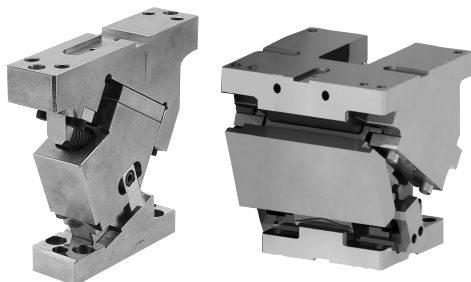


Aerial Cam Unit General Description of UCMSG

FOR PIERCE AND FLANGE



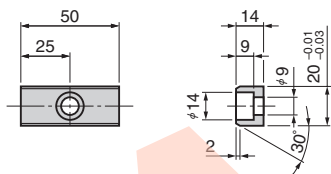
- Highly rigid structure with the overseas automobile manufacturer specification
- 50, 65, 80, 150, 200mm and 300mm are available for the mounting width.
- Angle 0° to 65° increments of 5° is available.
(For 65 mm wide, angle 20° to 60° is in increments of 10°).
- ISO springs are used.

Option for UCMSG

Metric Key Specification(-K)

UCMSG50/65

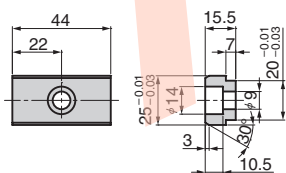
LKU20-50 (with 3-M8 × 15 bolts)



Metric Key Specification(-KA)

UCMSG50

LKA25-20-44 (with 3-M8 × 15 bolts)

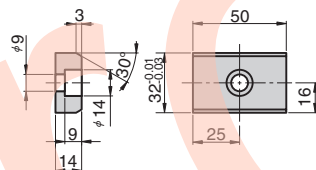


UCMSG80

LKU32-50 (with 3-M8 × 15 bolts)

UCMSG150/200/300

LKU32-50 (with 6-M8 × 15 bolts)

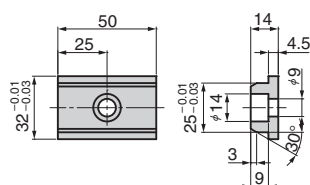


UCMSG80

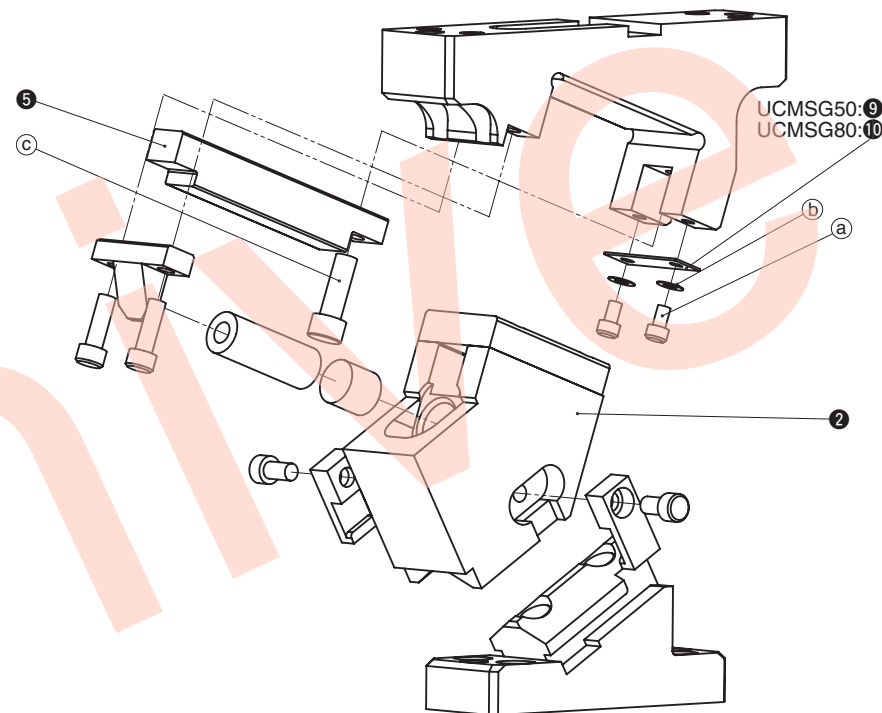
LKE25-32-50 (with 3-M8 × 15 bolts)

UCMSG150/200/300

LKE25-32-50 (with 6-M8 × 15 bolts)



UCMSG50 (UCMSG80) Structure and Assembly / Disassembly



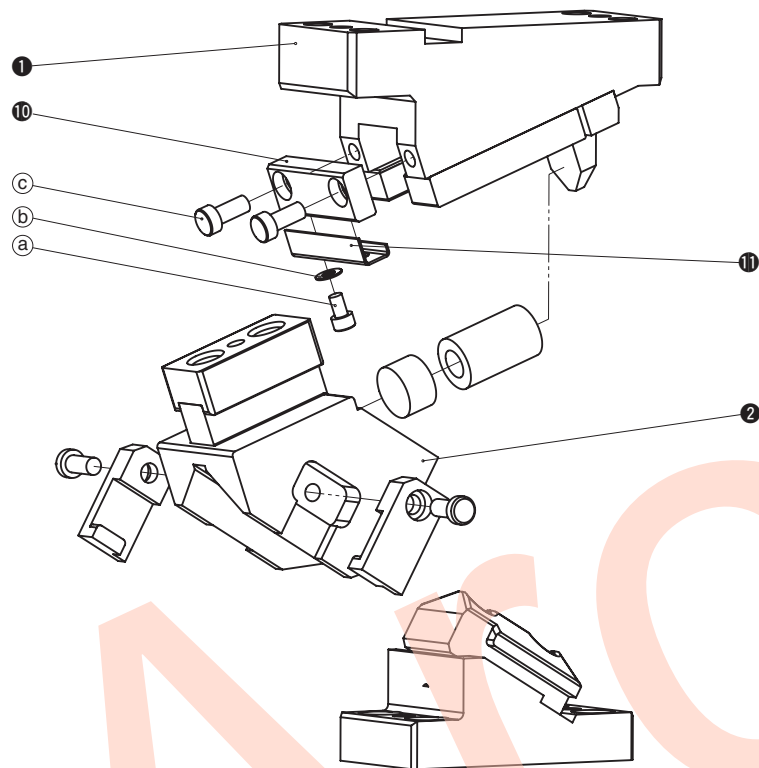
Disassembly method of UCMSG50 (same for UCMSG80)

- 1) Remove hexagon socket head bolt (a) and washer (b) and remove safety plate (UCMSG50: 9 UCMSG80: 10).
- 2) Remove hexagon socket head bolt (c).
- 3) Shift guide bar (5) to the back then remove cam slider (2) from cam holder.

