SKCA	65	15	70

Order

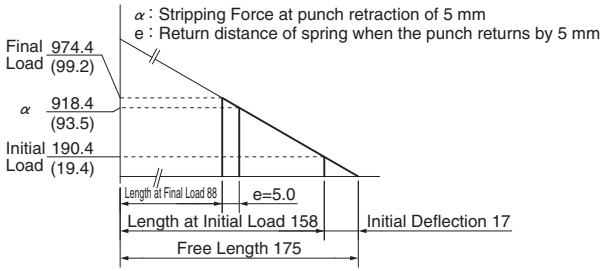
Catalog No.	W	–	θ	–	S
SKCA	65	–	15	–	70

Option

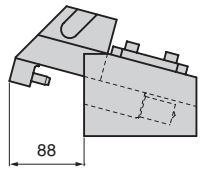
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF25-175 (2 pieces)
- Spring constant 5.60 N/mm (0.57 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



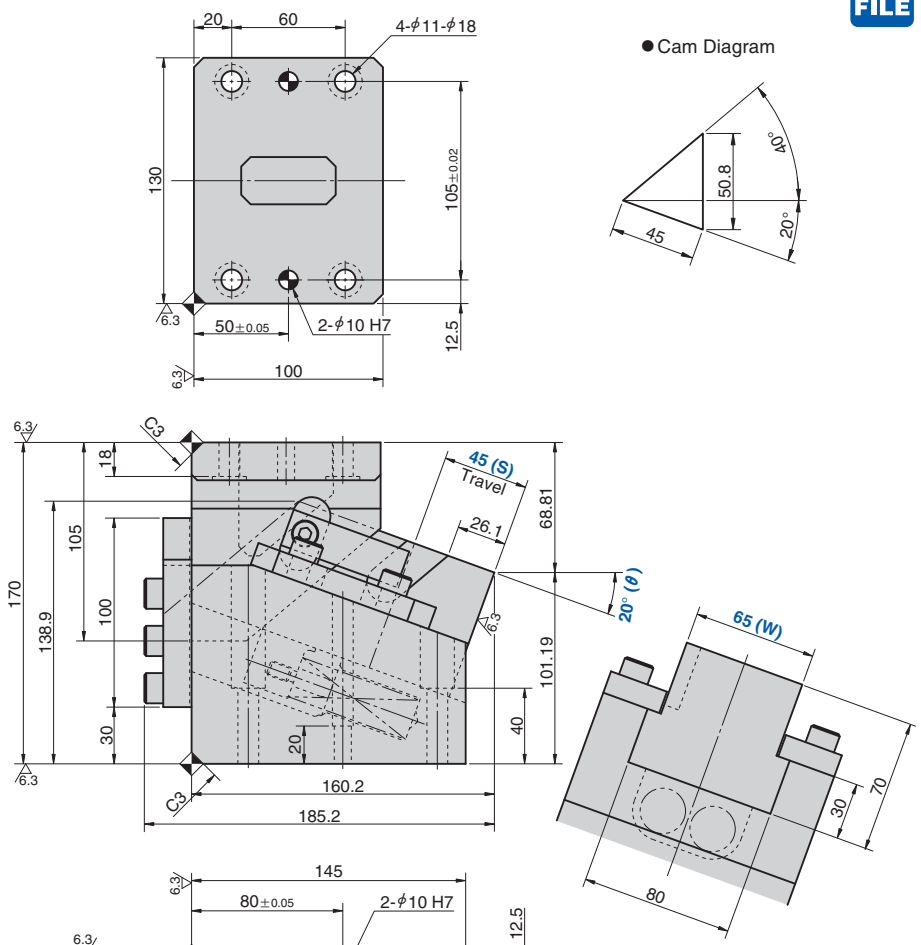
■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-20-45

CAD FILE



● Cam Diagram

Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	175.8 (17.9)	741.0 (75.5)	22.3	SKCA	65	20	45

Order

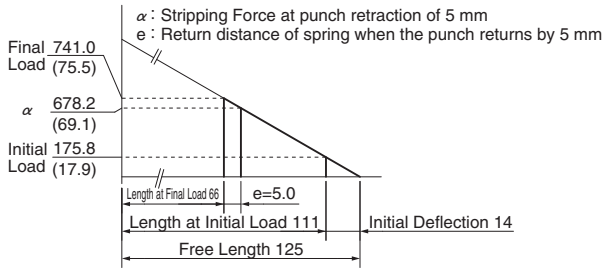
Catalog No.	W	–	θ	–	S
SKCA	65	–	20	–	45

Option

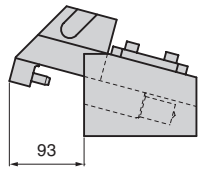
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF22-125 (2 pieces)
- Spring constant 6.28 N/mm (0.64 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.

