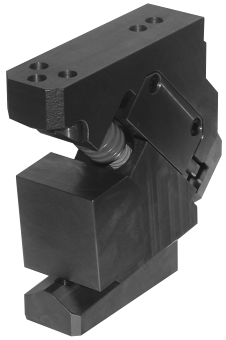
Aerial Cam Unit General Description of SACE

WORKING FORCE 3-TON TYPE

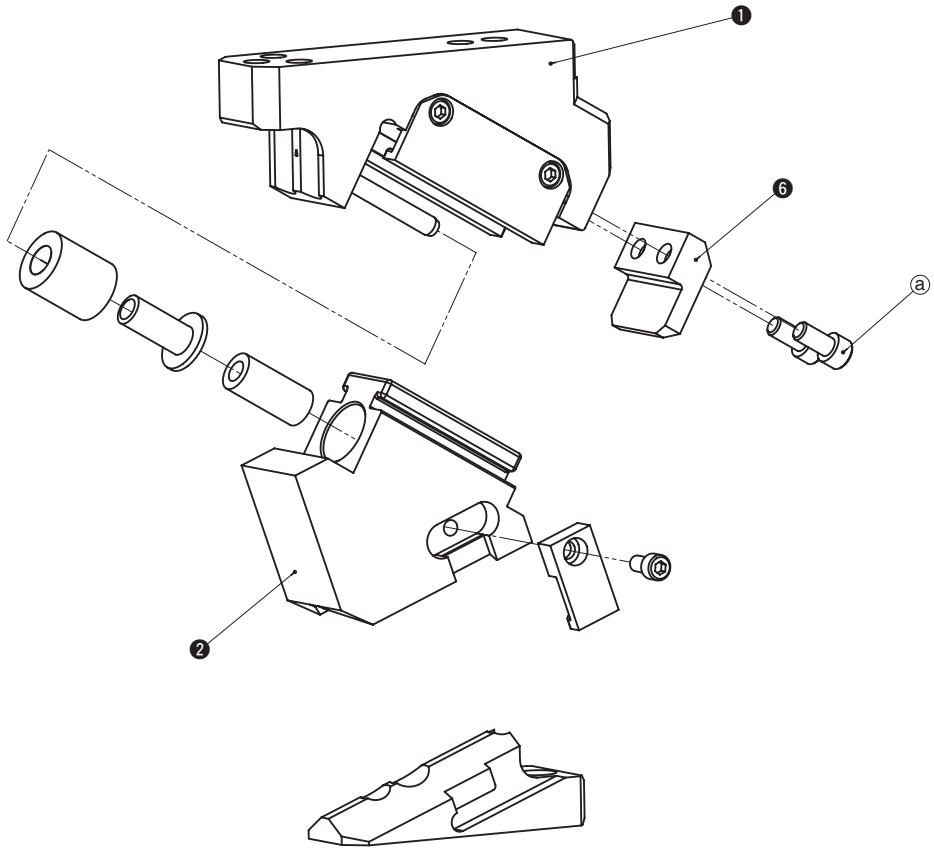


- The standard working force (one million strokes) achieved 29.4 kN with the mounting width of 52 mm.
  The allowable working force (300,000 strokes) is 58.8 kN.
- Improved durability of coil springs compared to old products.(SACD)
- V-shaped guide.
- Available angle is 0°to 60°at increments of 5°

■ SACE Specifications

Mounting Surface		Working Angle	Travel	Working Force kN(tonf)		Spring Force N(kgf)
W	H			Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	
		00	30.2			
		05	33.4			
		10	36.6			
		15	39.9			
		20	43.3			
		25	47.0			
52	75	30	51.0	29.4(3.0)	58.8(6.0)	1425.5(145.5)
		35	55.4			
		40	60.4			
		45	66.2			
		50	73.1			
		55	64.5			
		60	54.0			

■SACE Structure and Assembly / Disassembly



- Disassembly method of SACE52
  1) Remove hexagon socket head bolt (ⓐ), and remove stopper plate (❻).
  2) Pull and remove cam slider (❷) from cam holder (❶) to the rear.

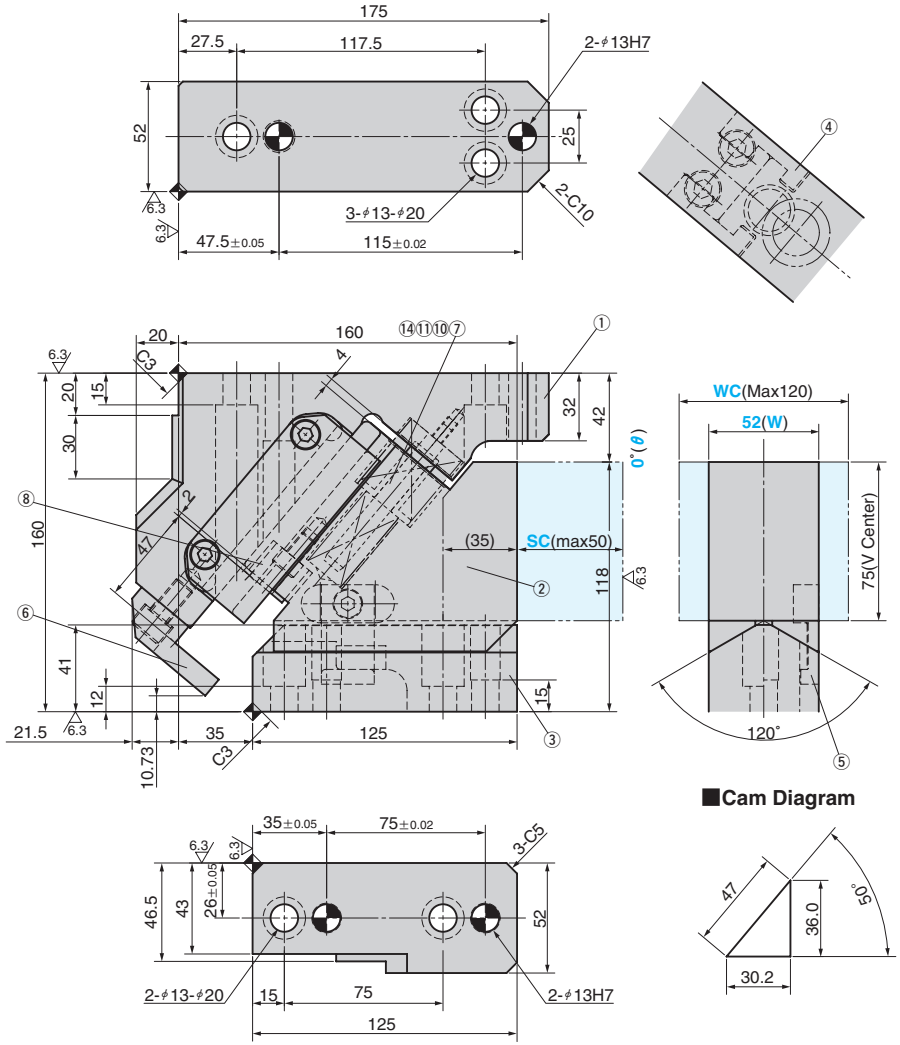
- Assembly method of SACE52
  1)Assemble components in the reverse order of disassembly.
  - Make sure that there is no foreign matter on the sliding area and assemble components.
  - The clearance between the cam slider and the cam holder is controlled. Match the stamped serial number on the holder and slider before assembly.
  - When cam is disassembled and then reassembled,please do not forget to assemble all bolts provided.

Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 00



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
30.2	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1913 (195.2)	8.8	SACE	52	00

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	00

Option

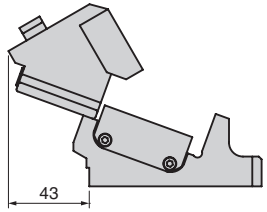
Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 00 – SC40 – N12
SACE52 – 00 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

■Space for removing



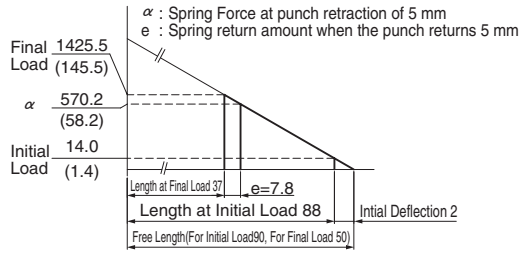
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

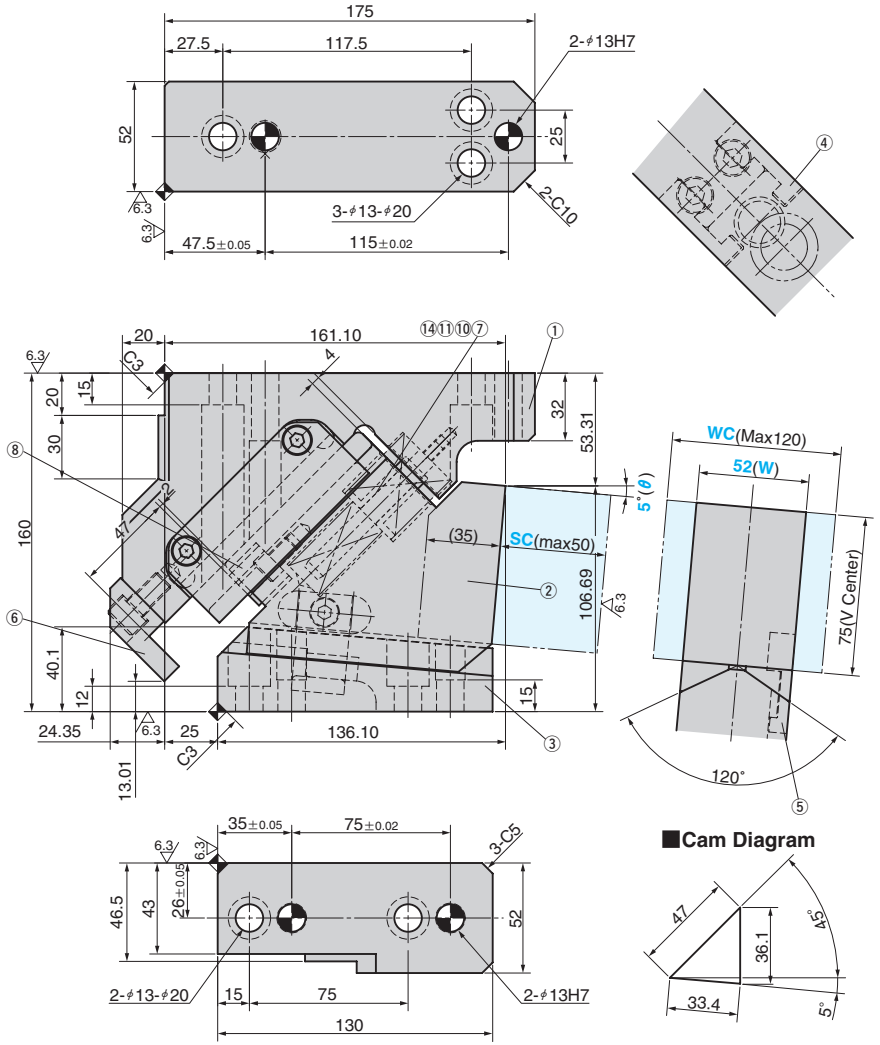


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 05



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
33.4	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1910 (194.9)	8.6	SACE	52	05

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	05

Option

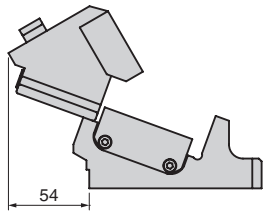
Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 05 – SC40 – N12
SACE52 – 05 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

■Space for removing



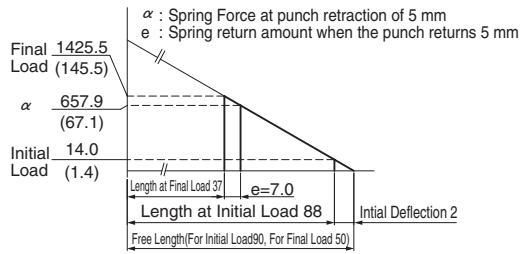
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

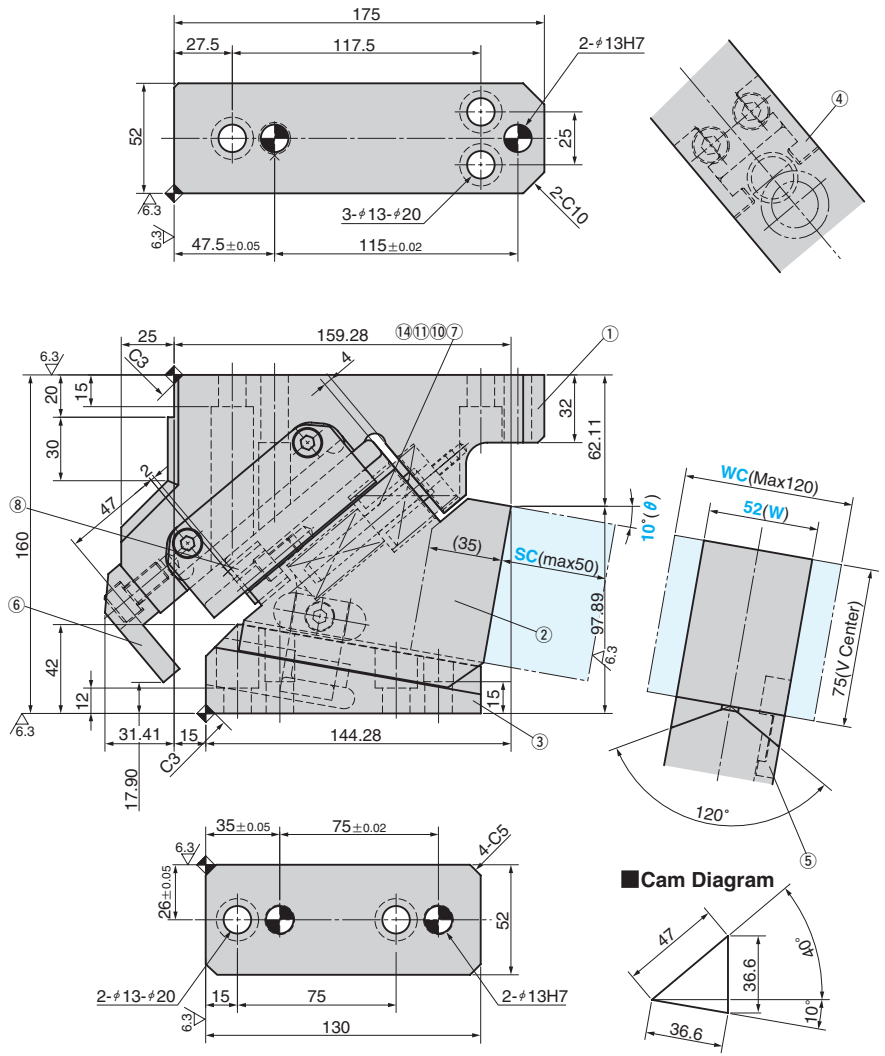


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 10



Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
36.6	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1906 (194.5)	8.7	SACE	52	10