Assembly method of UCMSG50 (same for UCMSG80)

- 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 guide bar/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

■UCMSG65 Structure and Assembly / Disassembly



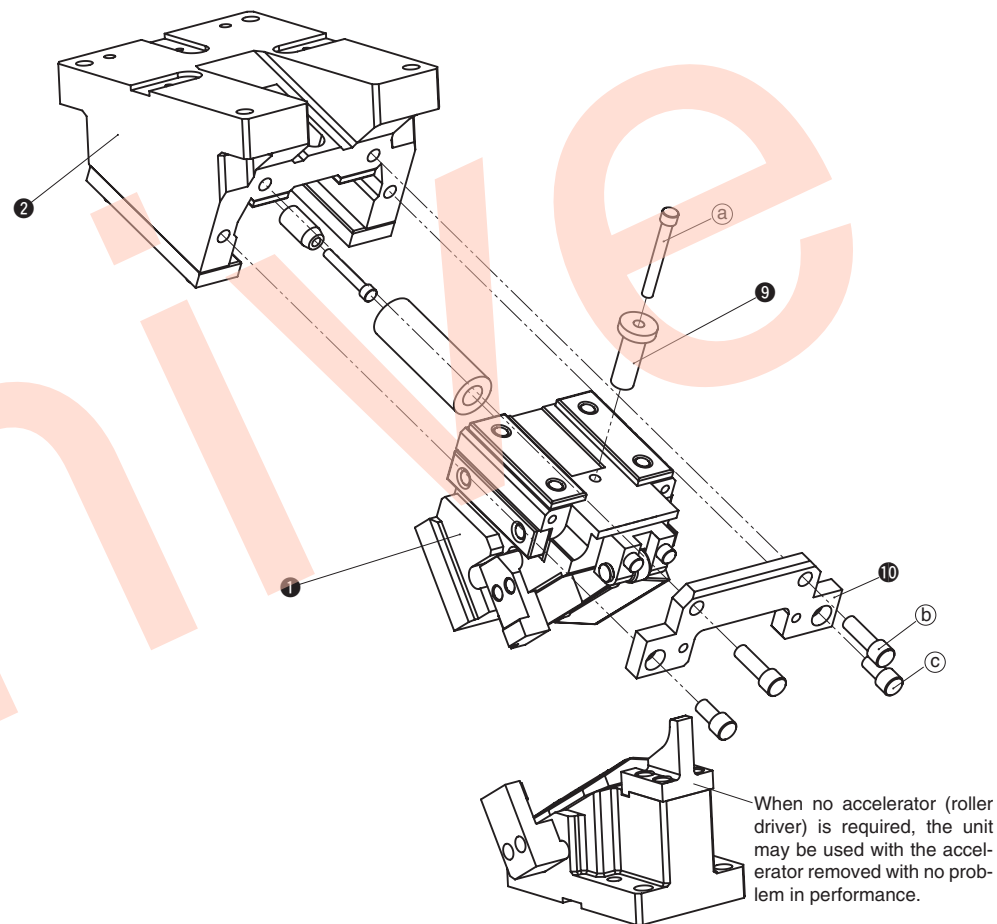
●Disassembly method of UCMSG65

- 1) Remove hexagon socket head bolt (a) and washer (b), and remove safety plate (11).
- 2) Loosen hexagon socket head bolt (c). Remove stopper plate (10).
- 3) Pull cam slider (1) from cam holder (2) to the rear.

●Assembly method of UCMSG65

- 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 guide bar/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

■UCMSG150, 200, 300 Structure and Assembly / Disassembly



●Disassembly method of UCMSG150, 200, 300

- 1) Loosen hexagon socket head bolt (a) and remove hanger bolt sleeve (9).
- 2) Loosen hexagon socket head bolt (b, c) and remove backup plate (10).
- 3) Pull cam slider (1) from cam holder (2) to the rear.