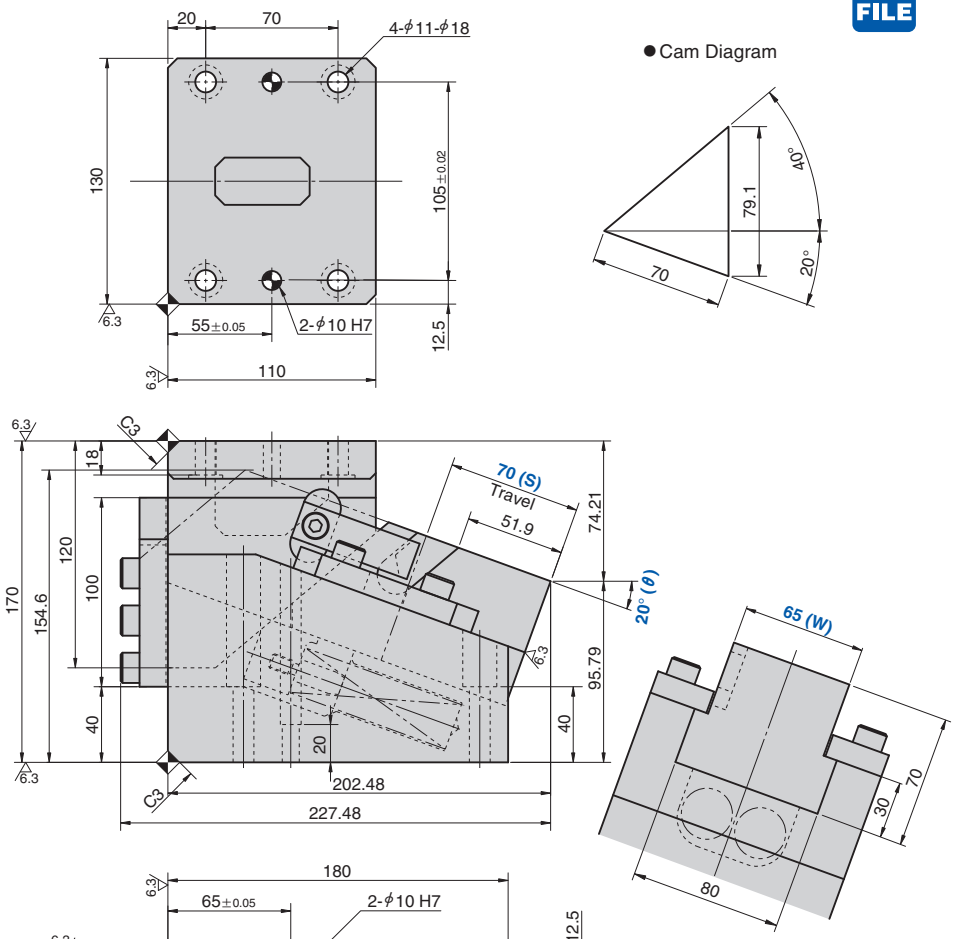


■Rear Removal Space



Refer to page 987 for Table of Components.

SKCA65-20-70



Working Force [kN (tonf)]		Spring Force N (kgf)		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					
19.6 (2.0)	39.2 (4.0)	190.4 (19.4)	974.4 (99.2)	21.3	SKCA	65	20	70

Order

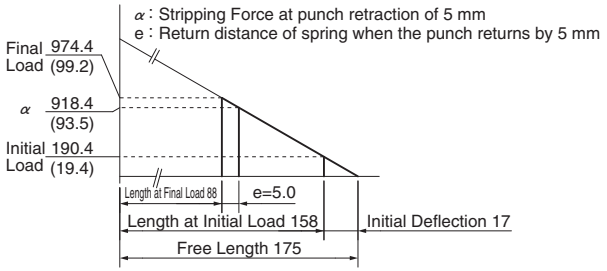
Catalog No.	W	–	θ	–	S
SKCA	65	–	20	–	70

Option

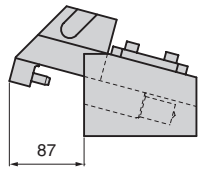
Refer to page 377 for the machining details of tapped holes and dowel holes for retainer mounting.