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	10

Option

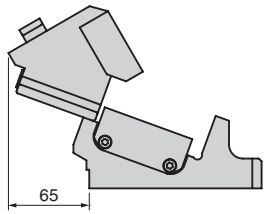
Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 10 – SC40 – N12
SACE52 – 10 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

■ **Space for removing**



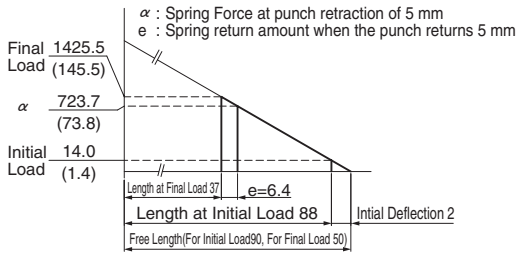
■ **Table of Components**

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■ **Spring Diagram**

- Spring Used — For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

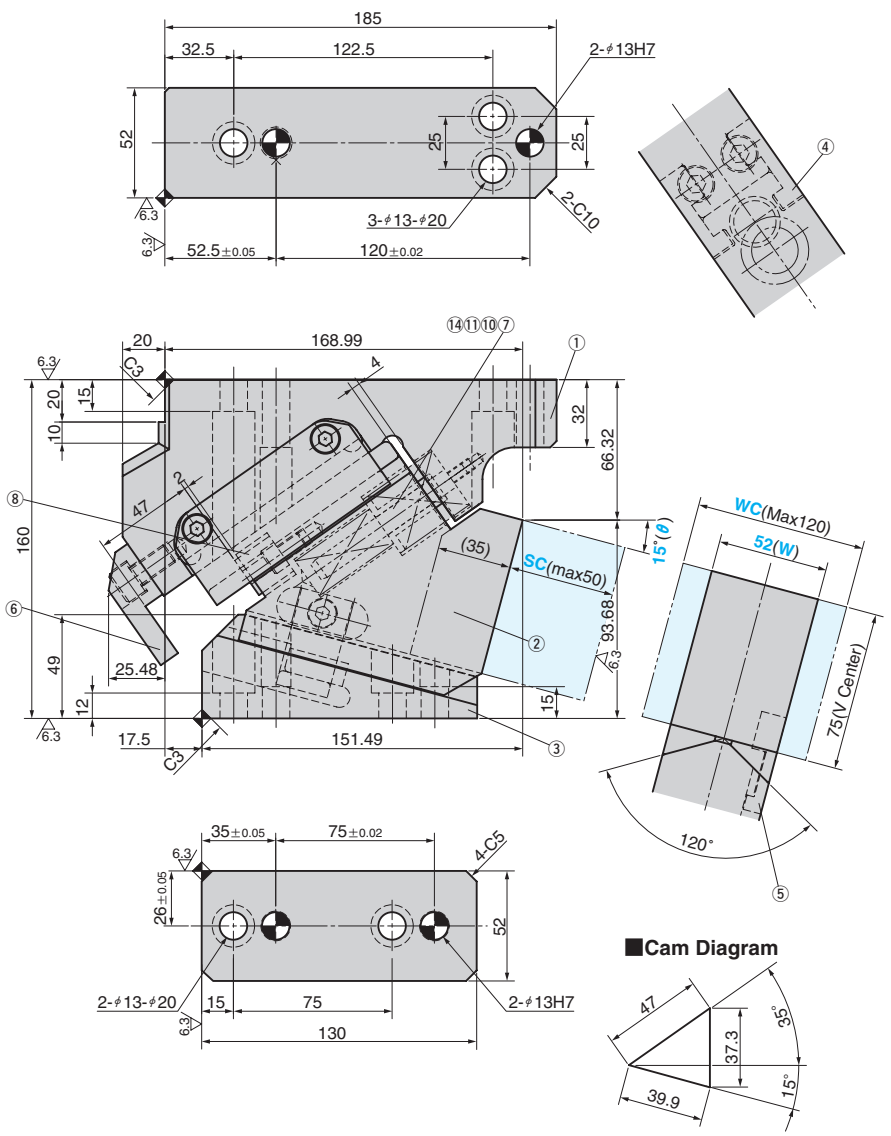


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 15



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
39.9	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1903 (194.2)	9.0	SACE	52	15

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	15

Option

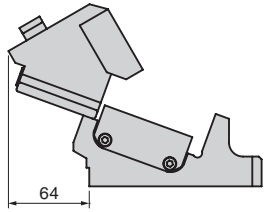
Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 15 – SC40 – N12
SACE52 – 15 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

■Space for removing



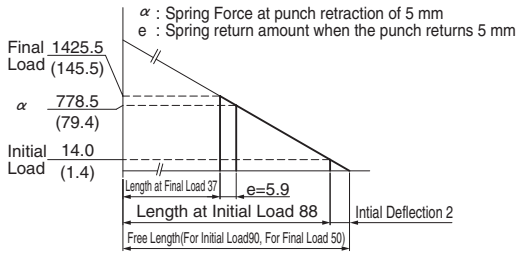
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