●Assembly method of UCMSG150, 200, 300

- 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

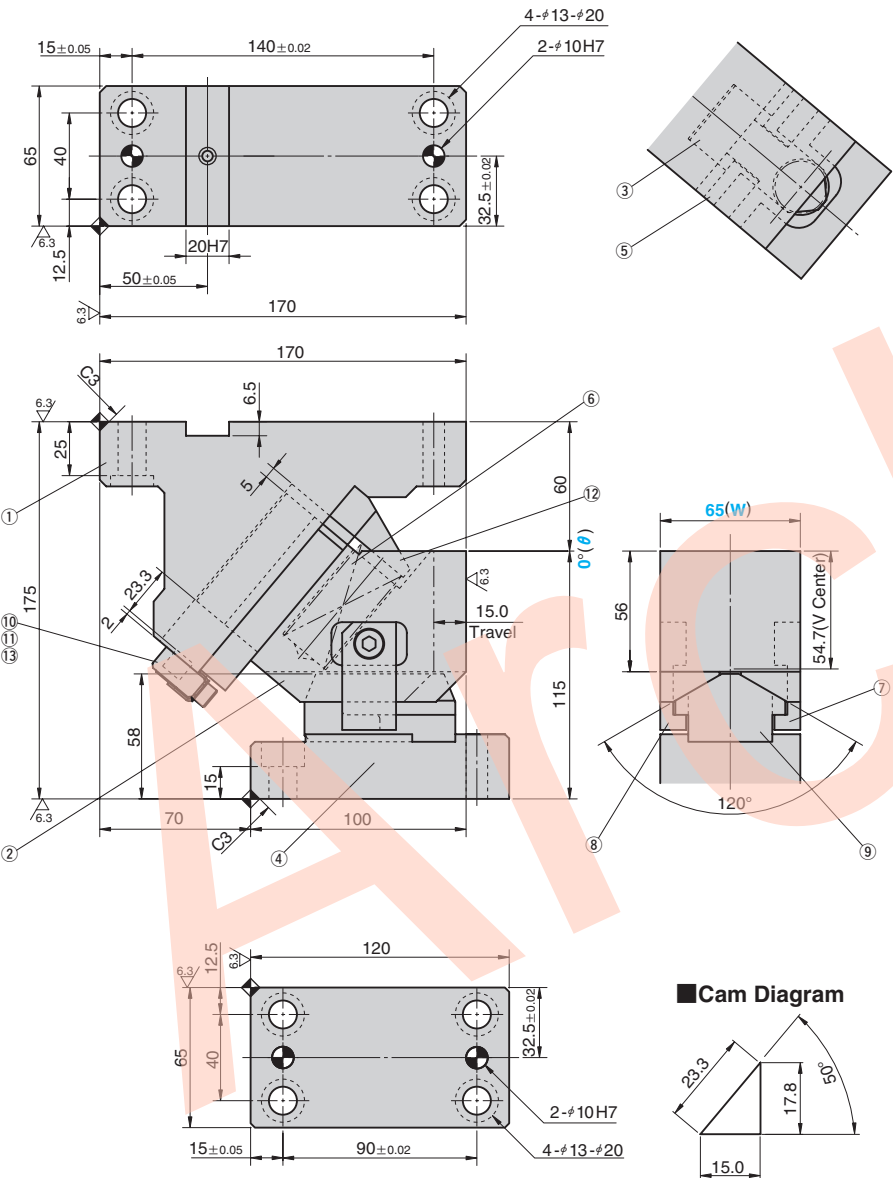
When no accelerator (roller driver) is required, the unit may be used with the accelerator removed with no problem in performance.

Aerial Cam Unit

FOR PIERCE

CAD
FILE

UCMSG65-00



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					
15.0	29.4 (3.0)	58.8 (6.0)	245.4 (25.0)	834.9 (85.1)	1159 (118.3)	10.7	UCMSG	65	00



Order

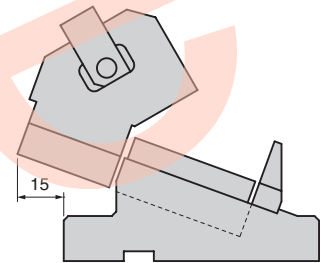
Catalog No. (W) - (θ)
UCMSG 65 - 00



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)

Space for removing



Order

UCMSG65-00-K



For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Table of Components

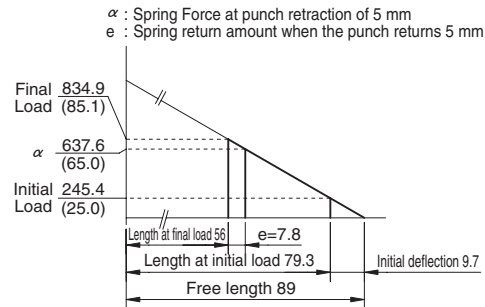
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-89
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane



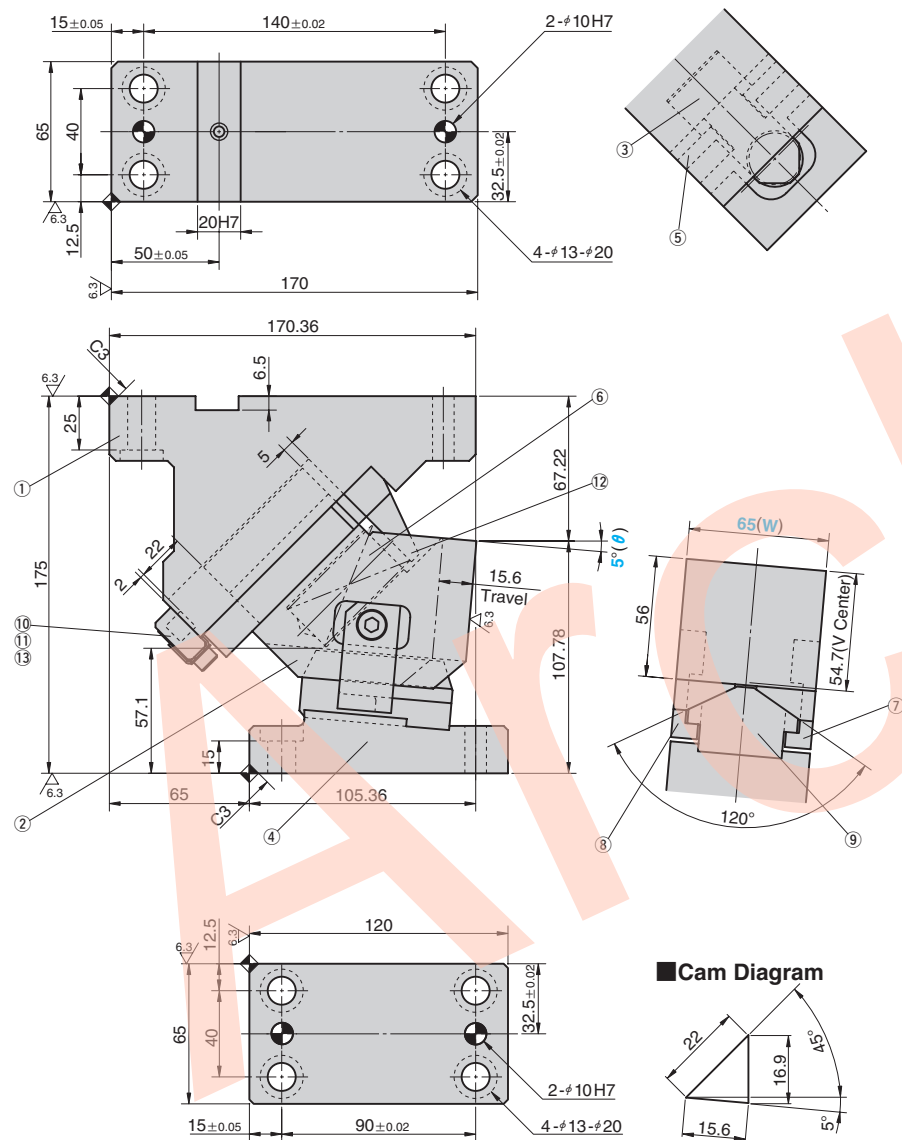
Bolts for assembly are not indicated.