■Spring Diagram

- Spring Model TF25-175 (2 pieces)
- Spring constant 5.60 N/mm (0.57 kgf/mm)
- Life expectancy of Coil Spring is approximately 300,000 strokes.



■Rear Removal Space

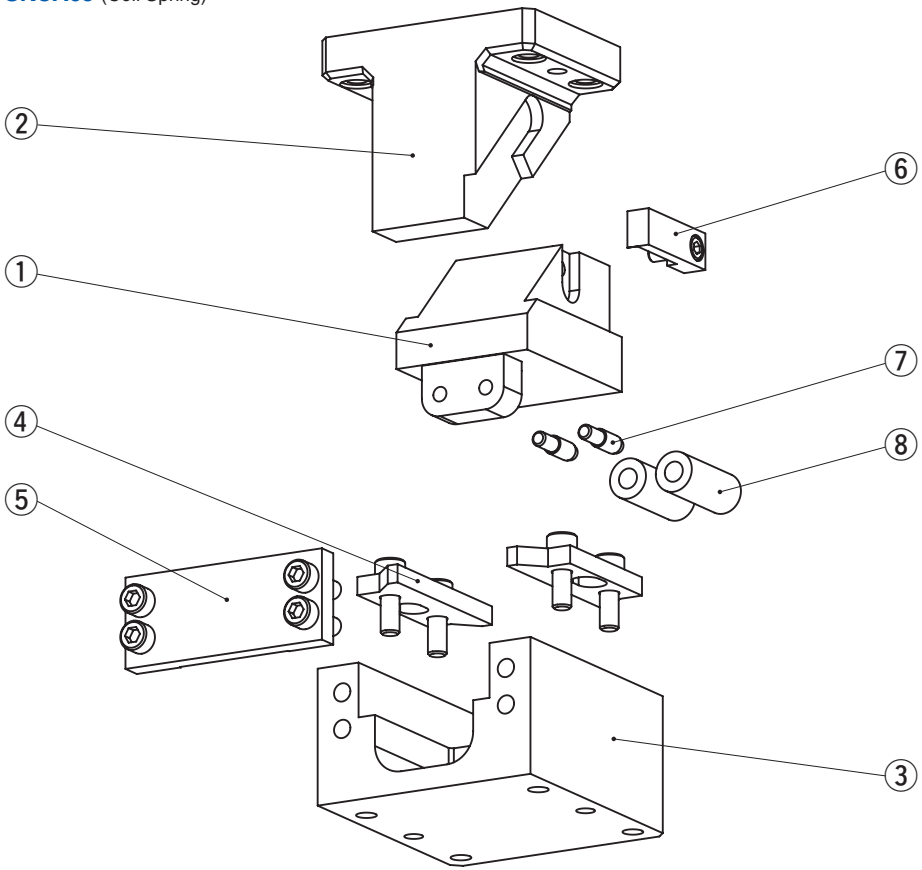


Refer to page 987 for Table of Components.

SKCA [Table of Components]