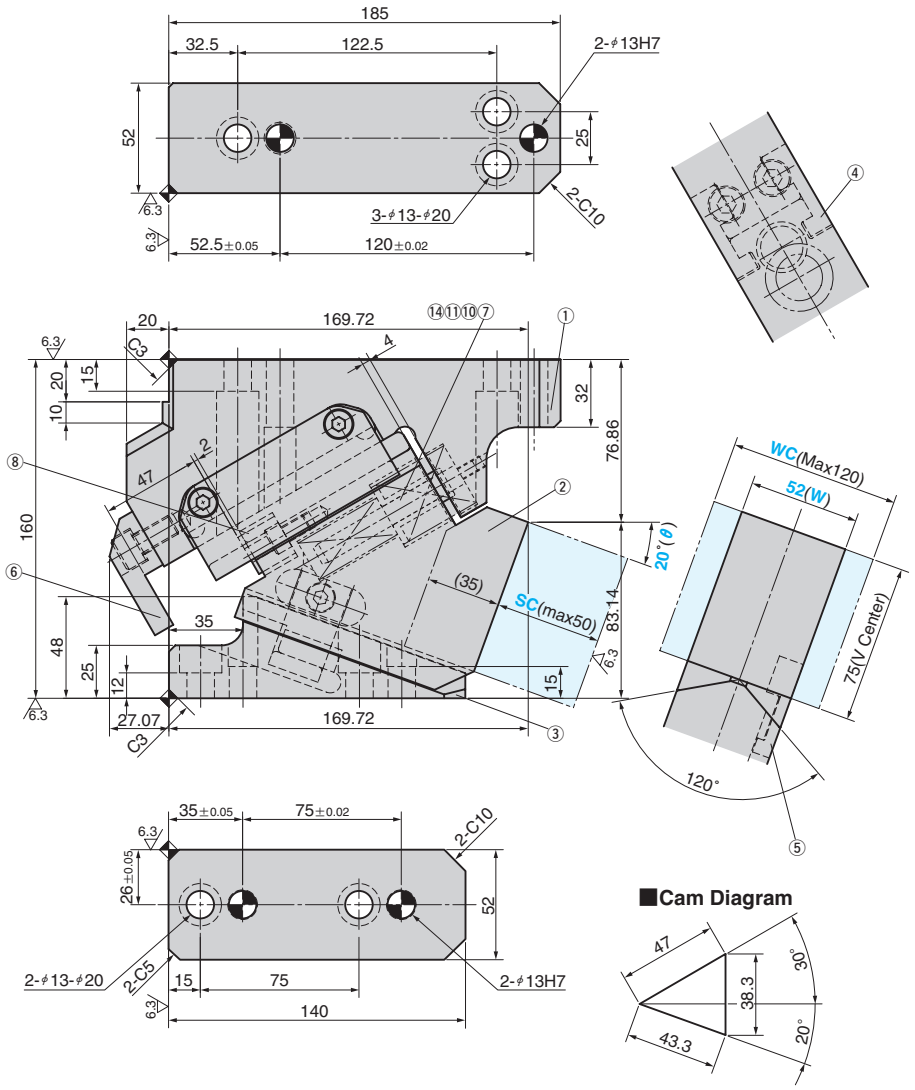


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 20



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
43.3	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1899 (193.8)	8.9	SACE	52	20

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	20

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to ϕ12H7

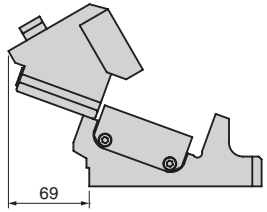
Determine the pierce center position in the range of the cam width.

Order
SACE52 – 20 – SC40 – N12
SACE52 – 20 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



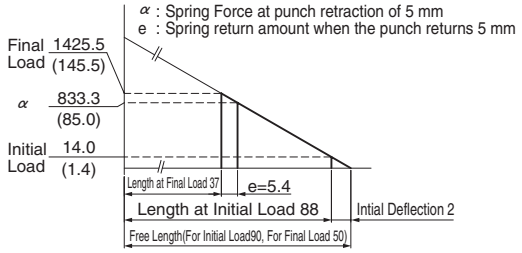
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

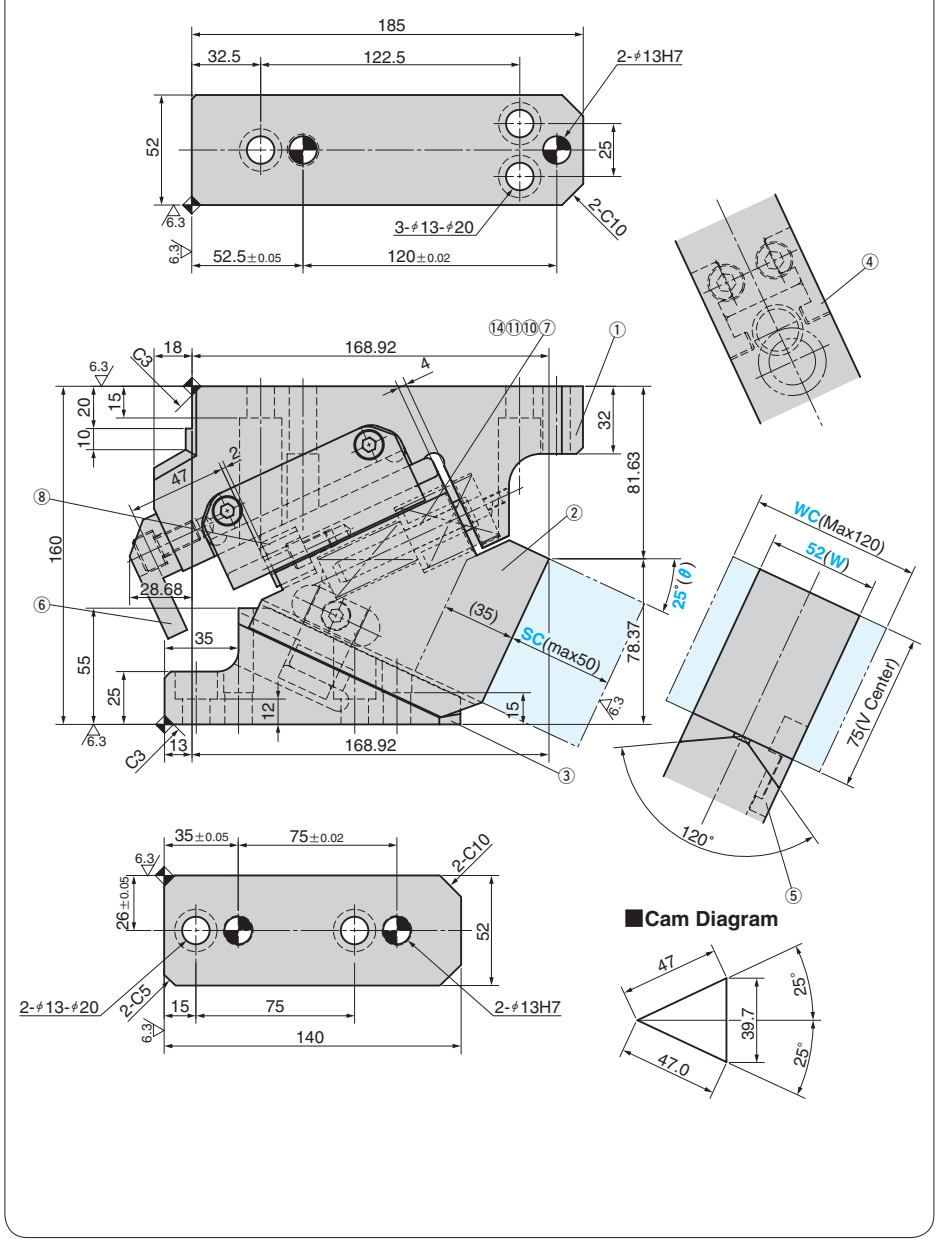


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 25



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
47.0	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1895 (193.4)	8.8	SACE	52	25

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	25

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

⚠ Determine the pierce center position in the range of the cam width.