Spring Diagram

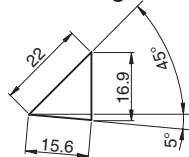
- Spring used TJL25-89 (1 piece)
- Spring constant 25.3N/mm(2.58kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65 - 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					
15.6	29.4 (3.0)	58.8 (6.0)	278.3 (28.4)	834.9 (85.1)	1153 (117.7)	10.4	UCMSG	65	05



Order

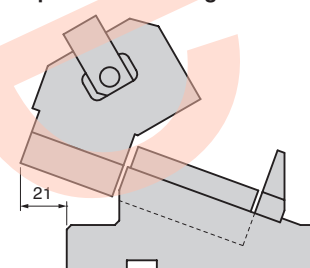
Catalog No.	(W)	—	(θ)
UCMSG	65	—	05



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)

Space for removing



Order

UCMSG65 - 05 - K



For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Table of Components

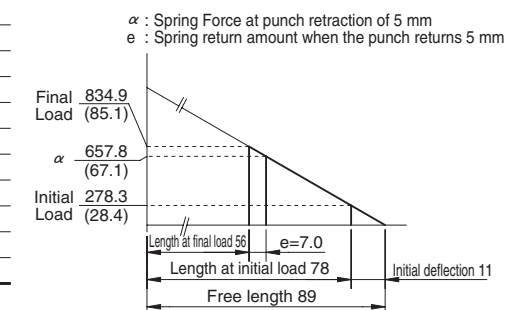
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-89
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane



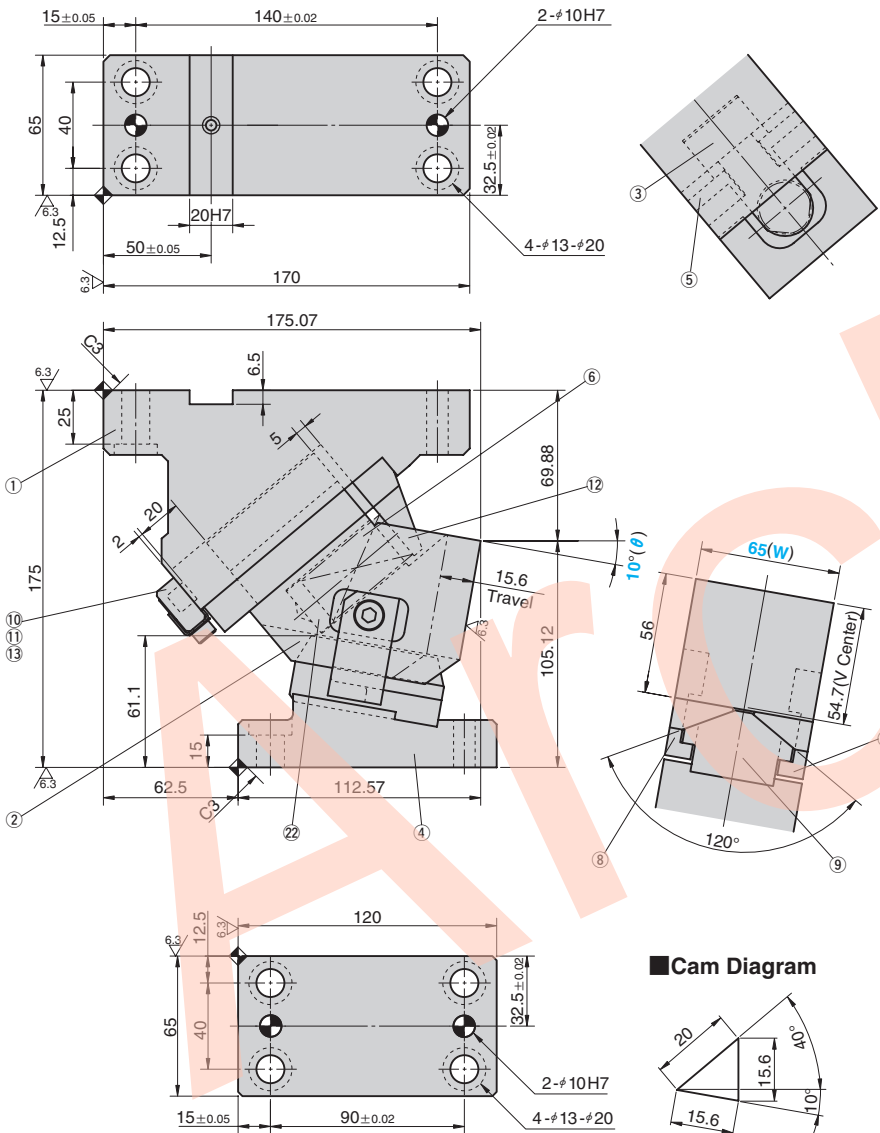
Bolts for assembly are not indicated.

Spring Diagram

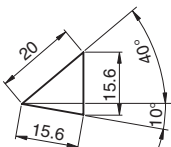
- Spring used TJL25-89 (1 piece)
- Spring constant 25.3N/mm(2.58kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65-10



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					
15.6	29.4 (3.0)	58.8 (6.0)	236.8 (24.1)	828.8 (84.3)	1137 (116.0)	10.2	UCMSG	65	10



Order

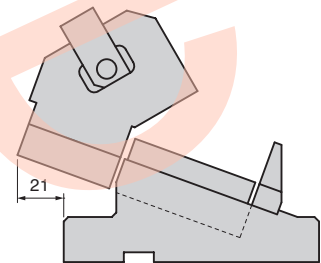
Catalog No. (W) - (θ)
UCMSG 65 - 10



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)