Die Mounted Cam Unit

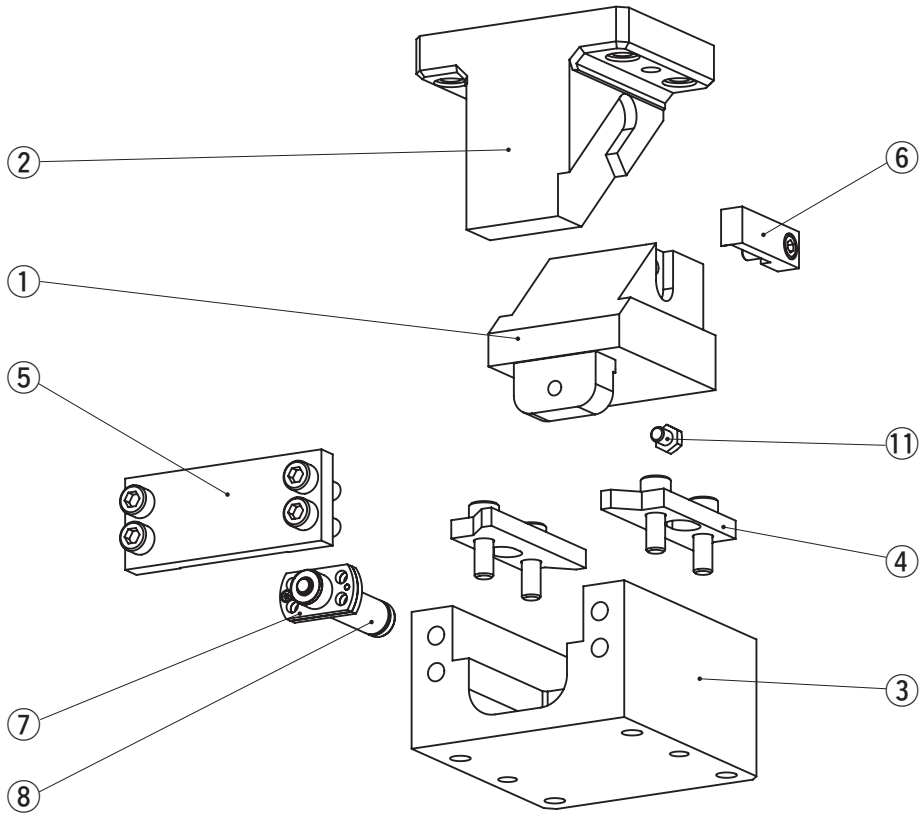
SKCA65 (Coil Spring)



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	ϕ10x35 45,60st
7	Spring Guide Pin	2	ϕ12x40 70st
8	Coil Spring	2	TF22-125 45st
8	Coil Spring	2	TF22-150 60st
8	Coil Spring	2	TF25-175 70st

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

SKCA65 (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

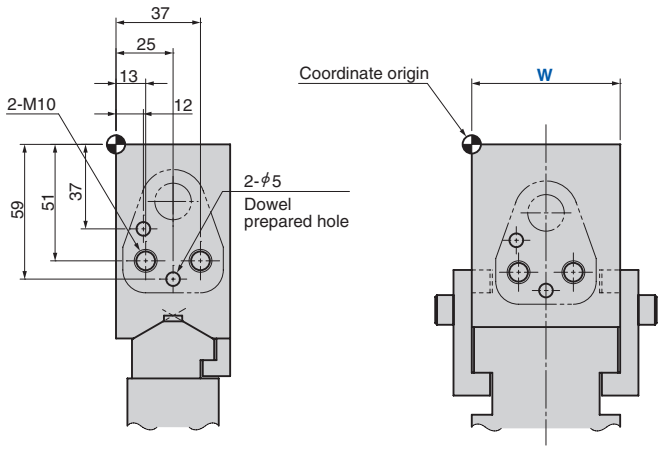
- The origin is positioned at the upper left corner of the mount face. (However, machining uses our machining datum as the reference.)
- Indication symbol

  –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 ±0.02.The hole tolerance is H7.

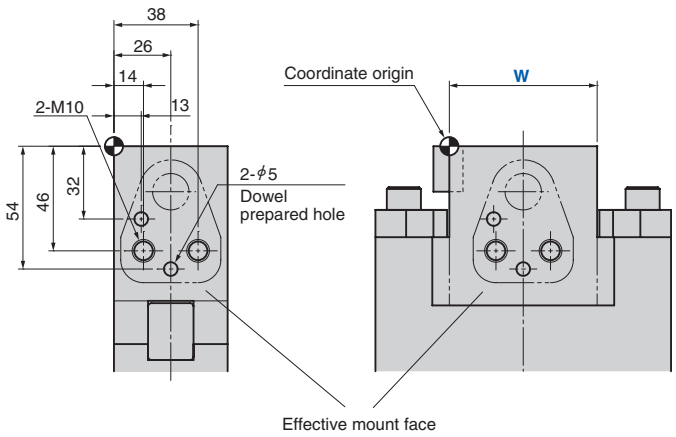
〈Example of Aerial Cam Unit〉



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〉



Order

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.

Cam Units