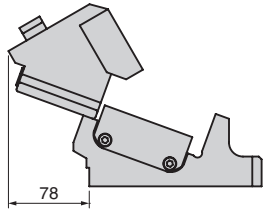
Order

SACE52 – 25 – SC40 – N12
SACE52 – 25 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



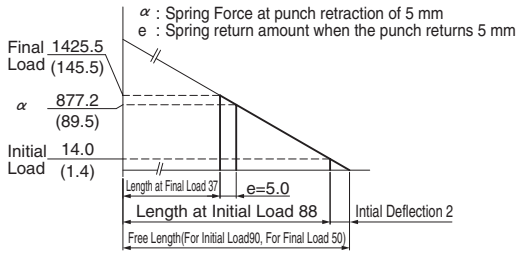
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

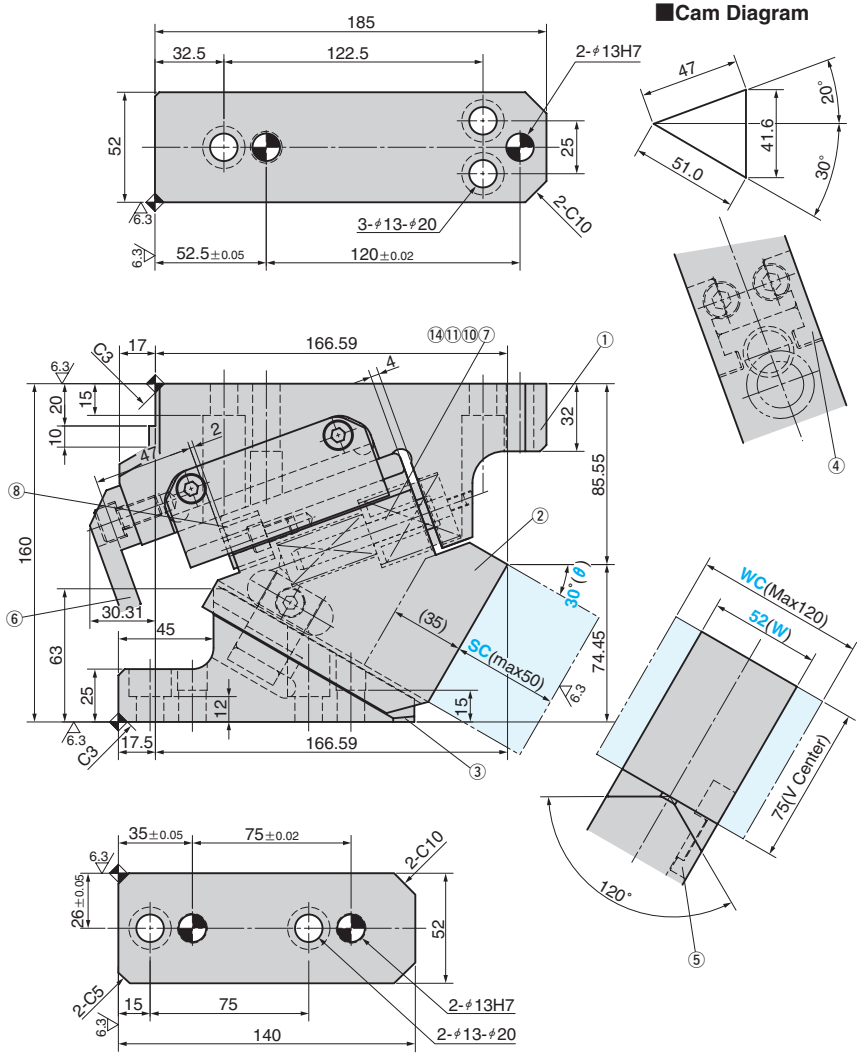


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 30



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
51.0	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1891 (193.0)	8.6	SACE	52	30

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	30

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

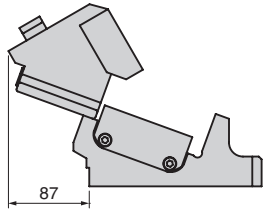
⚠ Determine the pierce center position in the range of the cam width.

Order
SACE52 – 30 – SC40 – N12
SACE52 – 30 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



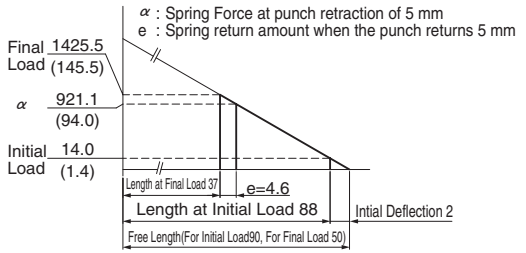
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes



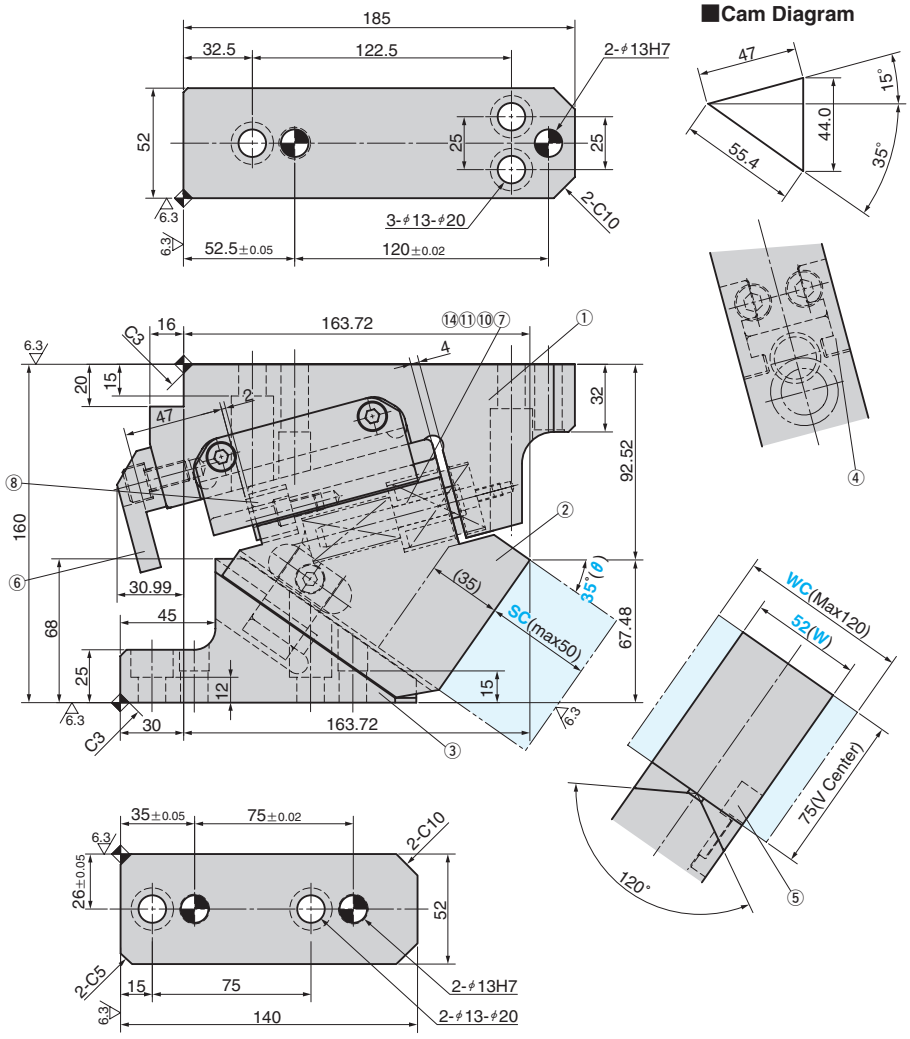
SACE 52

Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 35



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
55.4	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1887 (192.6)	8.8	SACE	52	35

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	35

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

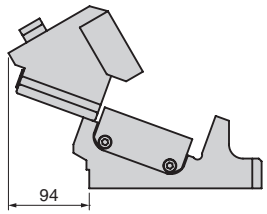
⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 35 – SC40 – N12
SACE52 – 35 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