Space for removing



Order

UCMSG65-10-K



For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Table of Components

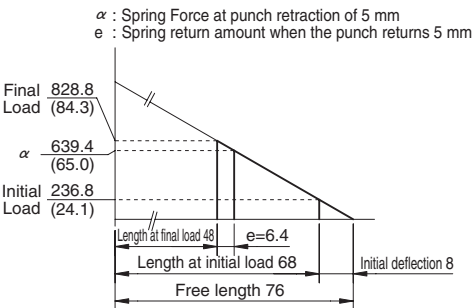
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-76
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane
⑭	Spacer	1	SS400(1020)



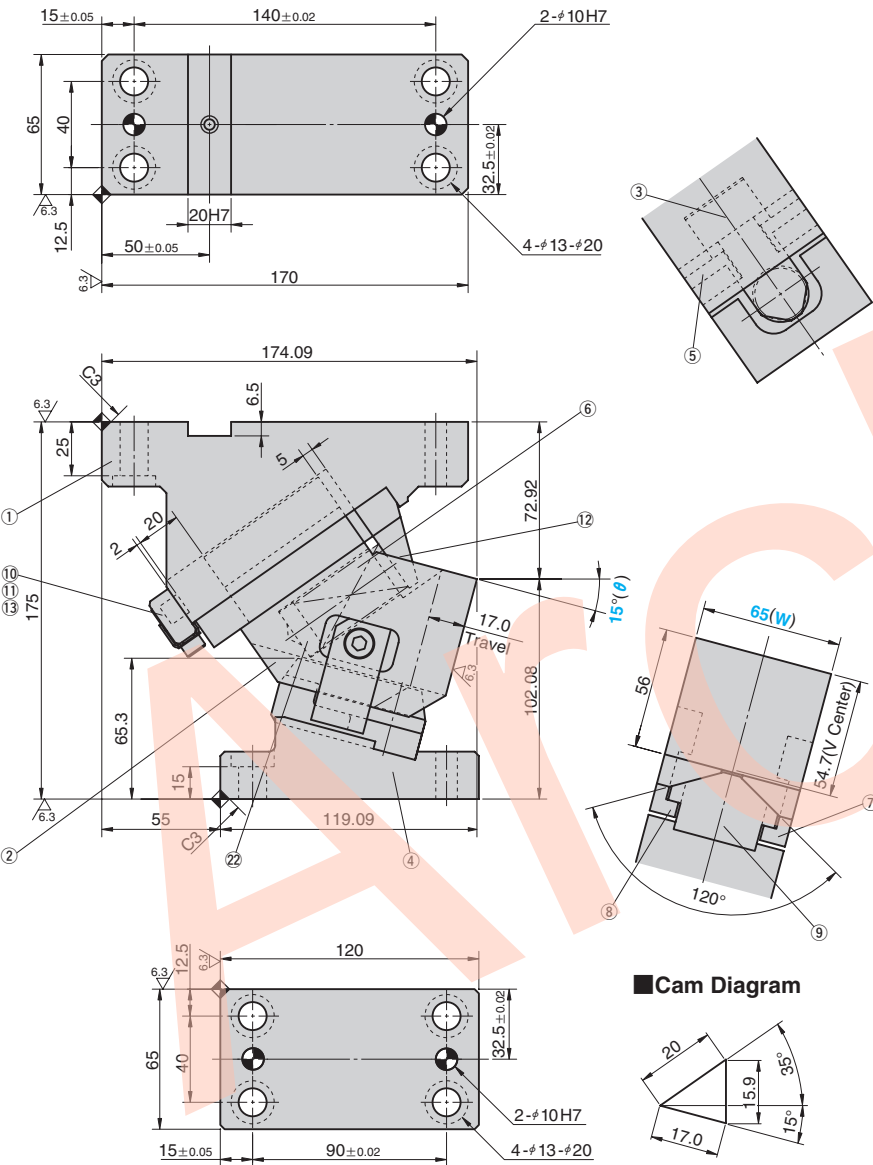
Bolts for assembly are not indicated.

Spring Diagram

- Spring used TJL25-76 (1 piece)
- Spring constant 29.6N/mm(3.01kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65 - 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					
17.0	29.4 (3.0)	58.8 (6.0)	236.8 (24.1)	828.8 (84.3)	1130 (115.3)	9.9	UCMSG	65	15



Order

Catalog No.	(W)	—	(θ)
UCMSG	65	—	15



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)



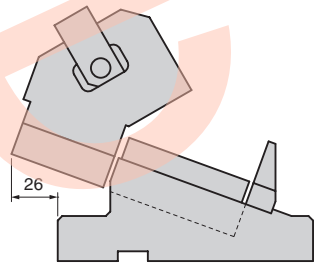
Order

UCMSG65 - 15 - K



For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

■Space for removing



■Table of Components

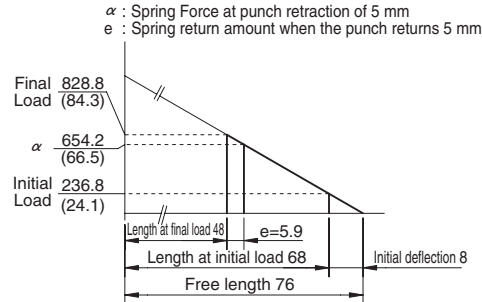
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-76
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane
⑭	Spacer	1	SS400(1020)



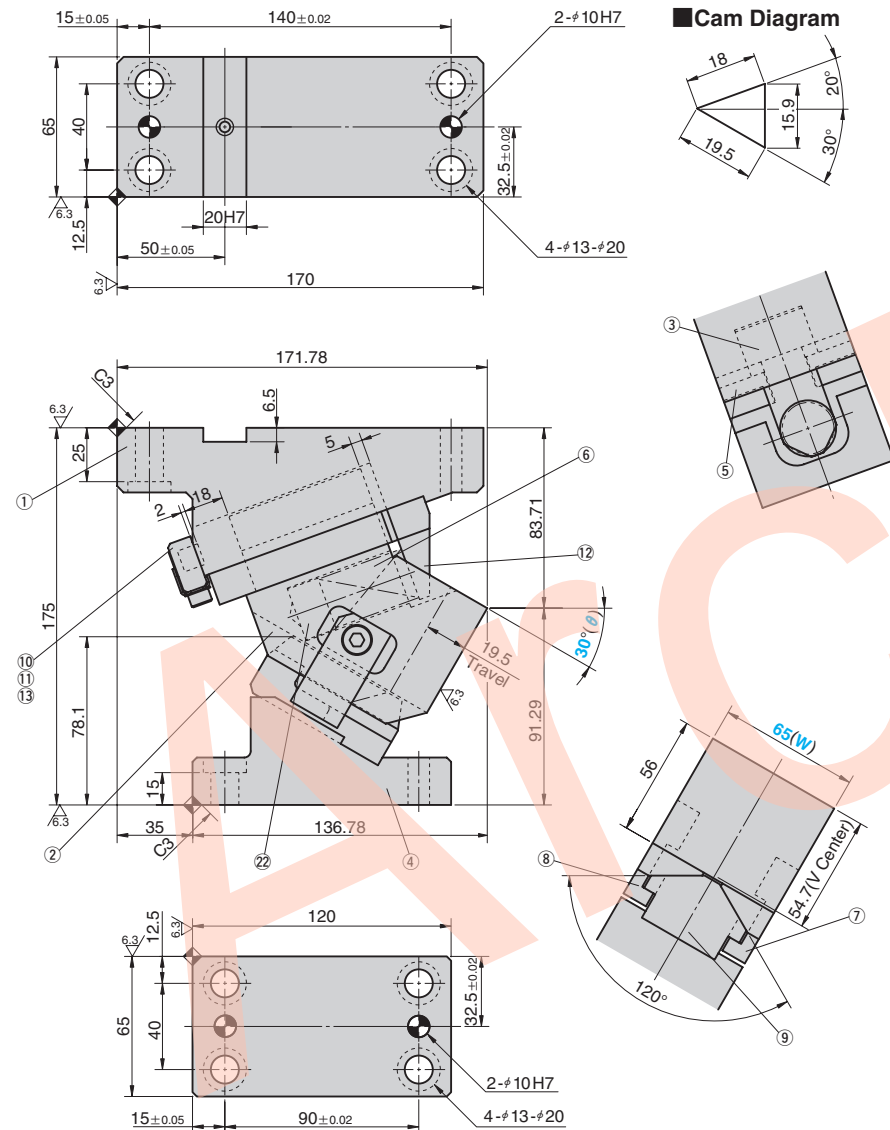
Bolts for assembly are not indicated.

■Spring Diagram

- Spring used TJL25-76 (1 piece)
- Spring constant 29.6N/mm(3.01kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65 – 30



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					
19.5	29.4 (3.0)	58.8 (6.0)	176.0 (18.0)	809.6 (82.6)	1086 (110.8)	9.6	UCMSG	65	30



Order

Catalog No.	(W)	—	(θ)
UCMSG	65	—	30



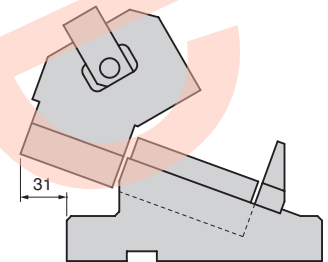
Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)

Order **UCMSG65 - 30 - K**

For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

■Space for removing



■ Table of Components

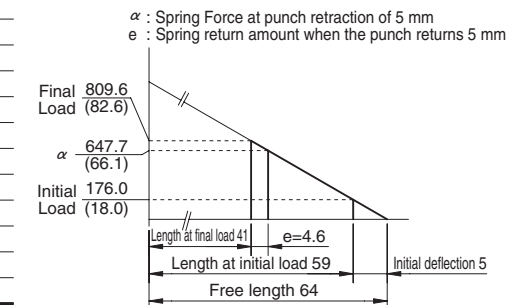
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-64
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane
⑭	Spacer	1	SS400(1020)



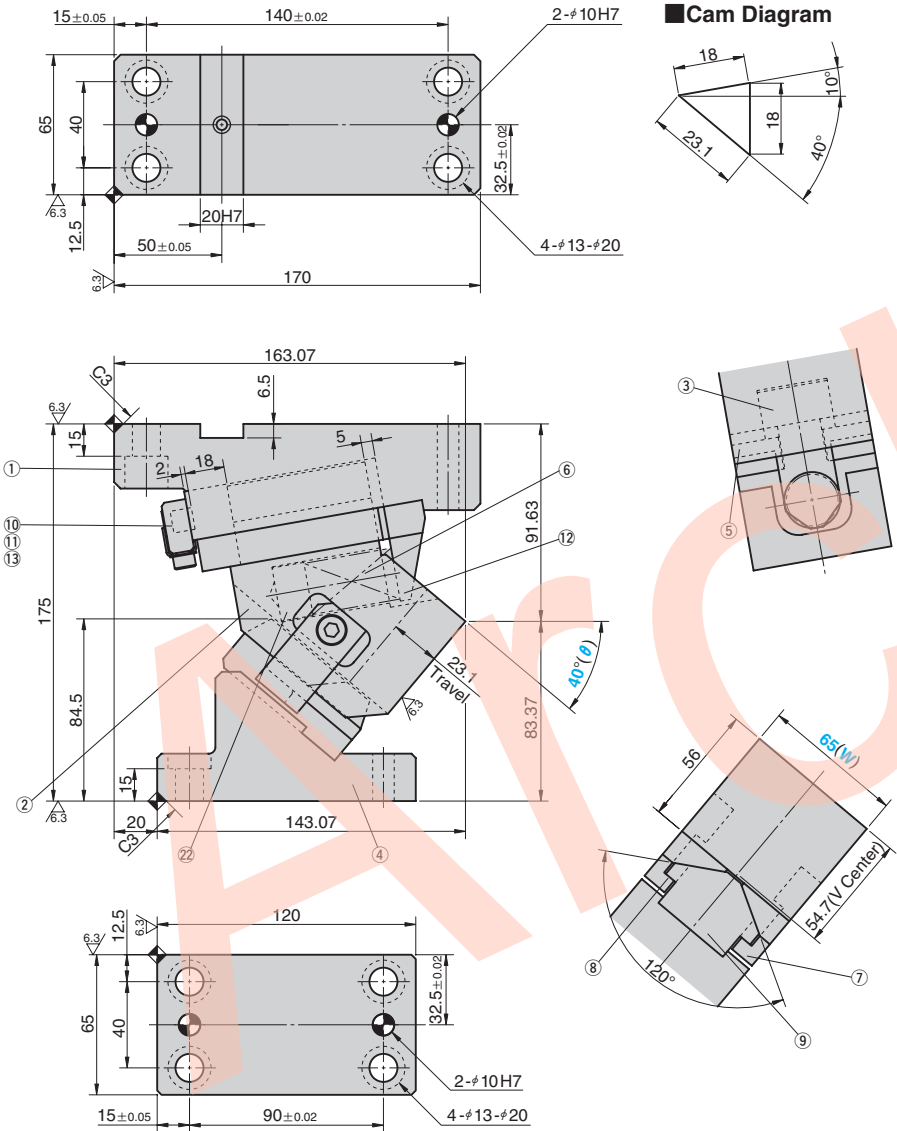
 Bolts for assembly are not indicated.