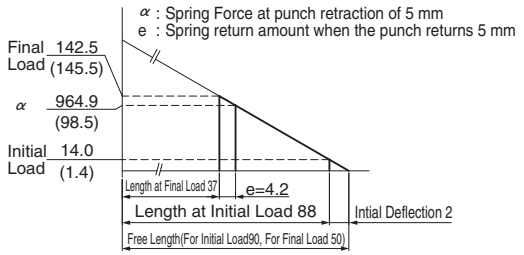
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

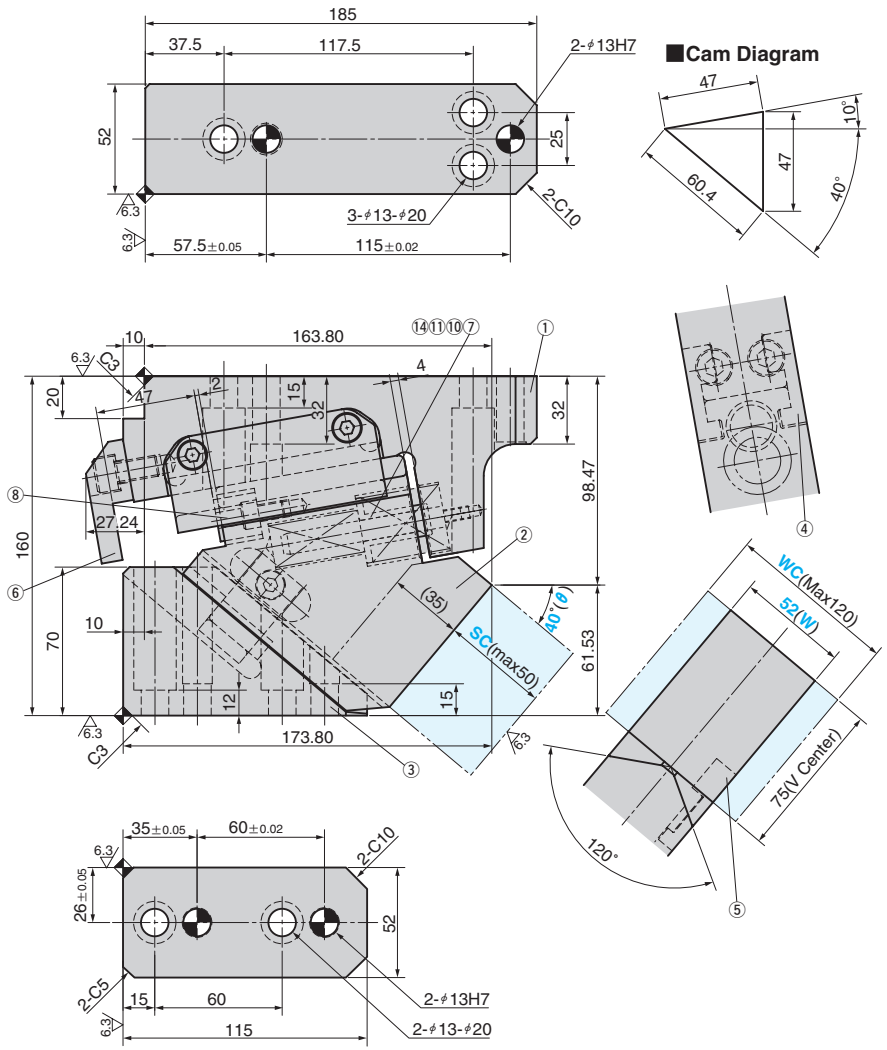


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 40



Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
60.4	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1883 (192.2)	8.9	SACE	52	40

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	40

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

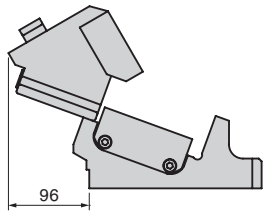
⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 40 – SC40 – N12
SACE52 – 40 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



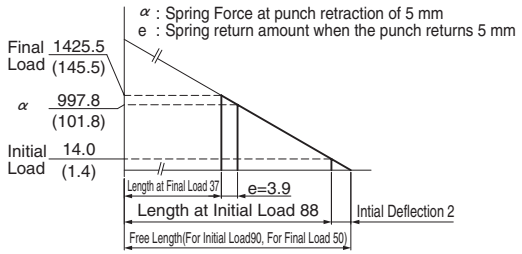
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability
  - TF20-90 1,000,000 strokes
  - TM30-50 1,000,000 strokes

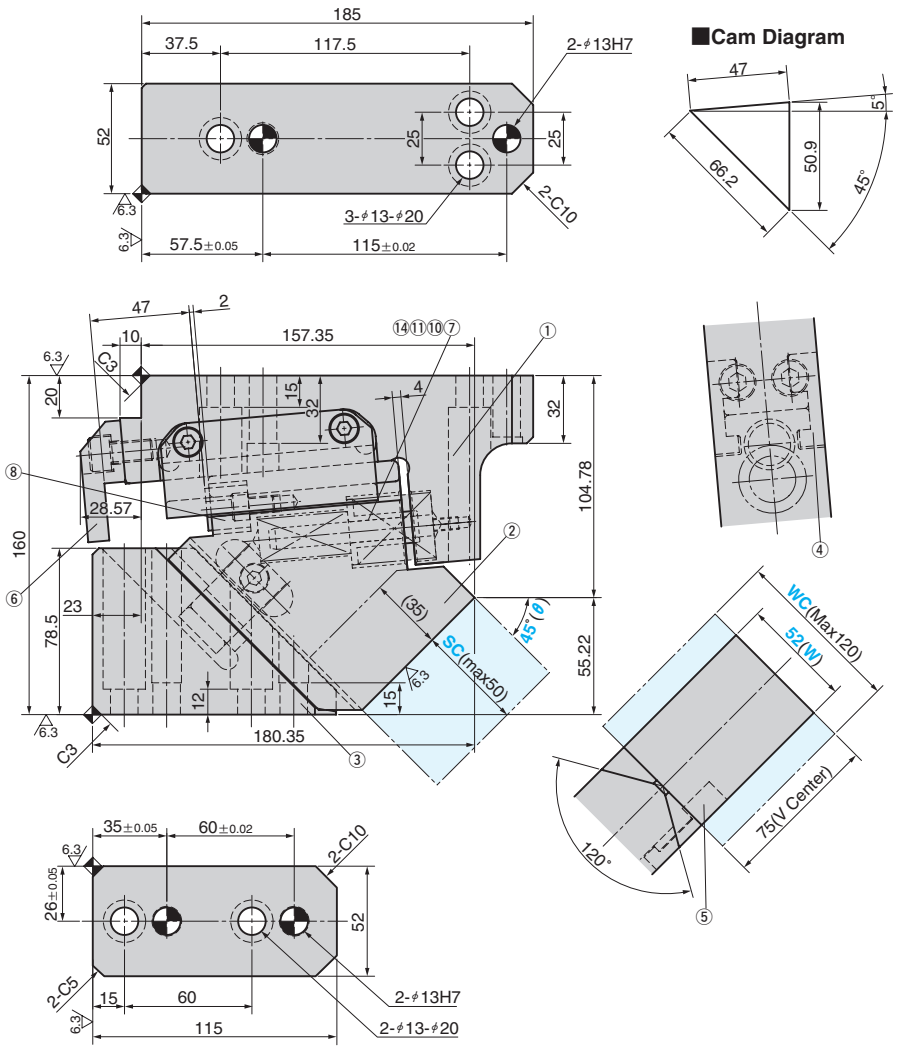


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 45



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
66.2	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1879 (191.7)	9.1	SACE	52	45