■ Spring Diagram

- Spring used TJL25-64 (1 piece)
- Spring constant 35.2N/mm(3.59kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65-40



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					
23.1	29.4 (3.0)	58.8 (6.0)	176.0 (18.0)	809.6 (82.6)	1071 (109.2)	9.5	UCMSG	65	40



Order

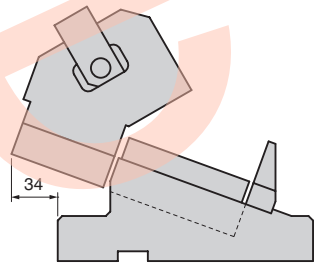
Catalog No.	(W)	—	(θ)
UCMSG	65	—	40



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)

Space for removing



Order

UCMSG65-40-K



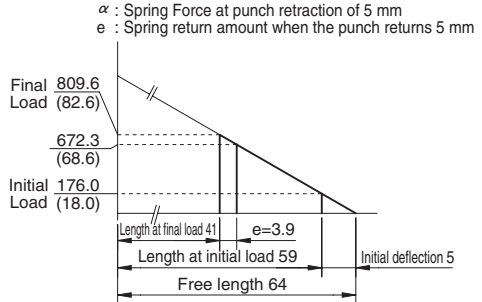
For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-64
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane
⑭	Spacer	1	SS400(1020)

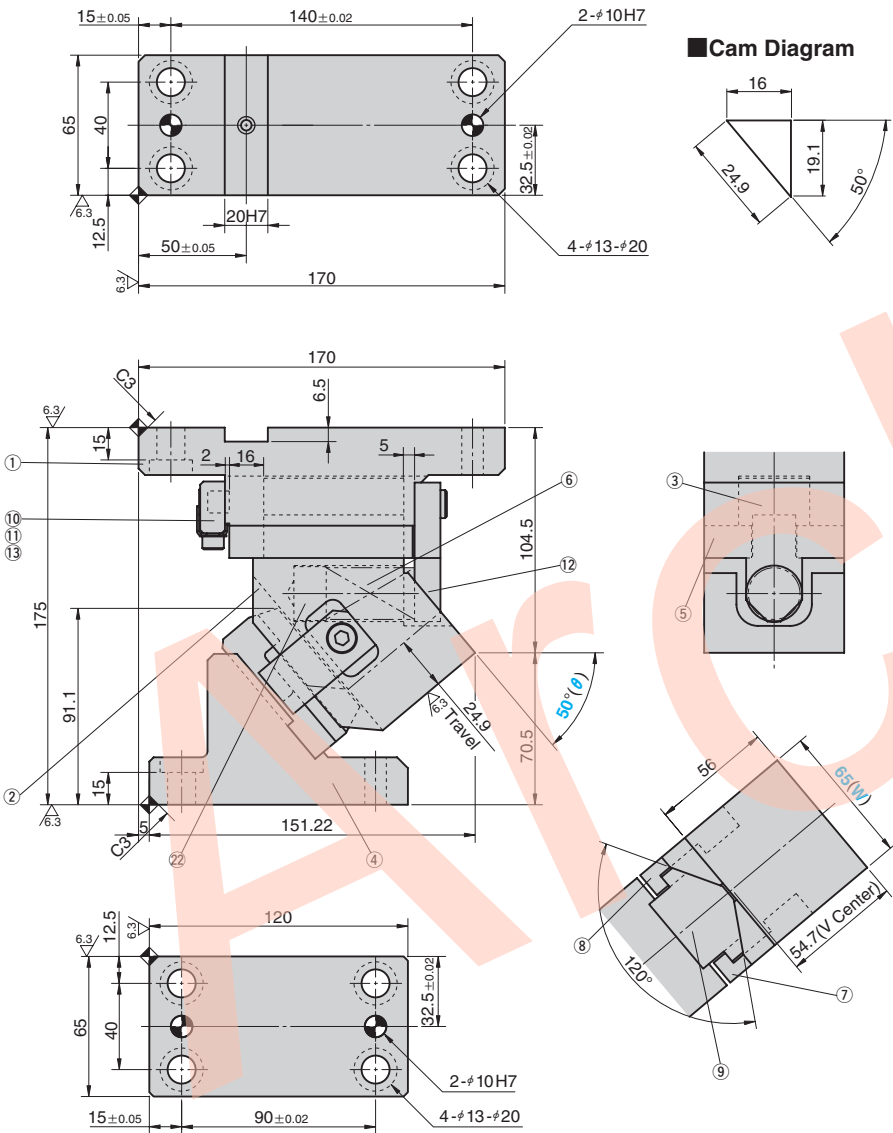
Spring Diagram

- Spring used TJL25-64 (1 piece)
- Spring constant 35.2N/mm(3.59kgf/mm)
- Guideline of spring durability 300,000 strokes



Bolts for assembly are not indicated.