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	45

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

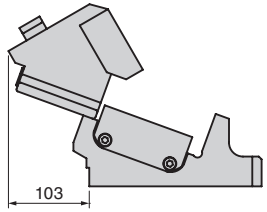
⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 45 – SC40 – N12
SACE52 – 45 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



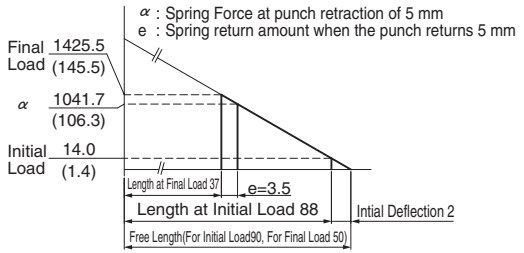
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability: TF20-90 1,000,000 strokes; TM30-50 1,000,000 strokes

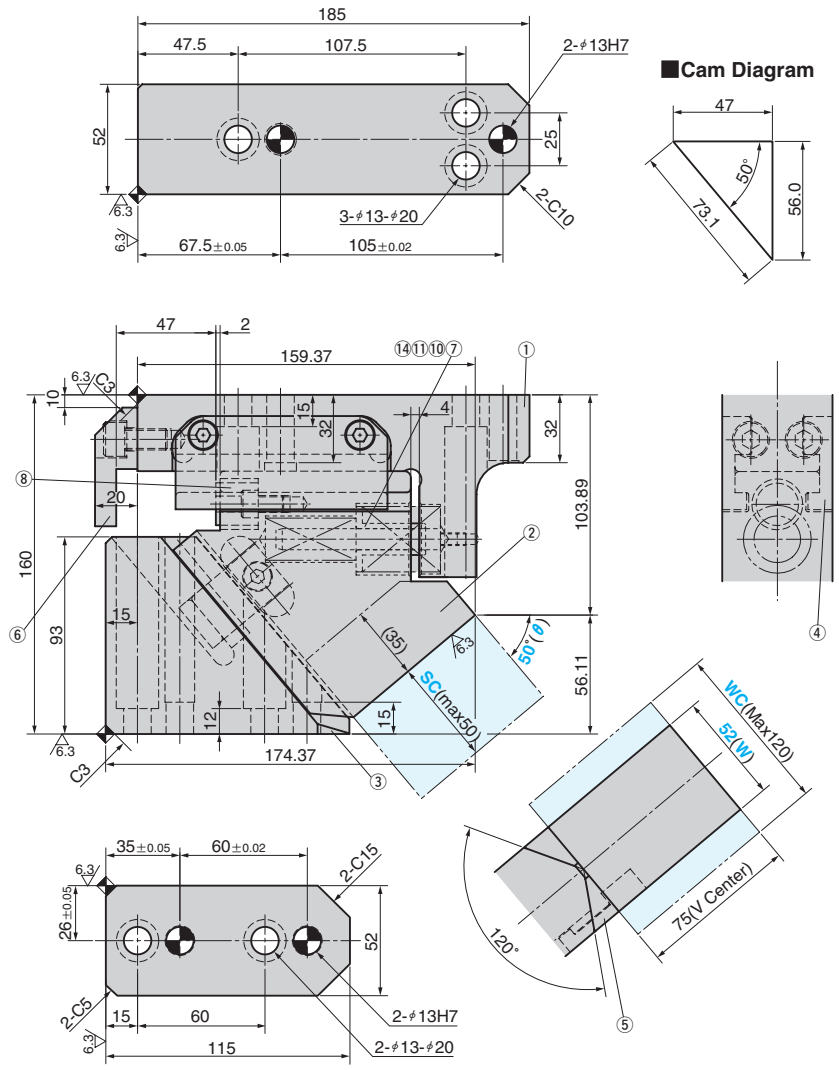


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 50



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
73.1	29.4 (3.0)	58.8 (6.0)	14.0 (1.4)	1425.5 (145.5)	1875 (191.3)	8.8	SACE	52	50

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	50

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to ϕ12H7

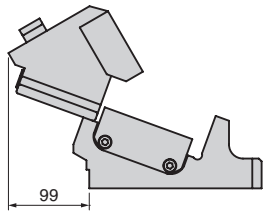
Determine the pierce center position in the range of the cam width.

Order SACE52 – 50 – SC40 – N12
SACE52 – 50 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



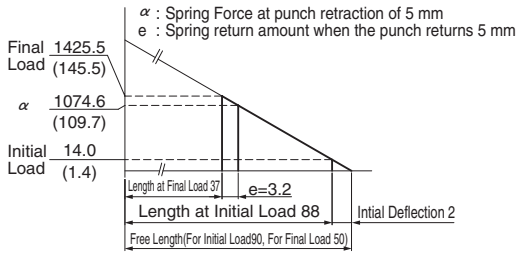
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-90
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-90(1 piece) 7.01N/mm(0.72kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability
  - TF20-90 1,000,000 strokes
  - TM30-50 1,000,000 strokes