UCMSG65 - 50



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					
24.9	29.4 (3.0)	58.8 (6.0)	246.4 (25.1)	809.6 (82.6)	1055 (107.7)	9.9	UCMSG	65	50



Order

Catalog No.	(W)	—	(θ)
UCMSG	65	—	50



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)



Order

UCMSG65 - 50 - K



For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Space for removing

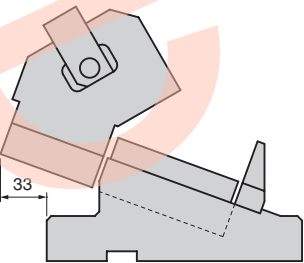


Table of Components

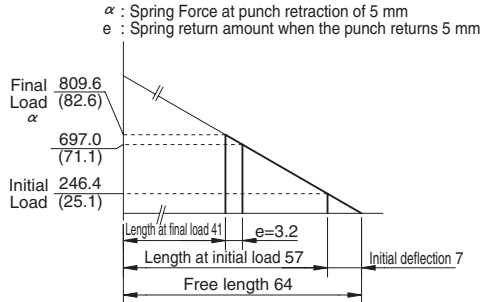
No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-64
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane
⑭	Spacer	1	SS400(1020)



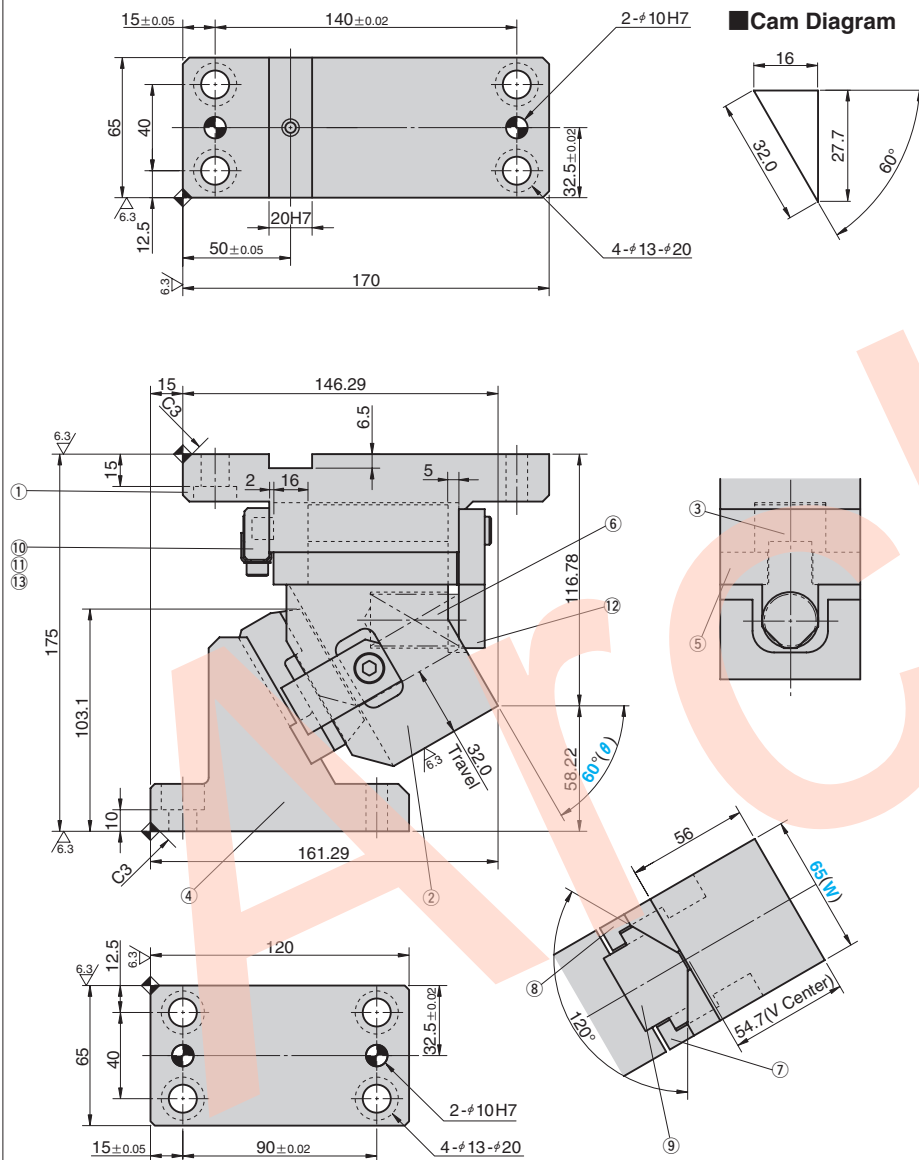
Bolts for assembly are not indicated.

Spring Diagram

- Spring used TJL25-64 (1 piece)
- Spring constant 35.2N/mm(3.59kgf/mm)
- Guideline of spring durability 300,000 strokes



UCMSG65 - 60



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					
32.0	29.4 (3.0)	58.8 (6.0)	246.4 (25.1)	809.6 (82.6)	1269 (129.5)	11.1	UCMSG	65	60



Order

Catalog No. (W) - (θ)
UCMSG 65 - 60



Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit.)



Order UCMSG65 - 60 - K

For machining details or tapping hole and dowel hole (prepared hole and finished hole) for mounting of the retainer, refer to page 561. For detailed specification of the key, refer to page 1259.

Space for removing

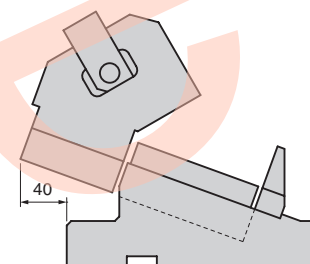


Table of Components

No.	Description	Qty	Material and Remark
①	Cam Holder	1	FCD450
②	Cam Slider	1	S45C with Graphite
③	Lower Slider	1	FC250 with Graphite
④	Cam Driver	1	S45C(1045)
⑤	Slide Plate	2	Bronze
⑥	Coil Spring	1	TJL25-64
⑦	Positive Return Follower A	1	S45C(1045)
⑧	Positive Return Follower B	1	S45C(1045)
⑨	Slide Guide	1	Bronze with Graphite
⑩	Stopper Plate	1	S45C(1045)
⑪	Safety Plate	1	SS400(1020)
⑫	Spring Block	1	SS400(1020)
⑬	Stopper	2	Urethane

⚠ Bolts for assembly are not indicated.

Spring Diagram

- Spring used TJL25-64 (1 piece)
- Spring constant 35.2N/mm(3.59kgf/mm)
- Guideline of spring durability 300,000 strokes