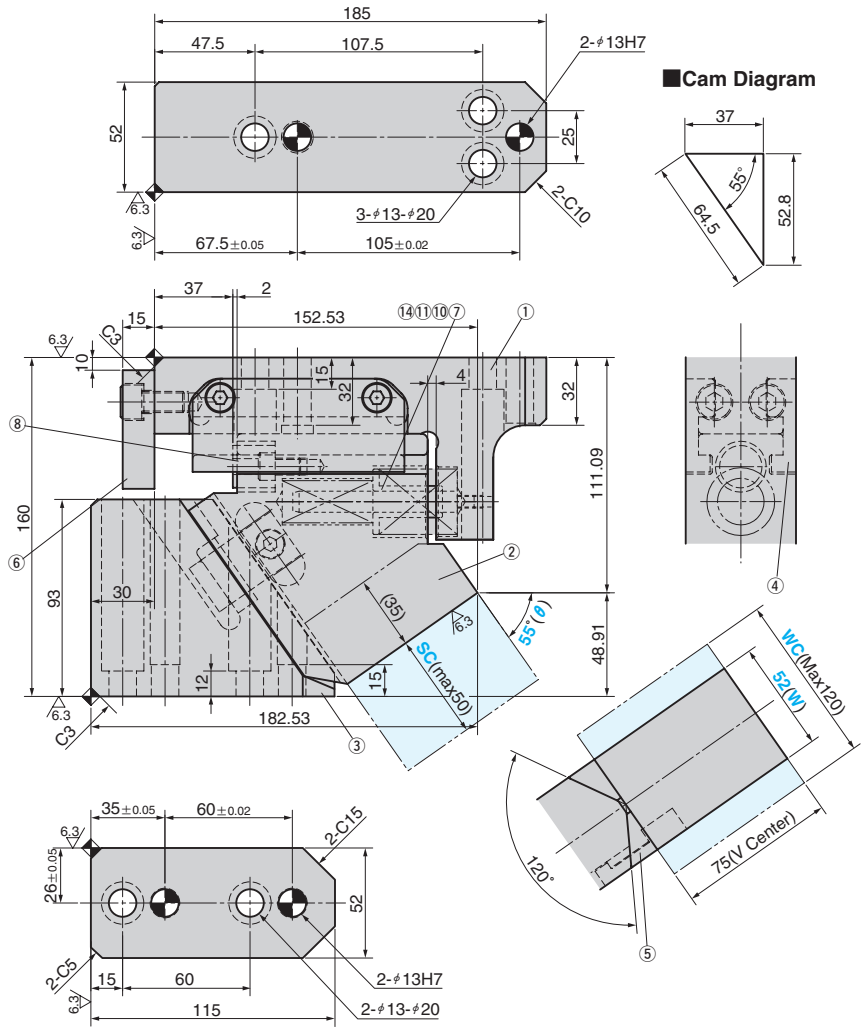
SACE 52

Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 55



Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
64.5	29.4 (3.0)	58.8 (6.0)	36.1 (3.7)	1425.5 (145.5)	2040 (208.1)	8.9	SACE	52	55

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	55

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

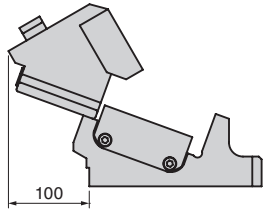
⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 55 – SC40 – N12
SACE52 – 55 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



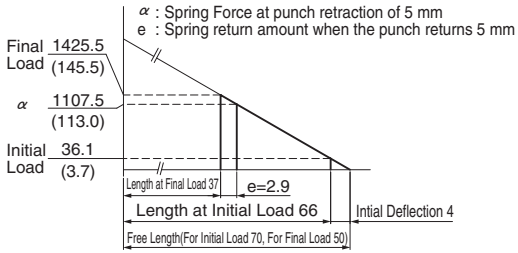
■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-70
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used
  - For Initial Load: TF20-70(1 piece) 9.02N/mm(0.92kgf/mm)
  - For Final Load: TM30-50(1 piece) 109.65N/mm(11.18kgf/mm)
- Guideline of spring durability
  - TF20-70 1,000,000 strokes
  - TM30-50 1,000,000 strokes

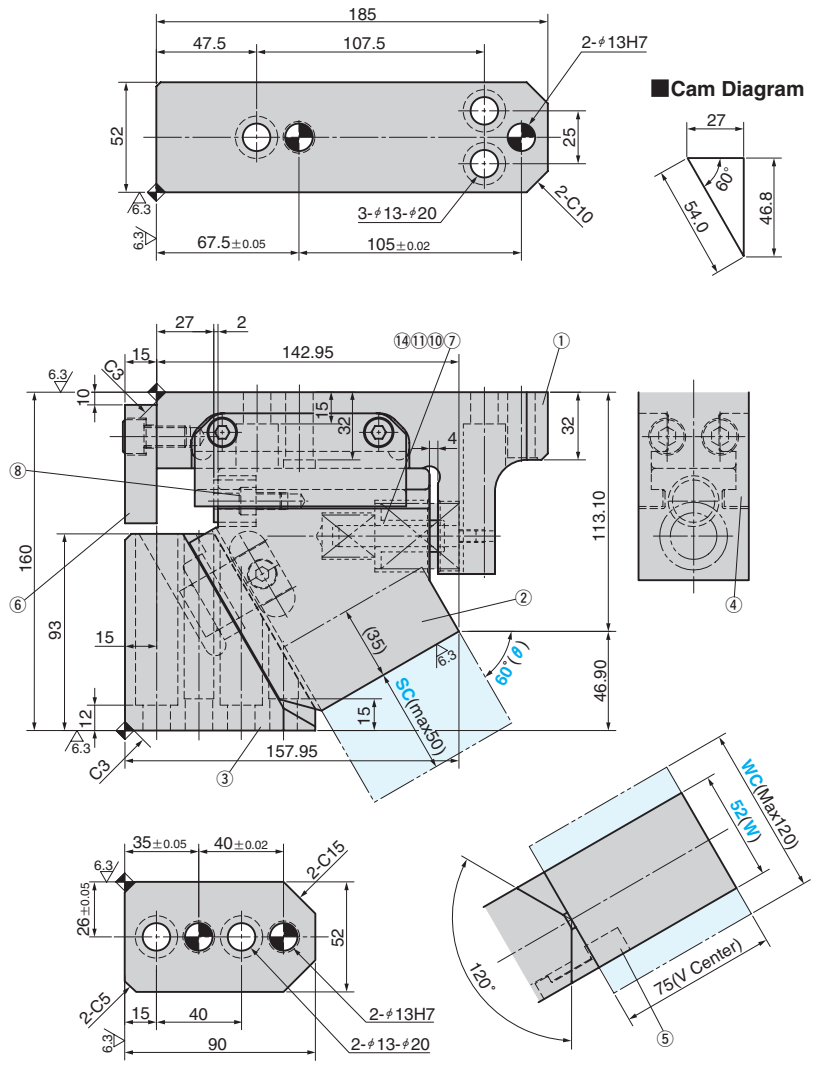


Aerial Cam Unit

WORKING FORCE 3-TON TYPE

NEW CAD FILE

SACE 52 – 60



■Cam Diagram

Travel S	Working Force kN(tonf)		Spring Force N(kgf)		Return Force N(kgf)	Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
54.0	29.4 (3.0)	58.8 (6.0)	75.7 (7.7)	1425.5 (145.5)	2255 (230.1)	8.5	SACE	52	60

Order

Catalog No.	(W)	–	(θ)
SACE	52	–	60

Option

Option Code	Specification
SC	The mount surface is extended in the range from 1 to 50 mm (in the increments of 1 mm).
WC	The mounting surface width (W) is changed within the range 53 mm - 120 mm (1 mm increments).
N12	Dowel Pin holes of cam holder and cam driver are changed to φ12H7

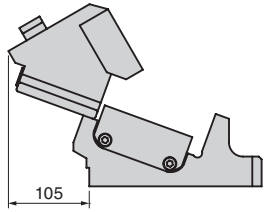
⚠ Determine the pierce center position in the range of the cam width.

Order SACE52 – 60 – SC40 – N12
SACE52 – 60 – WC120

Refer to page 559 for detailed specifications of tapped holes and dowel pin holes (prepared hole,finished hole) for retainer.

⚠ When the slider interferes with the die due to the protrusion length, you will need to machine the die for clearance.

■Space for removing



■Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD550
②	Cam Slider	1	FCD550 with Graphite
③	Cam Driver	1	SF700
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower	1	Bronze
⑥	Stopper Plate	1	S45C(1045)
⑦	Spring Guide Pin	1	S45C(1045)
⑧	Stopper	1	Urethane
⑩	Coil Spring	1	TF20-50
⑪	Coil Spring	1	TM30-50
⑭	Spring Guide Bush	1	Bronze

⚠ Bolts for assembly are not indicated.

■Spring Diagram

- Spring Used For Initial Load: TF20-50(1 piece) 12.62N/mm(1.29kgf/mm)
  For Final Load: TM30-50(1 piece) 109.65N/mm(22.66kgf/mm)
- Guideline of spring durability: TF20-50 1,000,000 strokes; TM30-50 1,000,000 strokes